

**Couple dynamics and maternal smoking cessation during
pregnancy: A qualitative examination of nulliparous
women and their partners**

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Research Summary

Background: Maternal smoking during pregnancy is associated with an array of adverse health outcomes, for women and their children (Gluckman, Hanson, Cooper, and Thornburg, 2008; Green et al, 2005; Hammoud et al, 2005; Kramer, 1987; Salihu and Wilson, 2007; US Department of Health and Human Services, 2004;). Despite these risks, the literature demonstrates that tobacco smoking during pregnancy is fairly common, and the effectiveness of smoking cessation interventions for pregnant women is poor, with around 6% of women accessing such interventions successfully stopping smoking during pregnancy (Lumley, Chamberlain, Dowswell, Oliver, Oakley, and Watson, 2009). The interventions offered to pregnant smokers are most commonly provided on an individual basis, to expectant mothers and not to their partners, usually involving the use of nicotine replacement therapies, motivational interviewing, and strategies for modifying cognitive and behavioural patterns.

Aim: Framed by an understanding of tobacco dependence as a multidimensional behavioural phenomenon, and informed by theories of social support, this study aimed to explore pregnant women's experiences of smoking cessation within the contexts of their intimate relationships in order to develop an improved understanding of the manner in which interpersonal dynamics and patterns affect the women's smoking cessation attempts, ultimately aiding the development of effective interventions, programs, and policies.

Method: Semi-structured interviews were conducted with five expectant mothers and their partners. Grounded Theory Methods (Charmaz, 20012), including Constant Comparative analytic methods (Boeije, 2002), were used for data synthesis and the generation of an explanatory theoretical model.

Results: Couple dynamics were pertinent to the meaning attributed to smoking by the expectant couple. The meaning of smoking in individual and social contexts was also relevant, as were contextual factors and beliefs about risk. These factors, in turn, emerged to

be relevant to the manner with which couples navigated the important changes associated with smoking cessation, ultimately affecting the potential success of the pregnant smoker's cessation attempt.

Conclusions: Smoking cessation interventions for pregnant women may benefit from the involvement of a woman's intimate partner in the smoking cessation intervention process. Other implications for clinical practice are discussed, alongside directions for further research.

Statement of Anonymity

In accordance with the guidelines presented by the British Psychological Society (2010), all names and references to services have been replaced with pseudonyms in order to protect the identities of those who have participated in this study. Informed consent was obtained from every participant, for the writing of this report.

Chapter 1: Introduction

1. Chapter Overview

This chapter presents the background to this study which aims to examine the dynamics between pregnant women and their partners in instances where the female partner is pregnant and attempting to stop smoking cigarettes. A critical review of the relevant literature is presented, and the need for further research on the dynamic interpersonal processes affecting cessation attempts is justified. This leads to a description of the study's aims, and a consideration of the ways in which the study might further existing knowledge and inform future clinical treatment protocols.

It is important to note that the current study utilises a grounded theory methodology. There has been some debate amongst proponents of the grounded theory approach regarding the appropriateness of systematic and theoretical reviews (Locke, 2001), and as such the aims of the review to follow will be clearly stated. Conducting a systematic review of existing studies and associated theoretical models provides a conceptual map of the area of interest, and a useful background context against which the current author's research aspirations might be critically viewed. The results of this study are considered in relation to the wider theoretical landscape in the Discussion (Chapter 4).

Before discussing the specific factors linked with maternal smoking during pregnancy it is helpful to consider the broader context, by outlining the biological, psychological, and social mechanisms that are relevant to tobacco smoking in the general population.

1.1 Background: Tobacco use

1.1.1 Prevalence of tobacco use in the UK

Tobacco use is the leading cause of preventable death in the developed world (Peto, Lopez, Boreham, Thun, & Heath, 1992). Data from the 2016 annual UK population survey, which is a continuous household survey of adults aged 18 years and above, shows that there were

around 7.6 million adult tobacco smokers (Office for National Statistics, ONS, 2017). Interestingly, this figure represents a statistically significant decline of over 4% since 2010. 17.1% of men were current smokers, which was significantly higher in comparison than 14.1% of women who identified as current smokers. Among current smokers, men reportedly smoked 12 cigarettes per day on average whereas women reported smoking 11 cigarettes per day on average. It is common for smoking to begin during late adolescence, but interestingly the 18-24 year old age group experienced the largest decline in smoking between 2010 and 2016, a decline in prevalence of 6.5% (ONS, 2017). 5.6% of survey respondents (around 2.9 million people) in Great Britain reported that they regularly used an e-cigarette in 2016 (ONS, 2017).

1.1.2 Nicotine and Addiction

The addictive power of nicotine can be ascertained through the difficulty that smokers have in quitting. A significant proportion of smokers report that they would like to quit smoking and have tried (and failed) repeatedly. Statistics suggest that around one-third of smokers attempt to quit each year, but fewer than 10% are successful. Strikingly, despite considerable risks to health, around 50% of those who survive heart attacks and hospitalisation for other serious smoking-related illnesses return to smoking within a short time of leaving the hospital (Benowitz, 1999) and the annual cost of smoking to the NHS in England is around £2.6 billion (Public Health England, 2017).

There are approximately 3,000 distinguishable ingredients in cigarette smoke and nicotine is the main addictive component. Nicotine is highly addictive in the absence of tobacco, and experimental studies have shown that it supports repeated self-administration, enhances reward achieved via brain stimulation, and reinforces a preference for the place where it is administered. There is also a well evidenced withdrawal syndrome associated with nicotine use, which is relieved by nicotine replacement (Di Chiara, 2000).

1.1.3 Behavioural Conditioning

An individual's first experience of smoking often highlights the aversive impact of tobacco by causing them to feel physically unwell, but cigarettes are an ideal drug delivery system and those who continue smoking are able to adjust their dose using precise and frequently repeated puffs, so as to avoid discomfort and maximise desirable effects (Dani and Harris, 2005). Addicted smokers report numerous positive effects of tobacco use, including pleasure, arousal, relaxation, relief from stress and anxiety, improved attention, relief from hunger, and later on relief from withdrawal symptoms (Benowitz, 1999).

Tobacco smoking can be conceptualised as a learned or conditioned behaviour, reinforced by nicotine. As mentioned above, cigarettes offer an ideal vehicle for drug delivery. Another important factor influencing the process of addiction is the association between tobacco use and common events of the day, like waking up or leaving the house in the morning. This association with everyday events is more notable for cigarettes than for any other addictive substance and it has been noted that the cues for smoking quickly become unavoidable aspects of life for those who smoke regularly (Benowitz, 1999; Dani and Harris, 2005). This association of the addictive drug nicotine with common daily events encourages swift progression toward daily tobacco use and spurs relapse during periods of abstinence (Dani and Harris, 2005).

1.1.4 Neurobiology

It is likely that a number of brain regions are relevant to considerations of the neurobiological basis of nicotine addiction, but evidence suggests that the mesocorticolimbic dopamine system plays a vital role in the acquisition of behaviours that are reinforced by psychostimulant drugs like nicotine (Balfour, 2004; Di Chiara, 2000; Karan, Dani, and Benowitz, 2003), perhaps via a dopaminergic pathway which originates in the ventral tegmental area of the mid-brain and projects to the prefrontal cortex as well as limbic and striatal structures, including the nucleus accumbens. Smokers deliver a small 'hit' of nicotine

each time they smoke, and with repeated smoking nicotine accumulates throughout the day. Nicotine initiates cellular and synaptic events in the Ventral Tegmental Area that cause increased excitation and decreased inhibition to the dopamine neurons. Consequently, dopamine neurons fire at an increased rate and the concentration of dopamine in the Nucleus Accumbens is elevated for prolonged time (Di Chiara, 2000; Pidoplichko, Noguchi, Areola, Liang, Peterson, Zhang, and Dani, 2004). There is considerable evidence to support the role of the mesocorticolimbic dopamine system in nicotine addiction. For example, blocking the release of dopamine in the nucleus accumbens dampens the rewarding effects of nicotine (Stolerman and Shoaib, 1991; Corrigall, 1999). Alongside the evidence supporting the role of dopamine (and the mesocorticolimbic system overall) is evidence indicating roles for other neurotransmitters and peptides. Their detailed consideration is omitted here but a helpful summary is provided by Dani and Harris (2005).

1.1.5 Psychological Comorbidities

Tobacco smoking is commonly reported by individuals experiencing mental health difficulties and substance abuse (Leonard et al., 2001). The comorbidity of mental health difficulty and tobacco smoking may be partly due to the positive mood influences associated with nicotine use. Another potential factor is psychiatric medication. Antipsychotic drugs, for example, block dopamine receptors, and nicotine overcomes this action by enhancing dopamine release thus reducing unwanted medication side effects. Evidence also suggests that individuals with mental health difficulties might experience more severe withdrawal symptoms than those who have stopped smoking and are not experiencing mental illness (Leonard et al., 2001).

There are also important links between stress, depression, anxiety, and nicotine addiction; individuals experiencing depression are sensitised to the effects of stress, and this likely increases motivation for tobacco use (Balfour and Ridley, 2000). A significant proportion of those who use other substances also smoke tobacco, and there is a particularly strong

correlation between tobacco smoking and alcohol abuse. Those who drink more alcohol are more likely to smoke tobacco and less likely to successfully quit smoking. Together these themes of comorbidity paint a disproportionate picture whereby the most vulnerable groups in our society consume the highest fraction of all cigarettes smoked (Grant, Hasin, Chou, Stinson, & Dawson, 2004; Public Health England, 2017).

The relationship between mental health and smoking difficulties is considered in further detail in the discussion chapter.

1.1.6 Social Factors

Social factors are believed to impact upon an individual's capacity for health related behaviour change, like initiating or ceasing tobacco smoking.

An individual is more likely to initiate smoking if they have social and/or familial relationships with other smokers, and the social factors linked with attitude/belief formation are likely to be relevant here. Attitudes towards smoking are formed in social contexts and affected by the messages transmitted within social relationships (Chassin, Presson, and Sherman, 1990; Hirschman, Leventhal, and Glynn, 1984) and evidence suggests that these attitudes have a significant effect on decisions made around smoking initiation. Social processes such as modeling are also important, and mechanisms linked with imitation, identification, social reinforcement, and conformity are all believed to be relevant (Chassin et al., 1990). In fact, having parents and peers who smoke has been repeatedly shown to be one of the most important predictors of smoking initiation (e.g. Chassin, Presson, Sherman, Montello, and McGrew, 1986; Gilman et al., 2009).

Social factors are also extremely important for smoking cessation. Social support for example can have a direct influence on behaviour by sustaining the necessary motivation for behaviour change. Social processes like modeling described above are also thought to be important. In a less direct manner, social support might play a role by modifying other factors related to smoking behaviour. An example could be that support enables a calm

interpersonal environment or eliminates daily hassles that might drain the smokers' ability to cope and predispose them to relapse (Copotelli & Orleans, 1985).

1.2 Maternal smoking during pregnancy

1.2.1 Risks

Maternal smoking during pregnancy is the most important preventable risk factor for a range of poor pregnancy and birth outcomes including miscarriage, placental abruption, premature birth, and low birthweight (Hammoud et al., 2005; Salihu and Wilson, 2007; US Department of Health and Human Services (DHHS), 2004). Premature birth is the commonest risk factor for neonatal mortality (Hammoud et al., 2005; Kramer, 1987) and morbidity (Green et al., 2005), and low birthweight is associated with a range of adult morbidities including coronary heart disease, type 2 diabetes and adiposity (Gluckman, Hanson, Cooper and Thornburg, 2008). These risks have long led health promoters to place a strong emphasis on smoking cessation during pregnancy.

1.2.2 Epidemiology

Cigarette smoking is associated with numerous indicators of socioeconomic disadvantage and there are significant differences between those women who continue to smoke whilst pregnant and those who do not. Women who continue to smoke during pregnancy tend to have low income, high parity, low levels of social support, low levels of educational attainment and are more likely to be without a partner and feel criticised by society (Ebert and Fahy, 2007; Graham, 1996; Tappin, Ford, Nelson, and Wild, 1996; US DHHS, 2004).

In addition to the socioeconomic variables known to affect smoking cessation success, a number of psychological factors are understood to be implicated in continued smoking during pregnancy. Depression and stress seem to be particularly important, with research findings suggesting that depressed women are up to four times more likely than non-depressed women to smoke during pregnancy (Blalock, Fouladi, Wetter, and Cinciripini,

2005) and women who smoke consistently report higher levels of perceived stress than non-smokers (Cohen and Lichtenstein, 1990).

1.2.3 Nulliparity

Cottrell et al. (2007) describe a woman's first pregnancy as an opportunity for the development of 'new possible selves', referring to the potential significance of the maternal role and the key biological, social, and psychological events that accompany the transition to motherhood. Following from this, we might reasonably assume that a woman's first pregnancy marks a revolutionary shift in her self-identity and the nature of her interpersonal relationships. Coupled with the notion that smoking is for some an image-defining activity (Mensch and Kandel, 1988) that is often embedded within close domestic relationships (Rohrbaugh et al., 2001), these ideas lead us to view a woman's first pregnancy as a special life-stage where a number of factors combine to create a unique opportunity for smoking cessation.

Naturalistic studies have provided evidence to support this view. Appleton and Pharoah (1998) for example used multivariate analyses and found that parity contributed independently to models of continued smoking in early and late pregnancy. Interestingly however, parity did not enter the 'failure to quit' model. The authors interpreted this as an indication that maternal smokers who have had previous children are less likely to *intend* to modify their smoking behaviour, compared with women who have not had previous children. Following this, once women have made the decision to change their smoking behaviour, parity does not seem to affect their likelihood of succeeding with the quit attempt.

A study by Ruggiero, Tsoh, Everett, Fava, and Guise (2000) lends further support to the assertion that nulliparous pregnant women are unique in the context of smoking cessation. Within the context of the transtheoretical model of health behaviour change (Prochaska and Velicer, 1997), they found primigravida women to be significantly further along their 'readiness to quit' compared with their multigravida counterparts. This finding led the authors

to conclude that a first pregnancy “may be the most important window of opportunity” for smoking cessation (Ruggiero et al., 2000, p.247) and that further research in the area is warranted.

1.2.4 Intimate Partners

1.2.4.1 Partners in the General Population

Observational research in the general population has shown that the initiation, maintenance and cessation of an individual’s cigarette smoking are strongly influenced by family members and by intimate partners in particular. Smokers are more likely to marry smokers than non-smokers; they are likely to smoke the same number of cigarettes as their partner; they are more likely to quit smoking when their partner quits; and they are more likely to quit smoking and maintain abstinence if their partner does not smoke (Hanson, Isacson, Janzon, and Lindell, 1990; McBride, Curry, Grothaus, Nelson, Lando, and Pirie, 1998; Price, Chen, Cavalli-Sforza, and Feldman, 1981; Venters, Jacobs, Luepker, Maiman, and Gillum, 1984; Waldron and Lye, 1989). We also know that support from a partner is highly predictive of successful smoking cessation in the general population (Graham and Gibson, 1971; Coppotelli and Orleans, 1985; Gulliver, Hughes, Solomon, and Dey, 1995) but that this support must be positive and cooperative in nature and not negative or guilt-inducing (Coppotelli and Orleans, 1985; Roski, Schmid, and Lando, 1996).

1.2.4.2 Partner Support Interventions in the General Population

On the basis of the strength of association between partner support and smoking cessation demonstrated in epidemiological studies of the general population and pregnant women, there has been a recent growth of interest around interventions with targeted ‘partner support’ elements. Counter to expectations however, a recent review by Park and colleagues found that partner support smoking cessation interventions in the general population have not been shown to improve quit rates compared to smoking cessation interventions without a partner component (Park, Tudiver, and Campbell, 2012).

When one considers the complex nature of smoking behaviours, it is perhaps unsurprising that partner support interventions based mainly on the provision of education and problem-solving strategies might have been unsuccessful. Cigarette smoking is influenced by biological factors, individual psychological factors, intra- and extra-familial social relationships and pressures, as well as the intimate relationship where one exists (Park, Tuder, Schultz, and Campbell, 2004). It is also very important to remember that spousal support is provided as part of a complex intimate relationship, and is likely affected by relationship quality and satisfaction. The failure of partner support cessation interventions to address or at times even acknowledge these systemic issues is likely implicated in their limited success.

We must also note the theoretical and methodological limitations of previous investigations of partner support for smoking cessation in the general population. Firstly, there is an absence of a sound theoretical or conceptual framework for the effects of partner support on smoking cessation; only by developing and testing models of the ways in which social support constructs might affect cessation attempts will researchers become able to elucidate why, when and for whom peer or partner support promotes the initiation and/or maintenance of smoking cessation (Westmaas, Bontemps-Jones, and Bauer, 2010). There have also been a number of methodological limitations, including: failures to differentiate between structural and functional support concepts, inconsistent definitions of the 'partner' relationship, not allocating participants to conditions randomly, recruiting only women with buddies available to help, failure to measure support at baseline, failure to measure perceived support, failure to verify participant engagement of proffered support, a lack of biological verification of abstinence, and small study samples. In addition, as noted by May and West (2000), there are significant flaws with the Partner Interaction Questionnaire (Mermelstein, Cohen, Lichtenstein, Baer, and Karmarck, 1986) which may have compromised the validity of the data collected in a large proportion of previous studies assessing partner support.

1.2.4.3 Partner Support Interventions for Pregnant Women

The quality of intervention studies conducted with pregnant women has been relatively poor compared with that of studies conducted with the general population (Park et al., 2004). Their findings do however indicate that positive benefits may be realised with social support interventions. For example, Albrecht and colleagues (2006) studied pregnant adolescents and found a 'buddy' intervention to be significantly more effective in attaining smoking cessation than a comparable intervention with no 'buddy' element. Disappointingly, follow-up work found that these effects were short-term in nature and there was no difference between treatment groups in abstinence rates at 1 year postpartum.

Design flaws have meant that although other studies have shown positive effects of social support for smoking cessation in pregnancy, it is often impossible to say whether the effect of social support alone is equal to (or greater than) the combined effect of social and other types of support. Klerman, Ramey, Goldenberg, Marbury, Hou, and Cliver, (2001), for example, studied African American pregnant women and found that women receiving an intervention with an element of peer-support were more likely to quit smoking than women who did not receive the intervention. It is noted however, that the peer-supported women in this study received various other forms of support, including psychoeducation, in addition to their peer-support. Donatelle, Prows, Champeau, and Hudson (2000) similarly found that social support, when provided in conjunction with financial incentives increased the likelihood of successful smoking cessation for a group of severely economically disadvantaged pregnant women.

Although the evidence base is inconsistent in demonstrating the efficacy of interventions incorporating social support elements, there are many indicators in the literature which signal an important link between interpersonal processes and the smoking behaviours of pregnant women. There is a particular lack of clarity around the effects of the specific interpersonal process that constitute the dynamics of the intimate relationships of pregnant women who

wish to stop smoking. In order to learn the extent to which these interpersonal processes have been examined in the research literature, the current author conducted a systematic literature search. The search strategy was based on the recommendations of Aveyard (2014); the aim being the identification and exploration of the widest possible range of publications relevant to the research topic.

1.3 Systematic Literature Search

1.3.1 Search Strategy

A systematic literature search was used to address the following research question: what role do couple dynamics play in maternal smoking cessation during pregnancy?

During the first part of the literature search American Doctoral Dissertations 1933-1955, CINAHL Complete, the EBSCOhost eBook Collection, the EBSCO E-Journals database, MEDLINE, and PsycARTICLES were searched using EBSCOHost. These databases provide an extensive source of scientific publications in the fields of psychology and health. Searches were conducted between 10th and 27th January 2016. Boolean commands were used to ensure that the most appropriate combination of search terms were used and the * facility was used to identify all possible endings of key terms.

The following search terms were used to identify 134 articles relevant to the topic of interest: “maternal smok*” OR “maternal smoking cessation”, AND “pregnan*”, AND “relationship”, OR “partner”, OR “couple”, OR “partner support”, OR “interpersonal”, OR “couple dynamics” OR “support”. The breadth of search terms meant that the search needed to be limited to titles only. This is not ideal as it can be difficult to judge the relevance of some studies through analysis of the title alone; without this limit however the amount of literature retrieved was overwhelming, amounting to 43,602 articles when an “All Text, TX” search was performed using the above terms.

Following the electronic database search, up until the Autumn of 2017 at which time the research study was completed, other search means were used to ensure that no relevant literature was missed, including the use of the 'snowball sampling' strategy described by Greenhalgh and Peacock (2005). The most frequently cited journals were Health Psychology, Nicotine and Tobacco Research, and these journals were thus searched manually regularly for further articles. The search terms "maternal smok*" OR "maternal smoking cessation", AND "pregnan*", AND "relationship", OR "partner", OR "couple", OR "partner support", OR "interpersonal", OR "couple dynamics" were used and all years of the journals were searched. This did not lead to the retrieval of any additional articles. Prominent authors were also contacted to ascertain whether they had published or were aware of other work that had not been identified, but this did not lead to the retrieval of any new material. Finally, the references of all relevant articles were manually reviewed; this led to the retrieval of a further four articles.

After the removal of duplicates, studies were screened for relevance via the content of their abstracts. This method was chosen because the title alone is often insufficient for determining the focus of a study (Evans, 2002). 97 articles were screened out at this stage leaving 34 studies to be reviewed for inclusion/exclusion. Two of the reviewed articles were obtained via inter-library loan.

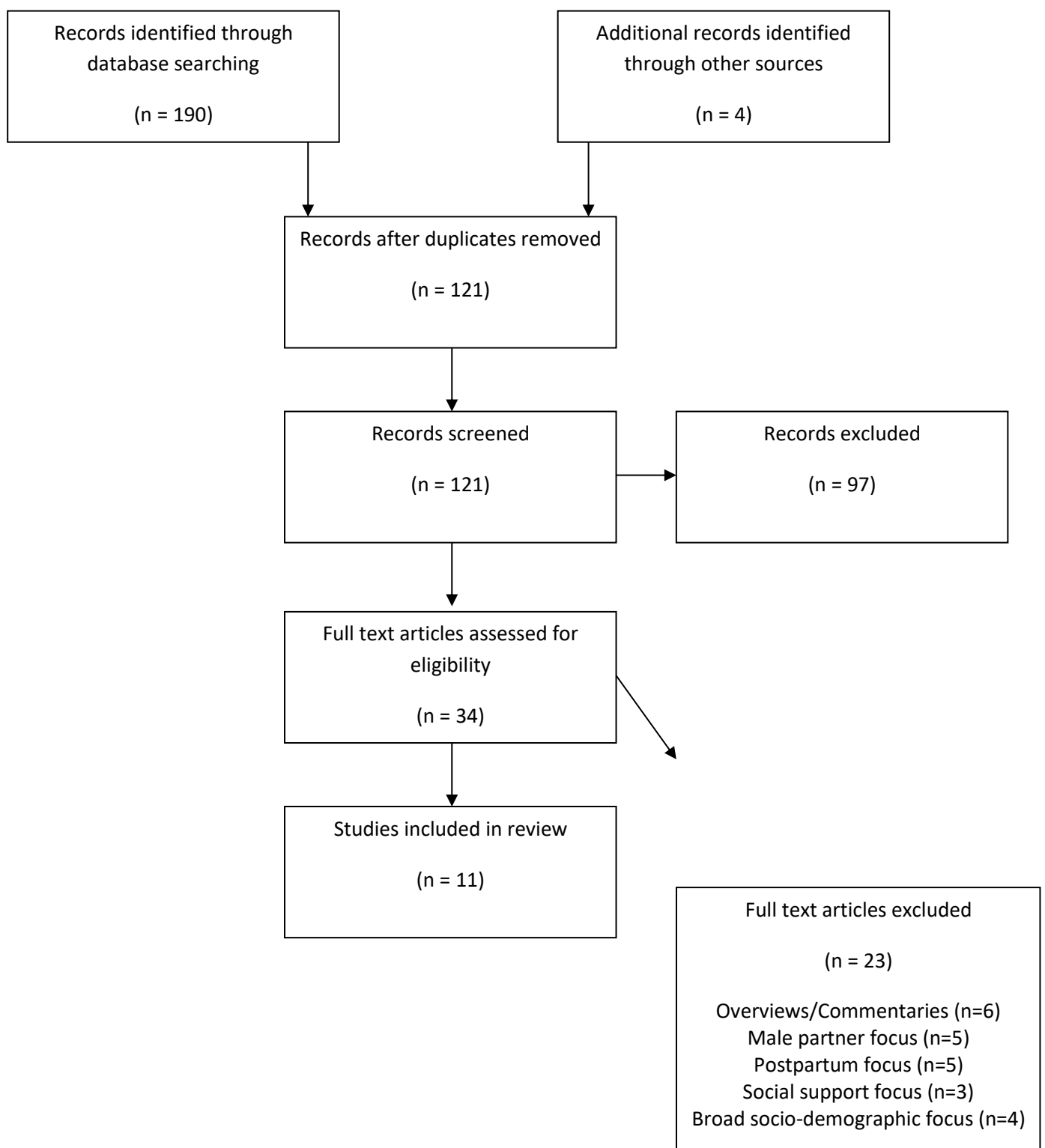
1.3.2 Inclusion and Exclusion Criteria

Studies of interest were focused on the processes occurring between pregnant women and their partners in instances where the pregnant female is a smoker. Primary research studies related to the topic, both qualitative and quantitative, were included and inclusion was not limited by methodology, setting, date, or geographic location. Studies of treatment efficacy, pre-pregnancy factors, birth outcomes, or wider familial/social factors were excluded from the review unless they offered specific insight into the interpersonal dynamic processes of interest. Non-research articles (e.g. commentary articles) were also excluded as they did not

offer insights beyond those that were gained through direct consideration of the research literature.

Of the 34 studies reviewed for inclusion/exclusion, 23 were excluded for the reasons mentioned above leaving 11 articles to be reviewed. Please see figure 1 for a flow diagram of the search process.

Figure 1: Literature Search Flow Diagram



1.3.3 Critical Appraisal Strategy

11 relevant articles were identified using the search strategy detailed above. These articles have been appraised using the strategies presented by Greenhalgh (1997a; 1997b; 1997c), Greenhalgh and Taylor (1997), and the Critical Appraisal Skills Programme (2006).

1.3.4 Critical Summary of the Literature

1.3.4.1 The Effect of Partner Support on Maternal Smoking Behaviour

Five of the articles retrieved via literature search were focused on the effect of support provided to pregnant smokers by their partners.

Pollak et al. (2001) conducted a quantitative study of 58 couples which required the pregnant women and their partners to rate the positive and negative support that they had received (women) or provided (partners). Statistical techniques were then used to compare and correlate the two reports, with the findings showing that male partners reported giving more positive and less negative support than women partners perceived. There was stronger agreement for women's and men's reports of negative than positive support behaviours. Partner reported complimenting was noted as being frequently associated with women's reports of negative support. This study valuably reminds us of the subjective nature of 'support', and the authors suggest that cessation interventions aimed at couples might benefit from component training in effective communication around support needs. The authors also report that 32% of partners reported that the woman was a non-smoker when she herself was described as a smoker. Contrastingly, women's reports of their partners' smoking status showed 100% agreement with partner reports. This leads to the suggestion that women included in the study may have been misrepresenting their smoking statuses to their partners in order to avoid negative appraisal; it must be noted that there was a lag of at least 30 days between the assessment of women and their partners, creating the possibility that a proportion of the divergent reports from women and their partners may have been due to real changes in smoking status. It is possible that this time lag may also have been the

cause of other disagreements in report. Pollak et al. (2001) present a number of findings that may be useful in our endeavours to understand and support pregnant smokers wishing to quit, there are also however a number of design issues which must not be overlooked. The study's interest in partner agreement is valuable but a narrow focus means that there is no link made between perceived support and cessation success. Although study is cross-sectional, and there would therefore be no scope for cause-effect interpretations, this additional variable may have boosted the clinical utility of the study's results. It is also noteworthy, given our knowledge of the strong correlation between socio-demographic disadvantage and smoking during pregnancy, that the couples in Pollak et al.'s (2001) study were well-educated, white, and of middle-income households.

Another quantitative study from Pollak's laboratory (Pollak, Baucom, Peterson, Stanton, and McBride, 2006) provides a longitudinal examination of the patterns of partner helpfulness and support over the course of pregnancy and the postpartum period. The findings of this study suggest that partners used women's smoking as a cue to provide negative support; when women stopped smoking their partners stopped providing negative support and when they started smoking again their partners recommenced their provision of negative support. There was no exploration into the partners' motivation for providing negative support at these times so it is not possible to know the basis for this correlation. The study also found that compared with non-smoking partners, partners who smoked provided lower levels of negative support overall, and were perceived by women as less helpful. The authors suggest that this might be part of the reason why partner smoking is such a consistent persistent predictor of a woman continuing to smoke throughout pregnancy. Another interesting finding from this study was that correlations between women-reported and partner-reported support and helpfulness varied according to the woman's smoking status. Amongst smoking women, partner-reported negative support was significantly correlated with women-rated helpfulness, but women who quit smoking or relapsed during pregnancy and their partners showed no significant correlation. The authors explain this result by drawing on the stress-buffering

hypothesis of social support (Alloway and Bebbington, 1987) to surmise that women who effectively quit smoking during pregnancy may not have experienced quitting as a stressful task, and because there was no stress to manage the supportive behaviours of the partners of these women was irrelevant to the women's ratings of helpfulness. The study did not make any enquiry in to the motivations behind supportive acts, and it is possible that such information may have been valuable for our understanding of fluctuations in partner support over time. The generalizability of this study is also questionable, given that all participants were described as white and as being "affiliated with the military" (pp. 769).

Qualitative examinations focusing specifically on the influence of partners on the smoking cessation attempts of pregnant women are scant. An epidemiological example comes from Koshy, MacKenzie, Tappin, and Ford. (2010) who, within an intervention study, used secondary data analysis techniques to compare pregnant quitters' and non-quitters' accounts of the ways in which partners, family members, and friends influenced their smoking cessation attempts. They found that partners and close others were perceived by women as simultaneously providing drivers and barriers for quitting, and they found that successful quitters talked more than non-successful quitters about receiving active praise and encouragement. These findings are valuable and remind us of the complexities of close relationships and the multiple ways these complexities might map on to constructs linked with smoking cessation support. The main flaw of this study relates to methodology, and the fact that Koshy et al. conducted their analyses using data collected for other means. This means that the individuals conducting the interviews upon which the study was based were unaware of Koshy et al.'s research questions, and the authors themselves question their dubious analytic act of "reading significance into the absence as much as the presence of data".

McBride et al. (1998) conducted a large-scale quantitative longitudinal study of women's perceptions of support for smoking cessation during pregnancy, their likelihood of quitting, and the smoking status of their partners. The study's findings suggest that women whose

partners do not smoke are significantly more likely to quit smoking upon discovering their pregnancy compared with women whose partners do smoke. McBride et al. also report that women who successfully quit smoking reported significantly more positive support from their partners than women who continued to smoke during pregnancy. And finally, this study reports that women reported greater support (positive and negative) from partners who did not smoke than from partners who did smoke. This study used only two indicators of positive support, thus leaving the possibility that other more important types of support may have been missed. The study also suffers from the ethnic homogeneity reported of the other quantitative studies mentioned above and 66% of participants were reportedly in full-time employment, thus calling into question the external validity of the findings.

Huag, Aaro, and Fugelli (1992) conducted a self-report questionnaire based study of pregnant smokers in Norway. They found that women who were encouraged by their partners to stop smoking and who perceived that their partners were willing to reduce their own cigarette consumption had significantly higher rates of cigarette reduction, significantly more negative attitudes towards smoking, and greater determination to stop smoking.

1.3.4.2 The Effect of Partner Smoking Behaviour Change on Maternal Smoking Behaviour

Three studies were specifically focused on the effect of partner smoking behaviour on maternal smoking behaviour during pregnancy.

Appleton and Pharoah (1998) used a cohort study design to examine the role of partner smoking change in women's smoking change during pregnancy, and findings suggest that partner quitting is predictive of women's maintained tobacco abstinence in late pregnancy. The authors also found that women whose partners reduced their tobacco consumption in early pregnancy were unlikely to continue through pregnancy smoking at the same level of consumption. It is noted however, that the direction of this effect is unclear; it could be that changes in partner smoking behaviours is impacting upon maternal smoking behaviours, but

it is equally valid to suppose that partner smoking reduction is affected by maternal smoking behaviour change. The authors call for longitudinal investigations to add clarity to our understanding of these reciprocal processes. Interestingly, this study also found perceived support to be a significant predictor of quitting in early pregnancy. Together, these findings add weight to the suggestions that women's intimate relationships and their expectations of social support are important and should be studied further in the context of smoking cessation during pregnancy (Sarason, Sarason, and Pierce, 1990).

Waterson, Evans, and Murray-Lyon (1990) surveyed pregnant women and their partners using questionnaires in early pregnancy and at 32 weeks gestation. They found that maternal and paternal smoking declined over the course of pregnancy, and the authors describe a positive association between the prevalence and levels of drinking and smoking between partners. It is also reported that mothers were more likely to reduce their smoking and alcohol consumption if their partner had done the same. Questionnaires were given to women at their booking appointments and they were asked to complete them at home and return them via post to the researchers. Women were also asked to pass questionnaires to their partners for completion. The study suffered from low and inconsistent return rates, and this means that the data may contain an inherent bias which compromises its reliability. Reliability may also have been affected by the manner with which partner-report data was collected (through female participants rather than directly). It must be acknowledged that the challenges associated with the collection of reliable and valid clinical research data are great, and the design of this study was bolstered by the inclusion of the partner perspective. We must not however consider the study's findings without an accurate appreciation of the reliability and validity of the data methodological design upon which they are based.

In a UK based study, Wakefield, Gillies, Graham, Madeley, and Symonds (1993) used retrospective self-report data to examine the characteristics associated with smoking cessation during pregnancy among working class women. Comparing women who stopped smoking during pregnancy with women who continued to smoke through pregnancy, the

study used chi-square analyses to find that having a non-smoking partner was one of a number of variables independently associated with cessation success. The statistical power of the analyses may have been compromised by the small number of women identified as having stopped smoking during pregnancy; this group constituted 32 women and the 'smoker' group constituted 472 women. The study also relied on self-report smoking status data and it is reasonable to presume that there may have been some instances of misreporting.

1.3.4.3 Couple Dynamics

Flemming, Graham, Heirs, Fox, and Sowden (2013) conducted a review of 26 qualitative studies of women who commenced pregnancy as smokers. The aim of the review was to provide information about the ways in which women's circumstances and experiences influence their smoking behaviour during pregnancy and it uncovered four important dimensions of women's circumstances that influence their smoking behaviour. One of these was 'the role of partners and the broader dynamics of the couples' relationship' (Flemming et al., 2013, p. 1023) and this was found to be important right the way through the pregnant smoker's journey from 'being a smoker' to 'being a pregnant smoker' and 'trying to quit' or 'continuing to smoke'.

There has been just one study published with a direct focus on the exploration of couple dynamics during smoking cessation attempts in pregnancy. It is a Canadian study, conducted by Bottorff, Kalaw, Johnson, Stewart, Greaves, and Carey (2006) to explore the influence of couple interactions on pregnant women's tobacco reduction. Using a grounded theory approach, in-depth interviews were conducted that focused on the challenges that women's tobacco reduction posed for couples, and the ways that partner influenced women's cessation efforts. Individual interviews were conducted with each member of the dyad at 2-4 weeks postpartum and then 3-6 months postpartum. The findings were that tobacco reduction during pregnancy fundamentally altered couples' previously established

tobacco-related routines, and the extent of changes was dependant on the couples' established interaction style. It must be noted that participant interviews were conducted up to six months into the postpartum period and it is possible that the use of retrospective recall may have impacted upon the reliability of participant narratives. The authors also note that they recruited a relatively low proportion of eligible couples (35%) and so it may be that other alternatives may have been represented among eligible non-participants. On the basis of their work, Bottorff and colleagues have been able to suggest useful directions for further research and interventions. They pose numerous potential benefits of increasing couples' awareness of the manner in which tobacco is embedded in their interaction patterns, and they go on to suggest that a "delinked couple-focused approach" might be most appropriate for interventions (pp. 507). In terms of further research, it is suggested that additional work on the influence of couple interactions on cessation experiences during pregnancy is warranted and the current study aims to contribute to an improved understanding here.

The design of the current study design will also allow it to address some of the questions raised due to the methodological features of Bottorff et al's study. For example, the collection of interview data during pregnancy, rather than retrospectively during the postnatal period, is valuable here as it means that the biases of delayed recall are likely to be less significant. There is also a more specific focus, in the current study, on the tobacco-related dynamic interpersonal processes occurring within couples during pregnancy, which will have a beneficial effect on the richness of the data that is generated. The focus in Bottorff's exploration was somewhat broader, and this is perhaps reflected in the findings which speak of women's transition from the antenatal to the postpartum period, and the processes involved in maintaining tobacco abstinence. Another way in which the specificity of the current study's design will address gaps in the literature, is by focusing on nulliparous women. This will lead to the generation of data on the process at play during this unique time of change (see section 1.1.1 for further discussion). The richness of data collected in the current study will also be bolstered by the use of face-to-face interviews in participant's

homes; Bottorff et al (2006) used telephone interviews as part of their design, and although this likely helped in their achievement of a good sample size, it may also have affected the richness of the resultant data (Charmaz & Belgrave, 2012). There is also a lack of clarity around the specifics of the data analysis procedures used by Bottorff's team. Unfortunately, clear descriptions of the steps taken during the data analysis phase, particularly those involved with the use of constant comparison methods, are often lacking in reports of Grounded Theory studies so this lack of clarity is not unique to Bottorff et al's 2006 report. The effect of this lack of explication is a reduction in the verification, replicability, and credibility of reports. The use of constant comparison methods constitutes the core feature of the Grounded Theory approach (Boeije, 2002) and it thus feels vitally important to be clear on exactly why and how it is carried out. Another way in which the current study seeks to build upon the foundation laid by Bottorff et al. (2006) is by employing a purposeful, transparent, traceable approach to constant comparison, using a model presented by Boeije (2002) which is particularly well suited to research with couples.

1.3.4.4 Other Partner Effects

Cnattingius, Lindmark, and Meirik (1992) used logistic regression analysis on data from a large longitudinal population-based quantitative study in Sweden, and found that not living with the infant's father was associated with significantly increased risk for maternal continued smoking during pregnancy, as was high parity number.

1.4 Building a Theoretical Framework

Following an exploration of the relevant research literature on the topic of interest, it was felt that an exploration of the theories which speak of the relevance of social and interpersonal processes for smoking cessation might also be valuable. It should be emphasised here that the current study utilises a grounded theory methodology, the study's ultimate goal being the generation of a theoretical framework within which we are better able to understand the smoking cessation related experiences of pregnant women and their partners. The

theoretical consideration that follows is not an attempt to begin building this grounded framework; it is intended to provide a conceptual map of the area and a useful background context. The results of the study are located in the wider theoretical literature in the Discussion Chapter.

1.4.1 Social Support

It is generally accepted that social support strategies are implicated in the interpersonal dynamics related to successful smoking cessation (Cohen, 1988; Mermelstein et al., 1986; Park et al., 2004; Westmaas et al., 2010). As previously mentioned however, there is no sound conceptual or theoretical framework that explains *how* social support might aid smoking cessation.

This theoretical absence represents a significant difference between the field of tobacco addiction and that of substance abuse. A recent review of substance abuse interventions involving family members and peers found that Motivational Interviewing techniques (Miller and Rollnick, 2002) that used flexible non-confrontational social pressure were most effective (Fernandez, Begley and Marlatt, 2006). Although these newer substance abuse interventions and their associated mechanisms of action need further research, the field is benefitting from a theoretical framework that specifies the mechanisms of action of support from social network members. Investigators in the field of smoking cessation would benefit from the development of a comparable framework.

In order to develop a useful theoretical framework, Westmaas et al. (2010) have examined a number of social constructs and models believed to be important in socially supportive smoking cessation interventions. I will describe the most relevant of these here. There are three functions of social support that are useful in our consideration of these constructs and models, and each of these support functions can be defined as general or abstinence-specific in nature. *Emotional support*, as defined by Cohen (2004), is empathetic, caring and reassuring in nature, and provides the recipient with opportunities for emotional expression.

Instrumental support involves the provision of material aid which could for example be practical or financial in nature (Cohen, 2004). And lastly, *informational support* involves the provision of helpful, relevant information, and generally takes the form of advice or guidance in dealing with current difficulties (Cohen, 2004).

The *stress-buffering model* of social support (also known as the stress and coping model) is commonly described within psychological literature (Cohen, Underwood, and Gottlieb, 2000). As per this model, the perceived availability of support reduces the likelihood of stressors being appraised as threatening, and thereby reduces the stressors' negative physiological effect (e.g. increased heart rate and blood pressure) and allows the individual to engage more successfully in adaptive coping strategies (e.g. relaxation techniques). It might be that emotional support, either general or abstinence-specific, is most helpful for individuals coping with stress and negative affect whilst quitting smoking because of its potential for stress buffering. For example, a smoker who perceives that she can speak openly with her partner about daily hassles may be better able to cope with those hassles, and she may also be better able to cope with the abstinence-specific hassles associated with the quit attempt (i.e. withdrawal symptoms). Theoretically speaking, this enhanced ability to cope with daily hassles and withdrawal symptoms should make abstinence more likely, in the short-term at least.

Gulliver et al. (1995) speak of the importance of the *proportion of smokers in the social network*. Seeing other people smoke, or knowing that they are doing so can act as a powerful cue for smoking, and can also affect one's smoking norms. Contrariwise, researchers have found that quitting smoking often spreads within social circles (Christakis and Fowler, 2008) in a manner which suggests that non-smokers (or ex-smokers) in the social network can provide an acceptable social pressure for cessation. It could be that former smokers within the network are able to provide informational support and knowledge about how to quit, or it may be that the emotional support that they provide is more valuable as it is informed by their empathy with those attempting to quit. It is also possible that group

quitting effects occur in response to an implicit pressure or a shared response to perceived norms. Hypothetical pathways such as these are useful within larger models of the social influences on smoking cessation.

Social control refers to any interaction within a social relationship that pertains to regulate the behaviour of another person (Umberson, 1987, 1992). *Positive social control* involves the use of socially supportive behaviours to elicit a behavioural change. These supportive behaviours include the provision of emotional support, rewards, instrumental support, or pointing to role models (Lewis and Rook, 1999; Tucker and Mueller, 2000; Tucker, Orlando, Elliott, and Klein, 2006). Research findings on the effects of positive social control strategies on smoking cessation are mixed; with some suggesting positive behavioural effects (Tucker et al., 2006) and others suggesting null effects (Helgeson, Novak, Lepore, and Eton, 2004). *Negative social control* on the other hand involves the use of behaviour or communications that elicit negative feelings, like fear or anxiety, in the recipient. Research findings consistently show that negative social control strategies are unrelated to smoking cessation success and in fact predict adverse psychological reactions (Lewis and Rook, 1999).

Social support can be visible or invisible and research has suggested that *invisible support* has a positive effect on the smoker's affect whereas *visible support* actually causes distress by threatening the smoker's self-esteem (Bolger, Zuckerman, and Kessler, 2000). Bolger et al (2000) have shown that social support is most effective when it is either outside of the recipient's awareness or within their awareness but subtle enough that it is not explicitly noted as support (Bolger and Amarel, 2007). This construct has not been examined in relation to smoking cessation but we do know that negative mood is a significant risk factor for relapse (Kassel, Stroud, and Perkins, 2003) and so future research including the examination of visible versus invisible support could prove valuable.

The source of the smoker's support is also potentially a very important factor. May and West (2000) suggest that it may be problematic for individuals to be the recipients of support from

a spouse because of the difficulties involved with changing established relationship patterns. Further complicating matters is the suggestion that support provided by those with pre-existing social ties may persist for longer, though the effectiveness of said support may be attenuated by other relationship-related factors such as satisfaction (May and West, 2000). It seems then that the source of support may have a complex and important moderating effect on the cessation process. Many other moderators and mediators are relevant in our consideration of smoking cessation but space precludes their listing here. Westmaas et al. (2010) reflect succinctly on a number of interesting variables, including genetic polymorphisms, sociodemographic factors, and the time course of support.

1.4.2 Social Systems

The micro-social context of home and its influence on the smoking habits of pregnant women deserves the attention of researchers and clinicians alike. This is currently a vastly under-researched area but research in related fields such as alcohol abuse (Roberts and Leonard, 1998; Roberts and Linney, 2000) and the psychology of illness (Schmaling and Sher, 2000) points to the importance of understanding the ways in which daily processes within intimate relationships influence health behaviours such as smoking. By improving our understanding of the ways in which smoking cessation efforts are influenced by couple dynamics and interaction patterns, we may be able to design interventions which act to elicit effective change in the smoker's systemic environment.

Systemic models conceptualise smoking as being embedded within relationships and supported by predictable patterns of behaviour and interaction (Rohrbaugh, Shoham, Trost, Muramoto, Cate, and Leischow 2001). Doherty and Whitehead (1986) emphasised the emotion-regulation and communication functions of smoking within intimate relationships. They describe the manner by which smoking serves to regulate closeness (or distance) by conveying messages like "let's talk", "I need some time alone", or "let's relax". They describe smoking cessation as entailing the potential loss of rituals that have been integral to the

bond between intimate partners. Another of Doherty and Whitehead's formulations sees smoking serve to establish and maintain autonomy by symbolising personal freedom from a controlling partner. Within this formulation there is again a significant negative association between relationship satisfaction and smoking cessation. In fact, research has found that in dual-smoking couples there is a temporary reported decrease in marital satisfaction when cessation efforts begin (Nyborg and Nevid, 1986).

The abovementioned study by Bottorff, et al., (2006) retrospectively examined couples' pre-pregnancy smoking-related interactions and identified three distinct interaction patterns. *Disengaged interaction patterns* were most common within the study sample and were characterised by feelings that smoking was an individual activity rather than a couple activity, and should remain as such. *Conflictual interaction patterns* were characterised by dyadic conflict between women who were smokers and their partners who were non- or ex-smokers. And *accommodating interaction patterns* were found where couples' daily routines and activities intentionally made room for smoking. These patterns of couple interactions provide us with a useful way of understanding the social context of tobacco use and they yet again confirm the importance of partners in women's smoking behaviours and habits.

Although there is now a small body of research on smoking behaviours within intimate relationships, an in-depth understanding is lacking. In the more specific area of smoking during pregnancy, research on smoking behaviours in the context of intimate relationships is very scant indeed.

1.5 Critical Summary

Various factors have been associated with smoking cessation during pregnancy but our growing understanding of the influence of social environments on health behaviours (Christensen, 2004) and addictions (Cavacuiti, 2004) has led to the recognition of social support as a key variable in smoking cessation processes (Cohen, 1988; May and West, 2000; Park et al., 2004; Westmaas et al., 2010). Counterintuitively however, partner or

“buddy” support smoking cessation interventions have not consistently yielded positive effects (May and West, 2000). A recent review of literature in the area has shown that smoking during pregnancy, in the specific context of intimate relationships (where we know that individual smoking behaviours affect and are affected by others) remains under-examined (Palmer, Baucom and McBride, 2000). Together these facts point to the great importance of understanding more about the relational contexts of smoking during pregnancy.

In the general population, recent investigations into social influences on smoking behaviour have provided rich descriptions of the manner in which cigarette smoking is integrated into everyday routines and interaction patterns in domestic relationships (Botorff et al., 2005; Laurier, McKie, and Goodwin, 2000). As a result, we now understand smoking to be a ritualised, connective practice with cessation being associated with significant changes to established interaction patterns (Rohrbaugh et al., 2001). The context of pregnancy further complicates cessation-associated changes in personal dynamics because of the other changes in roles and responsibilities occurring within intimate relationships at this time. First pregnancies in particular offer a unique opportunity for revolutionary changes in a woman’s self-identity and her relationships with those around her. These remarkable changes, coupled with the importance of social influences and an individual’s intrinsic psychological attributes for smoking cessation, mark this particular life-stage as important and attention-worthy.

The small handful of studies of the smoking cessation experiences of pregnant women and their partners have also pointed to the important influence of couple dynamics on smoking cessation (Bottorff et al, 2006; Edwards and Sims-Jones, 1998; Flemming, Graham, Heirs, Fox, and Sowden, 2013; MacLean, Sims-Jones, Hotte, and Edwards, 2000; Wright, Bell, and Rock, 1989) but more detailed investigation of these dynamics is now needed (Bottorff et al, 2006).

1.6 Research Aims and Objectives

Framed by an understanding of tobacco dependence as a multidimensional behavioural phenomenon, and informed by theories of social support, the current study aims to explore pregnant women's experiences of smoking cessation within the contexts of their intimate relationships. Evidence suggests that intimate relationships are highly influential on smoking cessation efforts during pregnancy and smoking cessation holds the potential for important and powerful changes to the bonding rituals of intimate partners but focused research in this specific area is extremely limited. The current study will ask: what role do couple dynamics play in maternal smoking cessation during pregnancy? It is hoped that this examination and the development of an explanatory grounded theory will aid the development of effective interventions, programs, and policies.

1.7 Chapter Summary

This chapter began with a summary of the many health risks associated with maternal smoking during pregnancy, and an overview of the literature relevant to maternal smoking during pregnancy was presented in order to highlight the need for an improved understanding of the factors and processes pertinent to successful cessation. Research examining the roles of women's partners in their cessation attempts was reviewed and the need for further exploration of couple dynamics in this context was highlighted. The study aims were also described, and the next chapter provides an overview of the methods that will be used.

Chapter 2: Methodology

2. Chapter Overview

This chapter presents an introduction to the philosophical assumptions which have informed the conception, design and completion of this study. It provides the rationale for, and a description of, the methodology that was used to answer the research question: what role do couple dynamics play in maternal smoking cessation during pregnancy? There then follows a description of the procedures employed during the recruitment, data generation, and data analysis phases of the study. To end, issues of ethical consideration and quality assurance are discussed, and the steps taken to ensure the rigour of the study are described.

2.1 Philosophical Assumptions

A constructivist paradigm belies the current study. This paradigm comprises three related elements: ontology, epistemology, and methodology (Denzin and Lincoln, 1998). Ontological assumptions include those regarding the nature of reality and the properties of what can be known. Epistemology is a philosophical area focused on the theory of knowledge; what knowledge is, the extent to which it can be acquired, and the manner with which such acquisition occurs. Finally, methodology refers to the design and procedural processes through which knowledge is believed to be gained. Particular methodological approaches are linked with different ontological and epistemological approaches, and it can thus be said that our beliefs about the nature of reality and the ways in which knowledge can be acquired will have direct influence on decisions regarding methodological choice.

The study has been conceptualised within an ontological context which holds that reality is not fixed, nor can it ever be entirely known or measured. Rather, multiple realities are possible and valid. The study is based upon an epistemology which views knowledge as arising from interactions between individuals and their experiences and ideas. Phenomena are thus viewed as complex and subjective, and importantly they are best understood by exploring people's lived experiences in as detailed a manner as is possible. Together these

assumptions form the beginnings of a paradigm which leans most comfortably toward a naturalistic qualitative methodology.

Consideration of the researcher's impact on the study is also important. In line with a social constructionist view (Gergen, 2009), it is assumed that any knowledge to arise from this study will have been co-constructed within the relationship between the researcher and the research participants. Research conclusions are thus influenced by the gender, ethnicity, culture, personal experiences, personal histories, social class etc. of both parties. The immediate and wider social contexts and value-systems are also important, as are the political implications (Denzin and Lincoln, 1998). Each of these variables and the complex interactions between them has been considered in the design and implementation of this study and will be discussed further in later sections.

As mentioned above, the philosophical context within which the current study was conceptualised most naturally called for a qualitative methodology. A range of options exist within this methodological area and Grounded Theory methods were felt to be most suitable. This approach assumes that theoretical frameworks derived from the study offer interpretations of the ways in which the data speak to the research topic, rather than objective theories per se. Here follows a description of the appraisal process which led to the selection of a Grounded Theory methodology, and detailed presentation of the methods and strategies associated with the approach.

2.2 Qualitative Methodology

2.2.1 Quantitative or Qualitative Methodology?

The methods utilised by psychological researchers have a complex history, and there is longstanding debate regarding the choice of the most appropriate method for the field (Willig and Stainton-Rogers, 2008). There has been a tradition, within the social sciences, to employ quantitative methods in order to conduct investigations in a manner considered to be rigorous and scientific (Barker, Pistrang and Elliott, 2002). This positivist paradigm has

dominated the field for many years, and is built upon the notion that there are absolute truths about the world which can be objectively discovered and explained using hypothetico-deductive methods. These methods involve hypothesis-testing and strive to be valid, reliable and bias free (Charmaz, 2006). There are however well-debated issues regarding the ecological validity of investigations conducted within this paradigm, and the clinical applicability of the results of such investigations (e.g. Persons and Silberschatz, 1998).

The reductionist approach advocated by quantitative researchers has valuably informed the knowledge base, but recent advances in the field of psychological research have seen an increasing appreciation of the depth and detail of knowledge that can be gained with the use of alternative approaches. Whereas quantitative methods have traditionally been applied to questions such as “how many”, “how often” and “what percentage”, qualitative methods enable the consideration of questions of “why”, “how” and “what”. Examples from the current field of study include: “Prevalence of smoking in early pregnancy by census area: measured by anonymous cotinine testing of residual antenatal blood samples” (Tappin, Ford, Nelson, and Wild, 1996) from the quantitative realm and “Unraveling smoking ties: how tobacco use is embedded in couple interactions” (Bottorff et al., 2005) from the field of qualitative enquiry.

Qualitative methods provide an interpretative, naturalistic approach to the task of making sense of phenomena (Denzin and Lincoln, 1998). Social constructionist theory sits well with such methods because of the emphasis on situational contexts and the acknowledgement of the effect of the researcher’s relationship with the phenomena of interest. This approach posits that any understanding of a given ‘reality’ is the result of countless interacting human processes which cannot be disentangled nor separated from the ‘reality’ under consideration (Green and Thorogood, 2011). These principles create a postmodern constructivist paradigm which directly challenges the aforementioned positivist views that phenomena can be separated from their contexts and measured so as to provide objective descriptions of absolute truths and realities.

There is also an emphasis on phenomenology, with qualitative studies often seeking an understanding of individuals' lived experiences and the meanings that they ascribe to them (Laverty, 2003). In fact, there are a range of methods within the interpretative paradigm which seek to transcend the level of description and provide explanations and understanding of human behaviour (Green and Thorogood, 2011). Such methods include observation, document analysis, and interviewing (Denzin and Lincoln, 1998), and a range of theoretically-informed techniques exist for the analysis of data derived via these methods.

2.2.2 Rationale for a Qualitative Methodology

The current study is built around a curiosity about the smoking-related experiences of *individuals within intimate relationships during pregnancy*, and the *meaning* that has been made around those experiences. In order to effectively answer the study's core research questions rich descriptions of these experiences are needed and qualitative methods are well suited to the exploration of human phenomena and the generation of thick data (Barker et al., 2002; Green and Thorogood, 2011). Qualitative methods are also particularly suitable because they have been advocated in situations where there has been little previous research, as is the case here. This is because these methods are believed to provide insight into phenomena without a need for pre-existing theoretical concerns of predefined hypotheses (Henwood and Pidgeon, 1992).

Quantitative methods have allowed for the epidemiological measurement of smoking cessation rates during pregnancy, and they also provide reductionist measures of whether or not women they feel that their partners have been helpful or unhelpful in the cessation process. They are not however able to provide answers to answers regarding the ways in which partner support is experienced by pregnant women making a quit attempt, the feelings evoked by this support, and the ways in which changes in smoking-related behaviour are felt to affect the couples' relationship. As described in section 1.2.4, some authors have begun considering the quality of couples' experiences in this context. Questions about the nature of

the links between dynamic interpersonal experiences and smoking cessation related experiences however remain, and are of interest in the current study. As such it was decided that qualitative methods would be most well suited to the aims of this study.

2.2.3 Rigour

Qualitative methods are often undermined by those who view them as subjective, biased, and ungeneralisable (Denzin and Lincoln, 1998). This negative appraisal is partly due to the incompatibility of the positivist and constructivist approaches and the difficulties that arise when we examine one set of methods against criteria borne out of the other. Although qualitative and quantitative research paradigms assume different epistemologies and use different methodologies to answer different questions, it is felt here that they can both be evaluated for trustworthiness, quality, and value. Indeed, numerous researchers have described equivalent criteria for the evaluation of qualitative and quantitative research (e.g. Golafshani, 2003; Johnson and Waterfield, 2004; Kazdin, 1992).

Whilst quantitative research seeks to achieve 'internal validity' which refers to how well a study rules out alternative explanations of the results, qualitative research seeks 'credibility' and 'truth value' which are similarly associated with the representativeness and accuracy of results. 'External validity' describes the extent to which quantitative study findings can be generalised beyond the study sample, and in the same vein, qualitative researchers seek 'transferability', 'applicability', and 'fittingness'. Along the same lines, 'reliability' in quantitative research refers to the accurate measurement of phenomena and the consistency of measurements over time and although there is some disagreement over how applicable these concepts are to qualitative research (e.g. Stenbacka, 2001), equivalent concepts such as 'dependability' and 'auditability' are closely linked with the trustworthiness of results. Finally, the concept of 'neutrality' is important for the avoidance of researcher bias in quantitative research and can be likened to 'confirmability' in qualitative research which refers to the neutrality of data. It is thus agreed that good quality qualitative research is

equivalently situated alongside quantitative research in terms of its potential for the production of trustworthy findings.

Specific strategies for ensuring the quality of qualitative research are presented by Yardley (2000). These include four 'cornerstones' of good quality research: 'sensitivity to context' refers to the recognition of all aspects of the context; 'commitment and rigour' suggests that the researcher should be fully dedicated to the topic of interest and that data collection and analysis should be as exhaustive as is possible; 'transparency and coherence' refer to the need for full disclosure on the researcher's part and the importance of presenting a clear research narrative; and finally, 'impact and importance' make reference to the need for research findings to be valuable in multiple ways.

There are also methodological strategies which should be used to ensure that qualitative research is conducted to the best possible standard. These include purposive sampling to ensure that the diversity of the research population is represented; triangulation, which takes many forms, the most relevant here being the coding of data by multiple independent researchers and then a comparison of the resultant findings; leaving a transparent audit trail in order to evidence an adherence to a particular model and to offer explanations for any deviations from the model; and respondent validation which involves sharing study findings with participants in order to ensure that conclusions drawn remain relevant to the participant experiences originally described in the data (Johnson and Waterfield, 2004).

2.3 Grounded Theory

2.3.1 The Historical Context

Since its introduction by Glaser and Strauss in 1967 the Grounded Theory method has become one of the most commonly used qualitative research methods. Originally focused on enquiry into illness experiences, the method has exploded into a range of social science disciplines including psychology, education, social work, and gerontology. In fact, the influence of this approach is so immense that it has been said by some to have profoundly

changed the face of social science (Charmaz and Belgrave, 2012). It has done this by enabling not only the description of change within social groups, but also an understanding of the processes inherent in that change. It is also used for the identification and detailed description of phenomena, and the interactions of between phenomena within trajectories of change. As well as allowing for an explanation of what might be happening within a setting or around a particular event, it also provides the tools to synthesise data in a manner which allows for the development of concepts and 'middle-range theories' which are grounded in these specific data but also generalizable to other instances. Middle-range theories are described as abstract theoretical explanations of social processes (Glaser, 2007) which can be used for linking concepts and/or generating hypotheses for further consideration (Green and Thorogood, 2011).

The Grounded Theory approach is used for discovering theory from data in a manner which takes a stance distinct from the dominant deductive positivist stance (Bryant and Charmaz, 2007). The 'first generation' of grounded theorists emphasised the importance of discovering theory through the close inspection of data, in the belief that there was an objective reality that could be discovered. This position meant that these early theorists were situated within the post-positivist paradigm (Birks and Mills, 2011), but evolving methods have seen a reduction in the influence of positivist notions such as objectivity and reality-testing.

Following their original presentation of the Grounded Theory approach, Barney Glaser and Anselm Strauss began moving in different theoretical and methodological directions and by the early 1990s, two distinct Glaserian and Straussian approaches were apparent. The view taken by Glaser remained closely aligned with the 'classic' Grounded Theory method. Although he worked to refine and develop the specific methodological techniques associated with the approach, Glaser provided little ongoing commentary on his appreciation of the philosophical underpinnings of the method (Bryant and Charmaz, 2007). Strauss on the other hand went on to collaborate with Juliet Corbin in developing the technical strategies

associated with the method, and providing a detailed consideration of the approach's philosophical assumptions (Corbin and Strauss, 2008).

Over the course of the past decade, 'second generation' grounded theorists have further advanced the method. Examples are Kathy Charmaz (see Charmaz, 2006) who developed the Constructivist Grounded Theory approach, and Adele Clarke (see Clarke, 2005) a student of Strauss whose interest in the notion of situations led her to develop the Situational Analysis approach.

2.3.2 Grounded Theory Techniques and Methods

One core feature of the Grounded Theory approach is that data generation and data analysis should co-occur, and the researcher's experience of both activities should inform one another. It is acknowledged in the current study that there are pragmatic reasons why this is only partially possible, and there may be instances when the researcher is able to listen to and memo a set of interviews, but not have them fully transcribed before speaking with the next participant couple. The co-occurrence of data generation and data analysis also allows for constant comparison which involves moving backwards and forwards within the data, at the individual level, between individuals, and within and between couples. This to-ing and fro-ing provides an opportunity for the researcher to notice similarities and differences between instances, cases, and codes (Boeije, 2002; Henwood and Pidgeon, 1992). An associated strategy is 'negative case analysis'; this involves sampling cases which do not fit the emerging conceptual system so that emerging categories can be questioned and modified as necessary (Morse, 2007). These are distinct features of the Grounded Theory approach; other methods tend to conduct data collection and analyses during separate research phases and data collection proceeds by rote until a statistically predetermined sample size is obtained (Charmaz, 2006).

Other features of the Grounded Theory approach include coding and memo-writing. Coding refers to the process by which data is categorised using a short name, with which it can be

summarised and accounted for. Grounded Theory coding is usually a two phase process, beginning with 'initial coding' and progressing to more 'focused coding'. During initial coding, the researcher closely studies fragments (words, lines, incidents) of data, in order to detect references of importance. The telling terms of the participants are adopted as category labels and classified as *in vivo* codes. During the focused coding phase, initial codes are tested against further data. By making and coding the comparisons of events and views described by individuals, the researcher's analytic understanding of the phenomena represented by the study data begins to emerge. This process of focused coding permits the researcher to separate, sort, and synthesise large amounts of data (Charmaz, 2006). As these processes continue, the coding process becomes increasingly analytic so that certain codes become conceptual categories. Memo-writing involves writing extensive notes, and helps the researcher to compare data, develop and explore ideas about emerging codes, and determine the direction of ongoing data collection (Charmaz, 2006). Memos also provide a useful 'audit-trail' of the researcher's musings, quandaries, and decision-making processes, thus playing an important role in maintaining a transparent and coherent research narrative.

Another concept important in the Grounded Theory approach is that of *theoretical sensitivity*. The Grounded Theory researcher interrupts the flow of studied life, and takes it apart (Charmaz, 2006). Theoretical sensitivity is then gained via the process of viewing studied life from multiple perspectives, making comparisons and connections, following pertinent leads, and theorizing. Using Grounded Theory methods, the researcher discovers theoretical openings which avoid the imposition of predefined packages of ideas or automatic answers. Instead, theorising 'cuts to the core of studied life and poses new questions about it' (Charmaz, 2006 p.135). Glaser (1978) writes about the power of coding, memoing, and ultimately theorising using gerunds rather than static nouns. The imagery evoked with gerundial language moves the researcher away from static topics and towards enacted

processes, in a manner which fosters theoretical sensitivity and increases analytic possibilities.

2.3.4 Rationale for the use of Grounded Theory Methods

There are a number of reasons behind the choice of Grounded Theory for the current study. The principle aim of the study is to learn about the smoking cessation related experiences of pregnant women and their partners, and the meanings that are attributed to these experiences. Grounded Theory methods provide a means for generating a theoretical framework within which these experiences can be described and more importantly, understood. These methods also ensure that any resultant theories will be firmly grounded within the data generated in the study.

Another important factor belying this choice of approach is the manner with which Grounded Theory methods allow for the recognition of the idiosyncratic nature of individual experiences, and of the intrinsic influence of each party's position and background (researcher and participant) on the research process. The research is based upon a belief that every couple, and each individual within each couple, will have unique experiences of cigarette smoking, pregnancy, and attempts at smoking cessation during pregnancy. They will each ascribe different meanings to these experiences because of their distinct positions and personal histories, and every one of these meaning-laden experiences holds the potential to contribute to an understanding of the dynamic interpersonal processes which might be important for smoking cessation in this population. The constant comparison method described by Boeije (2002) for use within the Grounded Theory approach offers an ideal tool for generating an understanding the aforementioned idiosyncratic beliefs and experiences of pregnant women and their partners, and to discover patterns within the sample and delineate the boundaries of conceptual categories. The utility of constant comparison methods is considered in detail in section 2.7.4.

Interpretative Phenomenological Analysis (IPA) was considered as an alternative to Grounded Theory. It was felt that this approach offered the means for an in-depth exploration of the smoking cessation related experiences of pregnant women and their partners, but it fell short in its ability to address one key concern of this study. This final concern was the need to go beyond an in-depth exploration of experiences and provide a theoretical framework within which we are better able to understand the smoking cessation related experiences of pregnant women, in the context of their intimate relationships. It is here that the true clinical value of the current study is felt to lie; in the hope that the resultant 'grounded theory' might be used to inform the development of more effective interventions for pregnant smokers approaching cessation services in the future.

2.4 Participants

2.4.1 Sampling

Purposive sampling was used at the outset, in order to recruit participants with characteristics relevant to the aims and inclusion criteria of the study (see section 2.4.4).

Data sufficiency describes the point at which it is felt that each of the categories that have been coded are well described by the data and fit well within the coherent narrative that has emerged. This concept of 'data sufficiency' was suggested by Dey (1999) as an alternative to the more dominant concepts of data saturation or theoretical saturation, which describe a situation where no new theoretical insights could be gained through further data generation. The constructivist epistemology adopted by the researcher in the current study holds that there are always possibilities for alternative interpretations, insights, and theoretical understandings. Although we can generate a rich understanding of the smoking-cessation related experiences of pregnant women and their partners, we "can never know everything and there is never one complete truth" (Marshall and Rossman, 2010, p.220).

Sampling was also be affected by pragmatic factors associated with the time and resource constraints that came with this study being conducted as part of a professional training course.

2.4.2 Recruitment Procedure

Two main service contexts were to be used for recruitment: antenatal midwifery services and specialist smoking cessation services. Most women attend “booking” appointments in the first trimester of pregnancy, for assessment and to receive pregnancy-related health care. During this appointment women are asked about their health behaviours, and this includes a conversation about cigarette smoking. As such, midwives conducting booking assessments were viewed as well placed to identify smokers in the early stages of pregnancy. Women who seek support for smoking cessation may be referred to a specialist smoking cessation service, if such a local provision exists. These services accept referrals for pregnant women and sometimes have practitioners who are specially trained to support expectant parents. Again, these smoking cessation practitioners were believed to be well positioned to support study recruitment.

Referrals to smoking cessation and antenatal midwifery services were screened for eligibility by assessing practitioners. During their first contact with eligible women, practitioners described the study and sought initial consent to be contacted by the researcher. In cases where agreement was gained, potential participants were asked for written consent (see Appendix E) for their name and contact telephone number to be passed to the researcher.

Following the receipt of written consent to be contacted, the researcher made initial contact with potential participants via telephone. During separate telephone conversations with the pregnant women participants and their partners, the researcher confirmed eligibility, screened for literacy difficulties, provided a detailed description of the study and made arrangements for a face-to-face meeting. The researcher arranged to visit the participants at their home or at their local healthcare centre, whichever they preferred. In cases where the

two members of the dyad were not cohabiting, home appointments were only offered at the woman's residence, which had been visited (and risk-assessed) by the referring team.

Following the arrangement of an initial meeting, the researcher posted an information sheet to participants (see Appendix B). Information sheets were sent to both members of participating dyads, at least 2 days before the date upon which their interviews are scheduled. This allowed time for reading, digesting, and discussing the information prior to the initial face-to-face meeting when any questions could be asked of the researcher. In cases where participants were experiencing literacy difficulties, the researcher read the information sheet to them over the phone.

During the initial face-to-face meeting participants were provided with an opportunity to seek further information and ask questions. Written informed consent was then sought in instances where participants demonstrated a coherent understanding and capacity to consent (see Appendix D). All research involving human participants must involve the assessment of capacity, and the approach described here mirrored the core principles of the Mental Capacity Act (2005) and allowed for the assessment of participants' decision-making capabilities.

Following the provision of written informed consent, interviews were conducted. Partners were interviewed first and expectant mothers second; the reasoning for this is explained in section 2.10.4.5. All interviews were recorded using a digital dictaphone and then transcribed verbatim by the researcher using the guidelines presented by Lapadat and Lindsay (1999).

2.4.3 Pilot Cycle

One pilot cycle of data-gathering and analysis was completed at the outset. This involved recruiting and interviewing one dyad, as per the protocol described above. Post-interview feedback was sought regarding the participation process. This included discussion about: the recruitment process, the experience of providing informed consent, taking part in an

interview, and having a partner take part in an interview. The pilot interview data was transcribed and analysed by the researcher, and the accuracy of the transcripts and validity of the analysis were then checked by the primary academic supervisor.

2.4.4 Inclusion and Exclusion Criteria

Women invited for participation were:

- Pregnant
- Nulliparous
- Smoking when they became pregnant
- In an intimate relationship

The intimate partner of each participating woman was invited to participate.

Individuals were not invited to participate in the study if they were non-English speaking. This is because the researcher is unable to communicate competently in other languages, and the robustness of Grounded Theory research largely depends on the interpretation of subjective experiences and the meanings of these experiences for individuals, as communicated through their use of language and discourse. Without a common linguistic understanding between researcher and participant, meanings would likely have been lost or inaccurately ascertained.

2.5 Data Generation

Each participant interview was seen as a directed conversation which involved the in-depth exploration of a particular experience, in this case the experience of focus was being a pregnant smoker or being the partner of a pregnant smoker. This approach fit well with the paradigm upon which this study has been designed; the interviewer was seeking to better understand the research topic, and the interviewee had the relevant experiences to shed light upon it (Fontana and Frey, 1994). In line with this, questions were designed to ask the

participants describe their experiences and reflect upon them whilst the interviewer's role was to listen, observe with sensitivity, and encourage the participants to respond.

Basic demographic information was collected using a questionnaire designed for this study (see appendix F) and used to provide information on the socio-demographic backgrounds of participants.

2.5.1 Instrument Design

During interviews, participants were asked about their subjective experiences of smoking and attempting to quit smoking whilst pregnant, and a focus was maintained on interpersonal and relational processes. Similar questions were posed to both members of the couples in order that the study might provide an understanding of relevant events and experiences from both perspectives.

The interview guide was prepared via the following process. The broad research topic arose from professional and personal interests of the researcher during her first year of her doctoral training in clinical psychology and following her first pregnancy. After conducting a literature review and noting a gap in the literature, broad interview topics and open-ended, non-judgmental questions were devised. The interview guide was then passed to the researcher's academic supervisors for review. Topics and questions were revised on the basis of this review, the result being draft two of the interview guide. One pilot participant cycle was then conducted, and the interview structure and questions were again amended on the basis of pilot participant feedback, the result being draft three of the interview guide (Appendix E).

The final interview guide includes a predominance of indirect and follow-up questions, as recommended by the likes of Kvale (1996); this reflects the aims of the research which are focused on the interviewees' subjective views and experiences. In line with feedback from pilot participants, research peers, and supervisors, the structure of the interview was

designed in order to allow a natural and intuitive flow of conversation from one topic to the next.

2.5.2 Interview Procedure

All participants opted to have their interviews were conducted in their participant homes rather than in a local healthcare clinic. The choice of location was decided by participants, according to where they felt most comfortable to speak with the researcher.

The use of a digital dictaphone for recording was explained at the outset of each interview so that any reservations about being audio-recorded could be talked through before the interview began. Interviewees were asked to be honest and open during their interviews, and to provide the fullest answers possible. Interviews lasted between 24 and 55 minutes, and male participants were interviewed before pregnant female participants on every occasion.

2.6 Data Management

Data management was guided by core texts, such as Charmaz (2006), Lapadat and Lindsay (1999), and Morse (2007) which were consulted continually throughout the data-gathering, analysing, and writing phases of the study. Guidance was sought on: transcription methods; coding; memoing; generating, recording, and linking themes; involving supervisors in the analytic process; reporting the results of analysis.

2.7 Data Analysis

2.7.1 Transcription

The researcher listened to each audio-recorded interview within 24 hours of data generation, and then transcribed each interview verbatim. Following transcription, transcripts were read whilst the researcher again listened to the audio-recording of the interview in order to check the accuracy of the transcription. Proponents of Grounded Theory advise that these processes are conducted by the researcher themselves as they increase the researcher's

familiarity with the data and form the beginnings of the analytic process, offering first opportunities to bring new data for comparison.

2.7.2 Coding

Step one in the Grounded Theory analysis process involved initial 'open' coding, which involved looking at the data word-by-word, line-by-line, and then incident-by-incident and labelling the content. The researcher maintained a focus on actions, processes, experiences, and mentions of meaning, as per the study's aims. Seventy-seven open codes were initially generated (e.g. "everybody smokes", "it stops me from snapping"; "it felt different once I knew about the baby"). These early labels or 'codes' used the participants own words where possible, and thus remained very close to the data. They were loosely grouped into themes, but this was, in the early stage of analysis, very tentative and codes were moved in and out of groups as new data was generated and new codes were developed (See appendices H-K for study coding examples). This early flexibility enabled the researcher to avoid forcing the data into preconceived static categories (Boeije, 2002; Charmaz, 2006).

The next step involved axial coding, which required the researcher to take a more directive, selective stance in ordering the codes into conceptually related clusters, and making connections between and among categories. This part of the process also involved the refinement and definition of early codes, so that the researcher was able to develop a more coherent understanding of the unfolding model, to hold in mind during subsequent interviews and comparative considerations of the data. The seventy-seven original open codes were eventually collapsed into six distinct but related categories, through the refinement and constant comparative processes described below. Charmaz (2006) suggests that researchers should pay attention to the frequency with which codes arise, and that those occurring most frequently should be used as the basis for categories and sub-categories. Those codes most pertinent to the research question were also considered in this manner,

and used as the basis for category formation, but the principle of flexibility remained and early categories/sub-categories were changed when new data suggested such a need.

Two tools were used to understand the relational dynamics of the six primary categories: the conditional relationship guide and the reflective coding matrix (tables 1 and 2 below).

The conditional relationship guide enabled the researcher to take the concepts and categories identified during open coding, and assemble them into a more coherent pattern. Using the guidelines presented by Scott and Howell (2008), the following questions were asked of the categories:

- What is the category?
- When does the category occur?
- Where does the category occur?
- Why does the category occur?
- How does the category occur?
- With what consequence does the category occur?

This process enabled the researcher to determine concept boundaries and construct meaning from the categories, in order that the interrelated concepts might be understood in greater detail.

Conditional Relationship Guide						
Concept/Category	What	When	Where	Why	How	Consequence
Smoking helps me	Smoking is beneficial for me. Considerations: How and why is smoking helpful for me personally?	Everyday functioning. Times of self-focus. During times of poor mental health. During times of stress.	Family home. Work. Daily tasks/duties. Alone time.	Stress management. Mood regulation. Helps with managing mental health. Part of my identity.	Physiological effects of nicotine. Provides a sense of control, structure. “Stops me snapping”. Attractiveness.	Understanding the challenges (for my everyday functioning) associated with quitting smoking.
Smoking helps us	Smoking benefits our relationship. Considerations: How and why is smoking helpful for my relationship with my partner?	During moments of interpersonal connectedness. When facing stressors as a couple. Thinking about each other.	Family home. Daily tasks/duties. When we're together.	Opportunities for problem-solving, planning. Supporting each other. Spending time together. Improves communication. Shared responsibility, joint problem-solving. Intimate relationship is so very important.	By giving opportunities to support (look after) each other. Opportunities to connect with each other, communicate, spend time together. Shared interest, couple identity.	Understanding the challenges (for our relationship) of quitting smoking. <u>Do we stand to lose too much?</u>
Smoking helps in social contexts	Smoking is important in social contexts. Considerations:	Evenings Weekends During leisure time. Social situations.	When we're with friends, relatives. Outside of the home.	Identity within peer group. Acceptance. Belonging. Benefits	A way of fitting in. Group acceptance. Physiological effects.	Understanding how quitting smoking might affect my social relationships and leisure time.

	How and why is smoking helpful for me in social contexts?			communication. Social relationships are important. Social, leisure time is valued.	Combined effects of alcohol. Offers connection with (idealised) perceptions of earlier life-stages.	
Balancing risks	Risk awareness. What do I believe to be the risks of smoking? Do they outweigh the benefits?	Thinking about quitting. When other people give me advice. During meetings with healthcare professionals. When I feel 'judged' by others. When I think about the baby's health.	Home Hospital appointments Public places	Problem solving. Planning for the future. Fluctuating motivation to quit. Reconciling conflicting beliefs. Managing guilt.	By determining the validity and importance of different reports.	Decision making: are the risks significant enough to outweigh the benefits?
Navigating the change	How can I achieve cessation? Considerations of the challenges associated with reducing or quitting smoking. How will I manage? Will my relationship survive?	When trying to change smoking habits (reducing or quitting). When reminded of the benefits of smoking. When reminded of the risks of smoking.	Personal space Safe places (home). When alone When together as a couple	Significance of change. Consequences of change. Factors associated with life-stage. Improves confidence.	Weighing up pros/cons of smoking. Problem solving – how to buffer the potential losses/costs to the relationship. Opportunity for planning, building shared confidence.	Shared plan. <u>Couple dynamics matter.</u>
Contextual factors	Thinking about the factors from	When thinking about why I	In the company of others who	Helpful for understanding	Thinking about smokers in the	Greater understanding of the

	my background that affect my relationship with tobacco?	started smoking. Thinking about the factors that affect my cessation attempt. Moments of ambivalence	smoke (friends or relatives). When alone. When together as a couple.	processes involved. Informs planning. Supports ideas around locus of control. Affects motivation, sense of agency.	system. Role models. People/factors that have been influential.	barriers and protective factors related to quitting.
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Table 1: Conditional Relationship Guide

Reflective Coding Matrix					
Core Category	<i>Quitting Smoking: do we stand to lose too much?</i>				
Properties	Understanding the challenges associated with quitting smoking, for me and my everyday functioning	Understanding the challenges associated with quitting smoking, for our relationship	Understanding the challenges of quitting smoking, for our social life	Deciding if the risks or benefits associated with smoking are more significant.	Planning for how to manage without tobacco, deciding if it is feasible.
Processes	Reflecting Understanding Planning	Reflecting Understanding Planning	Reflecting Understanding Planning	Decision making	Planning Decision making
Dimensions	<ul style="list-style-type: none"> Individual needs Guilt Personal responsibility Historical context 	<ul style="list-style-type: none"> Focus on the needs of the couple How can we support each other How we establish a sense of 	<ul style="list-style-type: none"> Broader focus Prevalence of smoking in peer group Social confidence Smoking 	<ul style="list-style-type: none"> Advice from others Belief in facts/stats Do the facts apply to us? Do the facts 	<ul style="list-style-type: none"> Future focus How to support each other Survival of the relationship is

	<ul style="list-style-type: none"> • Previous patterns in life • Hopes for future 	<p>connectedness</p> <ul style="list-style-type: none"> • Responsibility for each other • Communication • Pleasurable moments • Historical context • Hopes for future • Openness to change 	<p>during leisure time</p> <ul style="list-style-type: none"> • Historical context, trends, past associations • Growing up • Other people's expectations 	<p>match with our experience?</p> <ul style="list-style-type: none"> • Cognitive dissonance • Prioritising needs • Guilt • New responsibility as parents • Learning from others 	paramount
Contexts	Identity Personal meaning Coping	Personal Meaning Interaction within couple	Social Identity Social interaction	Responsibility Societal judgment	Collaboration
Strategies for Understanding the Consequences	Personal reflection, sense of self-efficacy	Reflecting as a couple, thinking about partners needs	Awareness of social processes, sense of adaptability	Establishing goal value	Reflection, progressing towards goal realisation

Table 2: Reflective Coding Matrix

The reflective coding matrix was then used to develop and contextualise the core category, which was identified as 'quitting smoking: do we stand to lose too much?'. This was conceptualised as the central phenomenon about which all other categories relate (Scott & Howell, 2008).

The final step in the analytic story was selective coding. This was where the interpretive work done over the course of the research study was integrated so that a coherent 'story' was generated to explain the theoretical constructs relevant to the role of couple dynamics in maternal smoking cessation during pregnancy, for the study sample. This involved organising the categories/sub-categories within a framework or model that allowed for their clear presentation and understanding (presented in the Results chapter).

2.7.3 Memoing

Memos are jotting, thoughts, reflections, questions, and diagrams that the researcher used to document and process ideas, feelings, and decisions during the research process. Memo writing was an important early step in theorising, and helped the researcher to move beyond the level of data description. It was helpful to be able to refer back to memos which had documented early analytic thoughts, as more data was generated and the coding process progressed. The researcher used memos as a way of communicating dilemmas with her supervisor, and often brought them to supervision meetings to generate critical reflections and extend early developing ideas.

2.7.4 Constant Comparison

The constant comparative method is the core defining feature of analysis in the Grounded Theory method introduced by Glaser and Strauss (Glaser and Strauss, 1967; Strauss, 1987; Glaser, 1992) but it has been previously noted that the application of the method has, at times, been unclear. For this reason Boeije (2002) describes a purposeful approach to the use of constant comparison which was developed in a study similarly considering within-couple processes. This same five-step approach to the use of the constant comparative

method was adopted in the current study, throughout the open and axial coding phases, in order to increase the systematic nature and traceability of the analysis, and it is described in detail below.

2.7.4.1 Comparison within a single interview

At the beginning, comparison was conducted within single interviews. Each interview was studied in detail, and open codes were generated to make reference to what had been said by the participant. By comparing different parts of the interview, an appreciation was made of the level of consistency of the interview as a whole. As early codes were then grouped into categories, each reference to the same category was compared to see whether new information was being gleaned or the same information was being repeated. Further within-interview comparisons of emergent codes then allowed the researcher to engage in focused coding, determine how codes linked with the same category differed, and what they had in common, and also to consider the context within which they were mentioned. The overall aim here was to formulate the core message of the interview and develop an understanding of the interview and any associated difficulties, highlights, or inconsistencies. The results of this stage were interview summaries, provisional codes, and memos describing the analysis process (see Appendices H & I).

2.7.4.2 Comparison between interviews within the same group

The next step involved the comparison of interviews within the same group, which meant the comparison of the interviews of participants sharing the same experience. The primary example in the current study is women attempting to quit smoking because of their pregnancy. It became important at this stage to define the characteristics of each category in order to determine which interviews could be grouped together on the basis of similarities.

2.7.4.3 Comparison of interviews from different groups

This next step provides an opportunity for triangulation , which is viewed as an important part of qualitative analysis (Boeije, 2002; Johnson and Waterfield, 2004). Interviews from different groups were compared with regard to their experience of a particular issue or phenomenon. Initially this involved the comparison of pregnant women with their partners. The partners' interviews were carried out in the same way as the women's interviews, and were used to gain additional information about the nature of the couples' relationships, and also to gain a better understanding of the women's' smoking cessation related beliefs and behaviours. Partners were thus asked about the women's cessation attempts (as well as their own attempts) and their answers were then compared with the answers given by the women themselves. This provided the researcher with a deeper level of insight and a valuable understanding of the differences in the experiences of expectant male and female smokers.

2.7.4.4 Comparison in pairs at the level of the couple

This step was particularly helpful for developing an understanding of the interpersonal dynamics of the couples. As per Boeije's guidelines, the interactions of each couple were recreated on the basis of what was said by each partner, about one another and about their relationship. Comparisons at this level brought insights into similarities and differences in perspectives related to smoking cessation, partner support, and perceptions of the risks associated with smoking during pregnancy. It also provided insight into the ways that couples communicate, overall leading to an improved understanding of experiences and perspectives at the dyadic level.

2.7.4.5 Comparing couples

The final step in the process of constant comparison involved comparisons between couples who shared the experience of having one pregnant partner who smoked at the time of becoming pregnant. Questions of comparison such as the following were asked here: what are the differences between couple A and couple B? What are the possible reasons for

these differences? On which criteria can these two couples be compared? This step was the most complex as it involved the comparison of four interviews, from two different perspectives (one pregnant female, one male), and required a certain level of aggregation of couple stories whilst also taking into account the individual stories being told. It was valuable however, in allowing for the identification of couple level patterns and for discriminating between different relationships. This was most helpful for achieving the aims of the study.

It is important to note that the steps described above did not form a linear process; rather they were all found in all of the research phases as coding progressed iteratively from the application of initial open codes, to more focused analytic codes, and then finally to inter-related theoretical codes organised within an explanatory model. In this way, with each new interview, the within interview comparisons took place. The comparison within the pair was then completed, and following that the comparison with different couples could be conducted. It was noted however that steps two and five became more important towards the end of the study, with steps one and four being needed more in the early stages of data analysis.

2.8 Quality Assurance

As described in section 2.2.3 there are numerous factors by which the quality of qualitative research can be assured. The quality of this research study has been considered against these factors and against the parameters laid out by the Critical Appraisal Skills Programme tools (CASP, 2017).

There are also assurances specific to the quality of Grounded Theory research, and these are considered below alongside evidence supporting the high standards of rigour and quality demonstrated in the current study.

The 'truth value' of this research is considered a strength of the study and has been bolstered by keeping the study findings grounded firmly in participant data. This has been further ensured through the use of triangulation methods, whereby data was coded by other

researchers in order to check for consistency in emerging codes. Member checks were also conducted towards the end of the study, to further check that the results represent the experiences of participants and remain grounded in their data.

Maintaining a closeness to the data is considered particularly important for theoretical sensitivity in grounded theory research, and this also ensures that the emerging codes, categories/sub-categories, and theory are rooted firmly in the data. This was achieved via constant contact with the data and monitored using the methods mentioned above. Strengths of the study, relating to methodological are considered again in the Discussion chapter (section 4.4).

2.9 Researcher Reflexivity

An important emphasis in Grounded Theory research is on researcher reflexivity. This refers to the researcher's acknowledgment of his/her values, experience, attitudes, and assumptions, and involves a process of reflecting on the ways in which these personal factors might affect the research process (Charmaz, 2006; Henwood and Pidgeon, 1992). These reflections also serve to reduce bias and shed light on the dynamic processes enacted during research interactions.

I began the reflexive process by thinking about the journey that had brought me to the point of conducting this study. I thought about where the interest in smoking cessation during pregnancy had come from and why I was drawn to the literature on the stigma faced by pregnant smokers. I am a mother, an ex-smoker, a trainee clinical psychologist, an individual with feminist ideals and I have many other qualities that are relevant. These factors, and my experiences associated with them undoubtedly affected my research interests and my approach to this study. They also affected the relationships that I built with the participants, and it is important to note that the data that emerged from participant interviews would have depended to a degree on the participants' experience of me and my experience of each participant (which would be affected by my experience of the participants before them).

These factors combined meant that I felt rather active in shaping the research process and I ultimately adopted a moderate social constructionist position which acknowledged that there is no such thing as an objective view of social reality and that my own assumptions and expectations would (and did) inevitably shape the theoretical model that was developed.

I kept a record of my reflections in a reflective diary, and discussed them regularly during supervision meetings and with academic peers, in order to maintain an awareness of potential sources of bias.

2.10 Ethical Considerations

Efforts were made throughout the entire research process to ensure the ethical treatment and consideration of participants. The principle of beneficence belies the design of the study, and non-malificence was ensured through the adherence of procedures outlined by various legal, professional, and research bodies. Here follow considerations of issues pertinent to the specific design of the current study, and the overarching principles of ethical conduct for trainee clinical psychologists.

2.10.1 Recruitment

The recruitment procedure is described in detail in section 2.4.2. There was no undue pressure placed upon potential participants and it was made clear that their participation should be entirely voluntary and that they could withdraw from the study at any time without consequence.

2.10.2 Consent

At the start of the face-to-face research meetings, the researcher offered to read the information sheet aloud to participants, and they were offered the opportunity to seek further information and ask questions. Confidentiality and data storage and management were discussed and within this participants were advised that the boundaries of confidentiality would only be breached if information was shared that suggested that they or somebody

else was at risk of harm. The associated protocols were discussed and participants were again given the opportunity to ask questions. In instances where participants seemed to understand the information provided, and were happy to proceed, they were asked to sign to indicate their consent to participate in the study, and then interviews commenced.

Participants were made aware that they had the right to withdraw from the study at any time, without consequence, and asked whether they would like to provide member checks and/or receive details of study results at the point of study completion.

2.10.3 Data Collection, Management, and Storage

The tenets of the Data Protection Act (1998) and the Local NHS record keeping and information storage policies were adhered to throughout the study. Best practice guidelines laid out by the British Psychological Society (2010) were also followed for guidance on the ethical collection, management, and storage of participant data.

Interviews were recorded on a digital dictaphone and stored on an encrypted USB memory stick and participant data was anonymised via the allocation of pseudonyms at the point of transcription. Contextual identifiers (e.g. names of other people or places) were also removed to maintain confidentiality and facilitate research dissemination. Data, transcripts, and demographic details were all stored securely and separately to ensure that it would not be possible to link specific individuals with transcribed interviews.

2.10.4 Risk

2.10.4.1 Social Stigma

Bottorff et al. (2005) conducted research with women who had smoked during pregnancy, and found that recruitment was difficult in the context of social stigma. We know from other research that maternal smokers often experience considerable negative social stigma, so much so that even those who have successfully quit smoking can be reluctant to revisit their tobacco reduction experiences.

The researcher in the current study was thus mindful of and sensitive to participants' vulnerability to social stigma, and all interviews and interview arrangements were kept strictly private and confidential.

2.10.4.2 Dyadic Coercion

There are issues that may have arisen because of the study's inclusion of both members of an intimate dyad. Bottorff et al. (2005) found that non-smokers had a vested interest in participating as a way of reducing their smoking partner's tobacco consumption and so the researcher in the current study was mindful that hidden motives may have lead either member of a dyad to feel coerced by their partner toward participating in the study. In line with this, the protocol of the current study ensured that informed consent was gained from both members of each dyad, and each individual was offered several opportunities to decline participation in the study.

2.10.4.3 The Home Setting

The potential influence of power inequalities between researchers and participants were given careful consideration. In the context of semi-structured interviews, it has been suggested that informed consent offers limited protection from exploitation to participants of qualitative research, and the situation is complicated further when interviews are conducted within the family home because the informality of the setting allows the researcher to gain maximum disclosure (LaRossa, Bennett, and Gelles, 1981). The power dynamics within familial relationships were also considered as this research was conducted within the home setting.

Together these issues further highlighted the importance of rigorous and informed consent procedures and sensitivity to individual vulnerabilities.

There are also issues around researcher safety to be considered; interviews were only conducted in participant homes in instances where the home had previously been visited

and risk assessed by the referring practitioner or another practitioner from the referrer's organisation or using NHS risk assessment guidelines. Details of the locations and times of interviews were shared with the research supervisor, and safety checks were made via telephone call to the supervisor prior to and following every interview.

2.10.4.4 The Context of Intimate Relationships

LaRossa et al. (1981) suggest that research delving into the private and intimate nature of family life can be ethically problematic as an individual's family is "both a sanctum and their most precious possession" (p.312). Along the same lines, Bottorff et al. (2005) found that the interviews they conducted, which were focused on tobacco-related behaviours, very quickly evolved into highly personal and sensitive discussions covering topics such as the couple's finances, childcare issues, relationships with the extended family, past conflicts, and even personal hygiene. The researcher in the current study was mindful of the potential risks to participants of disclosing unexpectedly personal details and thus made no attempt to elicit such details from them.

Bottorff et al. (2005) discovered instances where information about participants was obtained but not actually disclosed by them. For example, one participant described an incident whereby her husband's flirtatious behaviour led her to smoke an entire packet of cigarettes in front of him in revenge. The husband on the other hand made no mention of this incident and described his wife's smoking relapse as a slow and steady progression. Although it is difficult to be sure, this difference in descriptions may have been because the husband did not want the researcher to know about the situation which led to the couple's argument. This possibility again highlighted the importance of strict confidentiality in the current study and drew attention to the impartiality required of the researcher.

2.10.4.5 Vulnerability of Women

Bottorff et al. (2005) speak of the heightened vulnerability of women at this time of family transition with respect to their smoking behaviours. Pregnant smokers are vulnerable to

condemnation and vilification from within the home as well as from strangers, and Bottorff's team reported that five out of nineteen of their participants described significant marital conflict in the context of their smoking behaviours. The current researcher acknowledged that the topic of tobacco use has the potential to exacerbate issues of power and control, and this is why individual interviews, rather than conjoint or group interviews, were conducted. Although joint interviews held the potential to provide great insight into couple dynamics, an individual approach allowed the researcher to ensure confidentiality and minimise risks to the personal safety and well-being of participants.

Careful thought was also given to the scheduling of data collection. On the basis of the Bottorff et al. (2005) findings, partners were interviewed before expectant mothers so as to minimise the potential for suspicion and eliminate the possibility of the partner asking the researcher about the woman's smoking. In situations where participant disclosures raised questions about safety and/or well-being, participants were telephoned 2-4 days after the interview to thank them for their participation and to see whether the interviews had had any problematic effects within the relationship. Where necessary, the researcher offered resources to both members of the dyad (e.g. contact information for family services, smoking cessation support services, and other relevant local support services).

2.11 Ethical Approval

The inclusion of NHS patients in the study sample meant that ethical approval from the National Research Ethics Service's Research Ethics Committee (NRES REC) was required (see Appendix A). Local Research and Development (R&D) group approval was also required for each recruitment site. The non-NHS smoking cessation service which supported study recruitment required me to gain approval from its Quality and Assurance Group, and I was also required to gain ethical approval from the University of Essex who were acting as the study's sponsoring and supervisory body. Each of these approvals were sought and received, and evidence can be found in Appendix A.

2.12 Chapter Summary

This chapter has provided an overview of qualitative research and justifications for the adoption of Grounded Theory methods. The historical context of the Grounded Theory method was described and its philosophical underpinnings considered. The specific methodological choices of this study were then considered and indicators of quality to be held in mind when evaluating the study were discussed. The research procedure has been laid out in detail, with examples of the tools used, careful detail provided on the constant comparative method, and considerations of ethical issues have been presented. The next chapter sees the presentation of the study's results.

Chapter 3: Results

3. Chapter Overview

This chapter begins with a consideration of the demographic characteristics of the couples comprising the study sample. Case studies are presented and then the theoretical model of couple dynamics and maternal smoking cessation is then presented and described in detail. Data extracts are used in order to illustrate the manner in which the theoretical model is grounded in the data generated during participant interviews.

3.1 Participant Characteristics

As per the tenets of the grounded theory methodology, participants were initially identified using a purposive sampling method, which involved sampling a diverse range of individuals with characteristics relevant to the research question (Barker et al., 2002). Once the first three couples had been interviewed and preliminary coding of the data had begun, a theoretical approach to sampling was employed. This involved the use of strategic decisions regarding who might provide the richest data on the basis of analytic need. I had noted that the couples I had recruited early on were spending a great deal of time together and I wondered about the effect of this on the emerging theory. In order to have good opportunity for comparison and theory-extension, I then focused my efforts on recruiting participants that worked or spent more time in independent activity.

Five couples participated in the study, each couple consisting of a pregnant woman and her male partner. Four of the male participants were father to the corresponding unborn child and one of the male participants was in an intimate relationship with the expectant mother but he was not the father of her unborn child. Of the five expectant mothers: two had reduced their smoking since becoming pregnant (Natasha and Jenny), one had increased her smoking since becoming pregnant (Chantelle), one had stopped smoking but with a series of brief lapses (Jo), and one had quit entirely (Fatima). Of the five expectant fathers: two had continued to smoke at a similar rate since their partner became pregnant (Arun and

Sam), one had co-reduced with his pregnant partner (Stefan), and two had been non-smokers since before their partners became pregnant (Scott and Paul).

Female participants ranged in age from 18 to 33 years old and male participants ranged from 19 to 34 years old. Participants had varied levels of educational attainment, financial incomes, pregnancy gestational periods, and lengths of relationship, and these details are presented alongside other demographic information in Table 1. Sixty-five percent of eligible couples contacted by the researcher took part in the study. Those who gave initial consent to be contacted, and then chose not to take part in the study gave the following reasons for non-participation: being too busy or unavailable, one member of the couple being unwilling, and not being interested in participating in the study.

Participant	Age	Pregnancy Gestation (weeks)	Planned or Unplanned Pregnancy?	Relationship Length	Smoking Status	Employment Status	Housing Status	Education Level
"Jo"	25	32	Planned	1 year	Quit during early pregnancy, with multiple lapses	Employed	Private Renters	ALevels
"Paul"	33				Non-Smoker	Employed		Vocational Qualification
"Natasha"	25	10	Planned	13 months	Smoker	Employed	Lives with parents	GCSEs
"Scott"	22				Non-Smoker	Employed	Private Renter	Vocational Qualification
"Chantelle"	22	25	Unplanned	5 months	Smoker	Unemployed	Housing Association	No Formal Qualifications
"Sam"	21				Smoker	Unemployed		No Formal Qualifications
"Jenny"	18	27	Planned	9 months	Smoker	Unemployed	Council Housing	A Levels
"Stefan"	19				Smoker	Unemployed		No Formal Qualifications
"Fatima"	33	16	Unplanned	2 years	Quit during early pregnancy	Employed	Private Renters	Doctoral Degree
"Arun"	34				Smoker	Unemployed		Undergraduate Degree

Table 1: Demographic Characteristics of Study Participants

3.2 Terminology

The term ‘couple dynamics’ is used within the current study to describe the style with which the individuals within a couple relate to one another, and is based on considerations of the smoking-related interaction patterns that they describe. Terms introduced by Bottorff et al. (2005) are used to describe the couples’ smoking-related interactions patterns, and they are briefly outlined below.

The purpose of the current study is not to categorise couples based upon their interaction patterns, rather we were interested to see how the interaction patterns might be relevant to women’s attempts to stop smoking. The terms outlined below are thus used to describe patterns in a manner that might be easily understood by the reader and easily interpreted in relation to the literature base. *Disengaged interaction patterns* were characterised by feelings that smoking was an individual activity rather than a couple activity, and should remain as such. *Conflictual interaction patterns* were characterised by dyadic conflict and disagreement between partners on appropriate goals for smoking cessation or reduction. And *accommodating interaction patterns* were noted where couples’ daily routines and activities intentionally made room for smoking.

3.3 Case Studies

Jo and Paul

Paul smoked cigarettes as a teenager but quit at the age of nineteen when his uncle became unwell with throat cancer, which was attributed to smoking. Paul said that he quit smoking without using and nicotine replacement or other intervention, and he believes he was successful because he used “will power”. Jo also started smoking in her teenage years and was a smoker when she began her relationship with Paul. Paul said that he had “never been keen on her smoking, but [he] wasn’t too bothered” by it in the early stages of their relationship and viewed it as a socially acceptable habit. Their

descriptions suggest that the couple adopted a disengaged interaction style around smoking; Jo did not smoke in the couples' home but enjoyed smoking when socialising with friends or as a strategy for reducing her stress levels. If she smoked in Paul's company he would not usually comment but may occasionally give an indication of disapproval which Jo took as a sign that he was concerned for her health. In the early stages of Jo's pregnancy the couple agreed together that Jo should quit smoking in order to protect her own health and the health of the baby. Paul provided positive support in the form of encouragement and advice, and he described efforts to help Jo avoid stress as much as possible. For many reasons, including his own personal experiences of quitting smoking, Paul had expected (and let Jo know) that she would stop smoking without difficulty. Although Paul's narrative was that the expectation was based in positive regard and hopefulness, it was experienced by Jo as a "pressure" that felt difficult to live up to, despite wanting to stop smoking and wanting to please Paul by being "strong" and "a good mum". A pattern emerged early in Jo's first trimester whereby she would have periods of abstinence interspersed with episodes of smoking that were most commonly triggered by relational stressors (arguments with Paul). She had noticed that they had been arguing more than usual since she had become pregnant, and she wondered whether that was due to "pregnancy hormones" or nicotine cravings. As time progressed, and Jo experienced an increasing number of lapses, Paul's support style became increasingly confrontational and shaming and this characterised a further shift in the couple dynamics to a predominantly conflictual interaction style around smoking. For Jo, smoking was helpful for managing stress associated with her relationship with Paul, but it was at the same time a source of disagreement, conflict and stress. It was difficult for Paul to understand Jo's difficulties with quitting and his negative support style caused feelings of guilt and shame for Jo who viewed herself as failing and a "bad mum"; feelings which she linked with an increased urge to smoke.

Natasha and Scott

Scott and Natasha were living separately (with their respective parents) and planning on moving in together around the time of the birth of their baby. Scott was a non-smoker and Natasha a smoker who had reduced her nicotine consumption since becoming pregnant. She was hoping to be “smoke-free” by the time the baby arrived and before she and Scott moved in together. They were in touch regularly, speaking on the phone every morning and evening, sending each other text messages throughout the day, and spending weekends together. Their narratives suggested that the couple had demonstrated an accommodating interaction style pre-pregnancy, with Scott accompanying Natasha on her trips out of the house to smoke, in order to keep her company and spend time with her. This continued during the pregnancy with them both describing a shared belief that a reduction of Natasha’s smoking would be preferable to her quitting, because the stress of quitting could be more damaging to foetal health. This suggested that the couple had agreed that the cost of quitting (e.g. increased stress for Natasha, fewer moments of connectedness for the couple, Natasha potentially failing to do what is best for the health of the baby) was greater than the benefits that it would bring. Scott thus supported Natasha to continue smoking at a reduced rate and their smoking-related interactions remained positive and supportive. Neither Natasha nor Scott described any coherent plans for progressing with the journey towards cessation but they were both expressed satisfaction with their situation.

Chantelle and Sam

In the context of a relatively turbulent and short-term relationship, the descriptions given by Chantelle and Sam suggested that their interaction style was conflictual with considerable disagreement about smoking. This was likely linked with their differing views regarding smoking cessation during pregnancy. Sam was not the biological father to Chantelle’s unborn baby, though he was hoping to raise the child as his own. He

expressed strong opinions that Chantelle ought to stop smoking for the good of the baby, but he also acknowledged that this would likely cause her considerable stress which would affect their relationship dynamics. Chantelle talked at length about the benefits of smoking, which seemed to feel more pertinent than the risks. She also described mistrust of the advice given by the media and healthcare professionals. So, whilst they both reportedly agreed that quitting would be ideal, Chantelle seemed to demonstrate less motivation to stop smoking than Sam wanted her to. Conflictual interactions were also seemingly based on Chantelle's view that Sam was the reason for her continuing to smoke, and increasing the rate of her smoking throughout the pregnancy, because of the frequent disagreements and arguments in their relationship. Chantelle and Sam's relationship began following the discovery of Chantelle's pregnancy so it is not possible to consider the pre-pregnancy landscape of the couple in this case. It is however possible to surmise that the high pre-existing levels of stress and conflict in the relationship make it very difficult for Chantelle and Sam to engage with the smoking cessation process which would inevitably cause them additional difficulty.

Jenny and Stefan

Jenny and Stefan were living in circumstances of considerable socioeconomic disadvantage. They each described difficulties with their mental health and they both talked about the numerous positive benefits of smoking for their individual emotional wellbeing, and for the quality of their relationship. Smoking brought them together for moments of intimacy, distracted them from boredom, and enabled freer communication and conversation, through which they grew to know one another better. The potential cost to the relationship of smoking cessation was therefore massive and the couple described an overtly accommodating interaction style. They had recently established a new smoking routine, which was intended to reduce the amount that Jenny smoked. Every time Jenny had a cigarette she would smoke it half-way and then pass it to Stefan who would smoke the second half. This meant that Jenny was able to smoke as

frequently as she had done before becoming pregnant, but she had reduced the amount she was smoking by approximately half. One of the notable effects of this pattern were that the couple were continuing to share the moments of connectedness that they so valued. It also meant that Stefan needed to be close to Jenny most of the time, because if he happened to be away from her at the time that she smoked, she would smoke a full cigarette (instead of half). They had developed an interesting narrative between them, which suggested that the risks to foetal health associated with half a cigarette were acceptable, but the risks associated with a full cigarette were considerably worse and more worrying. The suggestion in their descriptions was, then, that Stefan held significant responsibility for the health of the foetus, and being absent or failing to tune in to Jenny's need to smoke meant that he was inadvertently responsible for the harm being caused. These interpersonal dynamics were serving to maintain Jenny's smoking (at a reduced quantity compared with pre-pregnancy) but they were also importantly enabling the couple's tobacco-related routines to persist without too much change.

Fatima and Arun

Their narratives suggested that smoking was an important feature in the context of Fatima and Arun's early relationship and they enjoyed an accommodating interaction style which saw them spending evenings and weekends smoking together with friends and enjoying personal moments of intimacy and connection smoking together when together in their home. They both enjoyed telling the story of their first meeting, when Arun bought Fatima a packet of cigarettes from the shop as a way of showing her that he was attracted to her, and they talked positively about their happy memories of smoky parties and romantic moments of togetherness which involved sharing good food, wine, and cigarettes. This changed for the couple when Fatima became pregnant and immediately stopped smoking, and they both talked openly about missing the leisure experiences that the couple used to share when Fatima smoked, in their local pub for example. They also both clearly stated that the health of the baby was their most

important concern, and that quitting was therefore a positive healthy change. Fatima quit smoking as soon as she discovered her pregnancy, whilst Arun continued to smoke. The rate of his smoking decreased but neither Arun nor Fatima attribute this decrease to the pregnancy. It is instead linked with financial factors. At the time of their interviews, the couple seemed to have adopted a disengaged interaction style, whereby smoking was not discussed openly. Fatima stopping smoking had impacted negatively on the couple's sense of togetherness, and they were managing this by not talking about it together so that it had become a metaphorical elephant in the room. They both however described a sense of loss regarding the moments of carefree fun and connectedness that they have lacked recently, and they noted that they had not discussed this together as a couple.

3.4 Emergent Categories

In considering their tobacco-related experiences, all couples made reference to the ways in which smoking was, or had been in the past, used in a manner deemed by them to be helpful or important, creating the core category "quitting smoking: do we stand to lose too much?". Contextual factors were important here and apparent trends and differences within and between couples, led to the emergence of three distinct participant contexts within which the functions of smoking were considered: the individual context, the dyadic context of the couple, and the broader social context. There were variations in the functions of smoking described within each context, but they also seemed to be strongly related to one another and the sub-categories that emerged within the core category "the function of smoking" were: "what it means for me as an individual", "what it means for us as a couple", and "what it means for us socially". Couple dynamics emerged to be most relevant to the meaning of smoking in the dyadic context of the couple; the interpersonal dynamics determined the ways that couples enacted and experienced their tobacco-related routines, and this in turn seemed to affect the nature and meaning of the routines for the couples.

Participants reflected upon the question “what harm can it do?” in considering the perceived risks associated with continued smoking during pregnancy and their feelings about those risks. This category of thought seemed to comprise two sub-categories which represent knowledge and/or beliefs that were acquired via different routes. “Systemic or experiential knowledge” had been acquired by learning from the system and from the previous experiences of trusted others or of the participants themselves. “Academic knowledge” on the other hand was acquired from educational materials or from healthcare professionals. Beliefs about the harm that might be caused by smoking, along with broader contextual factors, seemed to affect the cross-contextual functions of smoking.

Participants described the changes which they were trying or had tried previously to make in order to achieve smoking reduction or cessation, and the manner with which they were “navigating the changes”. The final category of the model emerged from these reflections. Three areas of consideration were relevant here; the symptoms of withdrawal that participants experienced or expected to experience, the cessation-related support that they had received or wanted to receive from partners, and the routine moments that were lost as smoking cessation or reduction was achieved. These considerations led to the emergence of sub-categories “withdrawal”, “support”, and “lost moments”.

Here follows an in-depth presentation of each of the categories and sub-categories, with participant quotes for illustration.

3.4.1 Contextual Factors

The expectant couples talked about the personal characteristics and circumstances that they believed were relevant to their smoking cessation journeys. These included significant life events, familial characteristics, socioeconomic factors including employment and income, and issues associated with mental health. As described in

detail in the relevant sub-categories below, some of these contextual factors were felt to be socially relevant, whilst others were relevant to the individual's smoking-related beliefs/behaviours or to the couples' shared smoking-related beliefs and behaviours.

3.4.2 Quitting smoking: do we stand to lose too much?

3.4.2.1 What it means for us as Individuals

The expectant parents talked about the function of smoking, for them as individuals. They described the place that smoking had in their lives and talked about how that had changed over time. They spoke of factors in their lives which influenced the meaning of smoking for them, and they talked about how these issues affected their ability to quit smoking. Although these issues were sometimes discussed in relation to their relationships with intimate partners and other people, they were focused on individual experience.

Fatima, who had stopped smoking since becoming pregnant and was working to maintain her abstinence, described positive memories of what smoking had meant for her in the past:

"[Smoking] felt like a treat or something..." "Yeah, it has those relaxing associations with it..." "Yeah just calm and..." (Fatima, lines 368-376)

Chantelle, who was smoking around 40 cigarettes per day at twenty-five weeks pregnant described the way in which an accumulation of life stressors over time had led her to be smoking more and more:

"I was smoking about five per day then, but then my dad passed, and I smoked more when dad passed. And now I've got with [my boyfriend], we're arguing, we're under the same roof every day, I smoke more now than I did before." (Chantelle, line 57-59)

Jo also talked about smoking being helpful for stress-management, for her this had been relevant in her working environment:

"If you go.. you know, have a stressful day at work, and have a fag... but then, obviously, not to be able to do that, it makes me even more sort of... A bit ratty, so I'll get stroppy maybe." (Jo, line 8-10)

And others made reference to the use of smoking as a strategy for managing stress, worry, and mood difficulties:

"When I'm... my heart starts going and stuff, in shops and that, then I have to leave and that before I have panic attacks, I go outside, have a fag, sit there and chill out. They help me stress relieve sort of thing." (Stefan, line 1101-1107)

"He smokes loads, he'll smoke more than what I do, 'cause he suffers from depression and stuff like that blah, blah, blah... And he used to smoke a fag, put it out, then make another one." (Chantelle, line 506-507)

"I'm pleased [about cutting down] because it was getting to a point where I was relying on it a bit too much. So yeah that's one thing I'm really pleased about, definitely. I think it just sort of got me through the day. I know it sounds silly, but I would get so bored and low, and I do have depression as well...And I think that just sort of took my mind off things." (Jenny, line 831-845)

"My life's in a different place now, like then I was... I don't know, I just didn't have as many worries as I do now I guess. I've got more commitments and things that I have to keep to now, and I think that's part of the reason why I do smoke, because sometimes I'm... 'Oh, I'm stressed, I need a fag.' If I need to chill out, I have a couple, do you know what I mean? And I think the two sort of go together sometimes, and that's maybe why I can't quite completely do it." (Jenny, line 1155-1167)

One of the expectant fathers talked about the meaning of smoking for his girlfriend, describing the way she managed and communicated irritation by smoking, and also suggesting that he would like for her to manage in a different way. His desire for her to speak with him about her difficulties, in order that they might problem solve together, could also be viewed as a desire for their interaction patterns to move from conflictual to a more accommodating style:

"I don't know how, but I wind her up over stupid little things somehow she said to me last night. I said 'talk to me about it, tell me'. And she didn't. She rolled a fag. She did her own thing. And I was like 'oh'." (Sam, line 629-631)

3.4.2.2 What it means for us as a Couple

The expectant parents talked about the place that smoking held for them as couples. They talked about the function that it served and the differences that they had noticed since becoming pregnant. They also described the way that they felt about the changes that they had experienced.

When asked what he liked about smoking together with his pregnant partner, Stefan talked positively of the connectedness and physical closeness associated with co-smoking:

"The fact that I'm with [her]. I get to sit with [her]. I like... we like... sitting here cuddling with each other and that, watching TV and talking and stuff. I like to sit here and cuddle her to be honest." (Stefan, line 605-607)

And this was echoed by others who made similar references to feelings of relaxation, comfort, and connectedness linked with co-smoking:

"We're both just a lot more chilled, relaxed, just want to sit there and have a chat or whatever, and sometimes you don't even really have to say anything because you're just, you know, in your own little world." (Jenny, line 888-890)

“It definitely gets the conversation a lot more. I don’t know why, but yeah that definitely gets us talking more. Yeah, about anything and everything really. Anything from, like, family to what we used to get up to when we were kids, you know, just getting to know each other more than we already do.” (Jenny, line 744-754)

Talking about smoking cannabis mixed with tobacco Jenny said:

“It definitely gets the conversation a lot more. I don’t know why, but yeah that definitely gets us talking more. Yeah, about anything and everything really. Anything from, like, family to what we used to get up to when we were kids, you know, just getting to know each other more than we already do.” (Jenny, line 744-754)

Arun, who’s partner no longer smoked, described reminiscent feelings about the times when he and his partner used to smoke together, and he talked about *missing* these times of connection:

“You got up in the morning and you’re having a cup of tea and cigarette and just recounting what happened last night, and making you laugh and joke. They’re normally a moment to share as well.” (Arun, line 682-684)

“The only thing that I miss... If I fancy a fag.. It used to be then [Fatima] would join me. You’d sync your cycles a little bit, it would be a situation that you’d both go for one together and you’d sit out, I don’t know, it’s a bit like stepping outside of yourself, like a little bit.” (Arun, line 685-687)

“Yeah I just noticed that it’s normally me just out there (points to the garden) and [Fatima] here, just inside. Me outside, her inside.” (Arun, line 709-710)

“It’s something else to bond over isn’t it? Whether it’s unconsciously or not, there’s something quite attractive in having a cigarette.” (Arun, line 223-225)

Some of the couples were living in disadvantaged circumstances with regard to their financial and housing situations, and they also reported mental health difficulties and unemployment. Conducting the research interviews in participant homes gave the researcher further insight into the resources available to them, and this seemed rather limited in some instances. These factors influenced the way that women talked about smoking and undoubtedly influenced the function that it served.

For one couple, tobacco-related routines were seemingly used to order their daily routines and to combat boredom.

"She does this little art therapy thing, where she'll colour in these little crazy patterns and stuff, when she's sitting here and she's bored, that's what she'll do now instead of smoking". (Stefan, line 148-150)

"She'll have half a fag in the morning, and I'd have half in the morning, then I have one on me own in the kitchen about an hour after that, an hour and a half maybe, max. I'd have one on me own so I'd have one and a half. That would be at about... Well, I watch... I have one just as Jeremy Kyle starts with [partner], which is twenty-five past nine, and then I have another one at half ten when it's finished. To myself, in the kitchen, then I'd come back in here and [partner] would light one up. I'll have twos again, so that would be... What time does Jeremy Kyle finish? Half ten? That would be about an hour I'd say after that, so half ten.. Half eleven. Then when the other Jeremy Kyle finishes, we kind of watch both of them, they're both the same but she'd miss some bits so yeah we watch both of them, so yeah I'd have twos again..." (Stefan, line 260-280)

"So yeah, I'd probably smoke another one to myself after watching Storage Hoarders for about half an hour. There would be two of them on, so about an hour, then I'd have another one to myself in the kitchen. What time would that be? That would be about one, half one wouldn't it?" (Stefan, line 330-336)

"Pretty much the same every day yeah, it's the same routine." (Stefan, line 362-366)

"She's not got much to do most of the time, apart from cleaning the flat, and once that's done she'll sit down and that's it, watch the TV, smoking" (Stefan, line 85-86)

These views expressed by Stefan seemed to be linked with a belief that having a baby would make it easier to achieve smoking cessation because looking after the baby would offer an alternative distraction.

"We're going to be so busy, so I'm hoping it's just going to take our mind off it and I'll be able to cut down that bit more." (Jenny, line 654-655)

Stefan and Jenny also talked about the favourable effect of smoking on their communication with one another:

"I guess it can get the conversation going a bit more when you are smoking." (Jenny, line 488-489)

"We'd just sit here and not say nothing to each other for ages when we don't smoke, you know? I'll end up falling asleep on the sofa, something like that, because I'm bored." (Stefan, line 410-411)

Thinking about the ways that things had changed since they had become pregnant, some expectant mothers reported changes in their feelings about their partner's smoking behaviour. Whereas they may previously have spent little time consciously attending to the amount that their partner had smoked or where their partner had smoked in physical relation to themselves, these were issues that were now given consideration.

Fatima, who had successfully quit smoking talked about her partner Arun's smoking habits remaining unchanged; this couple described rather disengaged interaction patterns, with smoking being unmentioned but not unfelt. The lack of change on her partner's part had led her to feel that she was holding more responsibility for her baby than was her partner, and she talked about how he might be able to offer better quality support in this context:

"I guess part of being pregnant is that you're making all these changes. Everything is happening to you and it's not something you can really share the responsibility for with someone. I suppose the only thing possible really is for them to acknowledge what you're doing." (Fatima, line 556-557)

These issues of change and the function of smoking had seemingly led to shifts, for Fatima and Arun from accommodating towards more disengaged patterns of within-couple interaction.

"Maybe sometimes I'm grumpy because it's happening to me, and [Arun's] not doing enough, and maybe giving up smoking is one of those things that I have done." (Fatima, line 727-728)

In some couples the reduction of smoking on the expectant mother's part led to co-reduction of the expectant father. These couples could be described as demonstrating accommodating interaction styles and their dialogues suggested that co-reduction was the fairest way that the couple could manage the need for the expectant mother to reduce her smoking.

Some of the expectant father's described a shift in their feelings about their partner's rights, because they had begun to think also about the rights of the foetus, and perhaps too their own rights as co-parents to make decisions regarding the wellbeing of the unborn child. These factors were described as affecting the meaning of smoking for the couples:

Talking about Jenny's smoking, Stefan said:

"I noticed it more when she got pregnant." (Stefan, line 70)

"We'd watch the TV, smoking... Then when she fell pregnant, that kind of bothered me in a way, because it could harm the baby..." (Stefan, line 87-89)

And Scott commented:

"After she said she was pregnant, I was a bit more, I don't know if 'demanding' is the right word, but I was more direct in asking her to quit." (Scott, line 252-253)

There were also suggestions that changes to perceptions of the women's rights extended beyond the realm of tobacco use, affecting the women's general sense of entitlement to make choices for themselves.

"He doesn't like me going out by myself, 'cause obviously I'm pregnant." (Chantelle, line 12-13)

The above descriptions of the functions of smoking, and the manner in which the functions changed for each couple remind us of the personal nature of these experiences. Although there are common themes, smoking meant something different for each couple, as did the prospect of cessation.

Couple dynamics emerged as being highly relevant to the meaning of smoking in the dyadic context of the couple; the interpersonal dynamics determined the ways that couples enacted and experienced their tobacco-related routines, and this in turn seemed to affect the nature and meaning of the routines for the couples. Examples of the link between couple dynamics and the meaning of smoking for the couple are given below, along with considerations of how they are described to have changed over the course of the pregnancy.

Jo and Paul described a shift from a rather disengaged style pre-pregnancy whereby Paul was not keen on Jo's smoking but viewed it as a socially acceptable habit, to an accommodating style early in the pregnancy when they agreed together that Jo quitting would be beneficial for the whole family and she began her cessation attempt with Paul's (generally positive) support. When Jo struggled to reduce and quit her smoking as planned, and then lapsed during a period of stress, Paul's support style became confrontational and shaming and this characterised a further shift to a predominantly conflictual interaction style.

Scott was a non-smoker and Natasha a smoker who had reduced her nicotine consumption since becoming pregnant. Pre-pregnancy the couple had demonstrated an accommodating interaction style, with Scott accompanying Natasha on her trips out of the house to keep her company and spend time with her whilst she smoked. This continued during the pregnancy with the pair adopting a shared belief that a reduction of Natasha's smoking would be preferable to her quitting. Scott thus supported Natasha to continue smoking at a reduced rate and their smoking-related interactions remained positive and supportive.

In the context of a relatively turbulent and short-term relationship, Chantelle and Sam demonstrated a conflictual interaction style with disagreement and conflict about smoking, based on their views regarding pregnancy-related cessation differing slightly. Though they both reportedly agreed that quitting would be ideal, Chantelle seemed to demonstrate less motivation to stop smoking than Sam wanted her to. Conflictual interactions were also seemingly based on Chantelle's feelings that Sam was the reason for her continuing, and increasing, smoking throughout the pregnancy. Chantelle and Sam's relationship began following the discovery of Chantelle's pregnancy so it is not possible to consider the pre-pregnancy landscape of the couple in this case.

Jenny and Stefan talked a great deal about the positive benefits of smoking for their relationship. It brought them together for moments of intimacy, distracted them from boredom, and enabled freer communication and conversation, through which they grew to know one another better. The potential cost to the relationship of smoking cessation was great and the couple demonstrated an ongoing accommodating style which effectively maintained Jenny's smoking (at a reduced rate compared with pre-pregnancy) and enabled their tobacco-related routines to persist without much change.

Their descriptions suggest that smoking was an important feature in the context of Fatima and Arun's early relationship and they enjoyed an accommodating interaction style which saw them spending evenings and weekends smoking together with friends and enjoying personal moments of intimacy and connection smoking together at weekends. This changed when Fatima became pregnant and quit smoking whilst Arun continued to smoke at a decreased rate. The pair then adopted a disengaged style whereby smoking was not discussed and the loss of those moments of connectedness was reportedly felt by both.

3.4.2.3. What it means for us socially

The expectant parents talked about social influences on their smoking and the part that smoking played in their social lives. Again, there were considerations around how this had changed since becoming pregnant and reflections about how these changes were experienced by the participants.

Chantelle, talking about her social circle commented:

"They all smoke, everybody smokes." (Chantelle, line 305)

And Fatima, thinking of the past said:

"Yeah [smoking] just felt run of the mill really." "We'd all agree to meet in the pub and all end up standing outside the pub." (Fatima, lines 392-400)

"I miss the social side and I don't know whether that's related to smoking or living here and not [where we used to live]." (Fatima, line 424-425)

"Recently when we've been at a wedding or something, I've been like 'oh, this is a bit boring' you know? I associate having a drink and cigarette with having fun." (Fatima, 257-259)

Sam, an expectant father commented:

"All my mates smoke. Hmm I don't know one person that don't smoke" (Sam, line 562-566)

And Stefan talked about the proportion of smokers in the system around him and Jenny:

"Well that would be... my mum, my dad, me, [Jenny], her brother, her brother's partner, the girl downstairs that we hang around with.. Quite a lot of people. So everyone pretty much smokes that we hang around with, to be honest." (Stefan, line 976-978)

Recalling that she had one friend who did not smoke, Jenny said:

"To me, at first it was a bit weird, because you know how [my boyfriend] and most people have at least tried [smoking] and I was a bit shocked, but I've got used to it now." (Jenny, line 115-116)

And Arun talked about the impact on his social life of Fatima quitting smoking and spending less time socialising outside of the home:

"Because [Fatima] is pregnant the difficulty is that, if I want to go for a drink or anything like that, [Fatima] more often than not sees it as a pointless endeavour to go to a pub and have orange juice." (Arun, line 591-593)

And because smoking was so prevalent in the couples' social contexts, it did not seem significant to them that their partner was a smoker, when they first met:

"I didn't think anything of [her smoking] to be honest. Didn't bring that attention to her. No, because I'm a smoker myself... It's just a normal thing to, do you know what I mean?" (Stefan, line 56-61)

"It didn't really bother me, because I [smoked] myself, so I didn't really take much notice... I think I've only got one friend that doesn't actually smoke." (Jenny, line 99-107)

As mentioned in the sub-category "what it means for us as a couple" however, for some of the male participants the significance of smoking changed once they discovered their partner's pregnancy.

"When she got pregnant though... I kind of think... It bothered me how much she smoked then. Like I noticed it more when she got pregnant. Like, I just noticed more things, more stuff like that... So yeah, when she got pregnant, that's when I started noticing more." (Stefan, line 69-71)

3.4.3. What harm can it do?

The risks of continued smoking, as perceived by expectant couples were an important factor. Although all of the participants in the study acknowledged some potential risk to their baby, associated with continued smoking, there were differences in the manner with which this was reported. Some women talked in detail about the specific biological risks posed, whilst others were less sure and expressed uncertainty about the exact nature of the risks...

3.4.3.1 Systemic or Experiential Knowledge

Some participants valued knowledge about the experiences of people who they knew or knew of. Familial relationships with other pregnant women, for example, seemed important.

Fatima spoke of her sister, with whom she felt she had a close relationship. Her sister had recently been pregnant and had stopped smoking as soon as she discovered her pregnancy. This had been influential for Fatima when she discovered her own pregnancy and faced the decision about changing her smoking behaviour:

“My sister has recently been pregnant. She didn’t smoke, so yeah, [smoking] just felt like a horrible thing to do, so yeah...” (Fatima, line 245-246)

Stefan listed numerous people whom he knew to have smoked during pregnancy, without an apparent cost to the health of the unborn child:

“Yeah, my mum [smoked] through all of us. I think [my girlfriend’s] brother’s partner, I think she did through her pregnancy. We’ve got another friend called [Janet]. She did through her whole pregnancy.” (Stefan, line 1007-1012)

And Natasha, who had previously been pregnant and miscarried at around ten weeks gestation and then became pregnant again and has continued to smoke in her current pregnancy, recalled her own past experiences, saying:

“When I was having my miscarriage, the doctor said that diabetes and miscarriage and smoking go hand-in-hand, so that I think this time it’s made me want to give up even more, but I’m struggling at the last bit... Just to stop.” (Natasha, line 279-281)

The historical context of maternal smoking the family and messages around smoking within the women’s families and earlier years felt important for generating a systemic or shared cultural belief, and this was described explicitly by Fatima:

“It doesn’t feel like new thinking to me. It’s like growing up, even when I was younger, I knew that it wasn’t okay to smoke if you were pregnant. I can’t remember getting taught it at school, but it’s always something that I’ve known,

that you don't drink and you don't smoke when you're pregnant. I'm always surprised how many pregnant women I do see smoking!" (Fatima, line 493-496)

3.4.3.2 Academic Knowledge

Some participants described a more book-based, factual form of knowledge that had originated from health professionals or healthcare materials (e.g. posters, pamphlets), and again this knowledge was recalled with varying levels of detail and understanding. Knowledge acquired this way seemed to yield less of an impact on participant's beliefs and behaviour.

Some spoke in general terms about the potential risks of smoking:

"We don't know exactly how it affects the baby, but yeah we know enough to know that it's not advised. We're being good." (Fatima, line 316-317)

"I don't want to harm the baby, 'cause everyone's like: 'it harms the baby blah, blah, blah... And I do want to quit for the baby, for the baby's sake." (Chantelle, line 141-142)

"Can't be good putting smoke into your system if your baby's using your breathing." (Paul, 261-262)

One woman for example, spoke about her cannabis use as follows:

"In the pregnancy book that I've got, it doesn't actually tell you the risks or anything. But they know that there are things that it could bring on, but there's nothing actually in black and white to say what it is or why. And it's just, obviously, when you're pregnant you're meant to look after yourself as best you can and I just know that it is naughty to be doing it." (Jenny, line 811-814).

Whilst another talked of her limited willpower, despite some knowledge of the risks of smoking:

*“What you smoke your baby takes in, so I know all the risks, and it’s just... It’s not nice to know that every time you put one in your mouth it’s not you that’s just getting it, it’s someone else, but I think it’s still... If you haven’t got a lot of willpower... It’s just hard *laughing*” (Natasha, line 317-320)*

Jo, who had met with a smoking cessation advisor said:

“He’d obviously explained what it would do to the baby, with carbon monoxide, and how dangerous it is for the baby, and for myself. And in the future for the baby, when the baby grows up, there’s also things as a teenager for the baby. He explained things like that, and I thought ‘it’s not fair for me to do that to a child.’” (Jo, line 263-266)

Some women described their efforts to reduce the amount that they were smoking as a method for reducing the potential harm on the baby, and whilst reducing the amount smoked was generally viewed as beneficial, two couples believed that in their situation cutting down was a ‘safer’ option than quitting smoking entirely:

“The midwives have recommended her not to quit right away, but just trying to limit herself to the minimum that she thinks she needs.” (Scott, line 68-69)

The level of understanding of the risks to the foetus of continued smoking varied significantly from one expectant father to the next.

One man said that he didn’t have a clear idea of the potential risks to the baby, but he still felt strongly that smoking during pregnancy is bad for the baby in some way:

“Since I went to the hospital and see that picture on the wall with a pregnant lady and smoke coming out of the baby, and I was like ‘you’re cutting down’, and she’s like ‘no, no, no’.” (Sam, line 386-387)

And another expectant father seemed to be confident in his partner's understanding of the potential risks associated with smoking:

"She's quite good in that way as well, because she's specialised in working with children, and doing things with children and other bits like that, she knows the negative implications of smoking." (Arun, line 370-372)

Whilst expressing a number of his own ideas about the risks too:

"I think it affects the size and development of the foetus as far as I'm aware. I think it can have a negative impact on that, and it's the same with drinking as well. It can lead to Down's Syndrome or other issues as well, and so that's the case that we've been given a blessing of a child and you wanna do everything you can to make sure that they come out fighting fit." (Arun, 545-549)

Scott described a belief that the safest thing that Natasha could do would be to cut down, rather than to try and stop smoking altogether:

"I think the midwife said not to quit altogether, because your body can crave it more and it makes you stressed more and it's not good on the baby, or something like that." (Scott, line 95-96)

He went on to speak further about his understanding of the risks:

"Premature birth and things like that, breathing defects. Things like that, you don't really want. So you have to do the best you can to reduce the effects of it." (Scott, line 141-143)

3.4.4 Navigating the change

The couples explored the changes associated with their experiences of smoking cessation, and they also reflected upon their experiences of nicotine withdrawal, cravings, and the associated stress. And they explored the ways in which they have

managed and responded to these challenges, and expressed opinions on the support that they have needed or received from their partners.

Participant descriptions of their experiences suggested that the nature of their withdrawal symptoms and the effect of these symptoms on their overt behaviour influenced the responses provided by their partners and the nature of the support that they offered. The relationship seemed to be bidirectional as this support then had the potential to either ameliorate or intensify the withdrawal symptoms. A bidirectional relationship was also described between “lost moments” and “support”; the nature of the shared moments that had been or would be lost if the expectant mother were to quit smoking seemed to affect the manner with which partners offered smoking cessation or reduction support, and this cyclically affected the nature of the couple’s tobacco related interactions and the way that they were thought and talked about within the couple.

3.4.4.1 Withdrawal

Thinking about the challenges of nicotine withdrawal and cravings, participants said:

“At the beginning when she was giving up, yeah the first two to three weeks was not just... It was stressful for myself as well as Jo. Because when you give up you just need nicotine, and you probably need something, so someone could say one little thing that could just make you, yeah, snap!” (Paul, line 311-318)

“We’re both a bit... I don’t want to say it, but just a bit more snappy at each other. So, like, she might not be doing anything wrong, but she’ll do something and I wouldn’t like it, and snap! Normally I’d turn the sound up and just be like ‘no’ or ignore it kind of thing, whereas when I’m not smoking and I’ve not had many fags I’m a bit more snappy.” (Stefan, line 395-399)

"It can be, you know, the smallest little thing, like say I've asked him to pass something over and he's taking longer than he should or something, then I will just snap at him." (Jenny, line 368-369)

And in Jo's experience, the cravings were at times more than she could manage. She talked about lapses in her cessation, and the way that these left her feeling:

"Oh my god yeah, every time I'd had a fag it was like a guilt thing as well, after, so that was another added stress. Because you didn't want to, and then you feel bad, and obviously [Paul] was then saying stuff as well..." (Jo, line 93-95)

"Then I'd had the fag, I'd felt like a relief... I don't... I know that's in your mind though, because I don't... And people think 'oh you're mad', but it's just all in your head, I think. But after that, then I'd had a couple more, but then, I suppose... You feel stupid and horrible after... And guilty." "I felt really embarrassed, felt really horrible, you know?" (Jo, line 159-163; 187)

"Because I've got a little one that's growing inside me, and I should be more stronger than that, to be able to do that. That's what I felt like anyway, I should be more stronger than that, have more willpower." (Jo, line 191-193)

Fatima reflected on the complex nature of pregnancy, and the many intertwined changes that are involved for women. She seemed to find it difficult to say whether her "grumpiness" was down to nicotine cravings or other factors linked with the changes of pregnancy:

"I've been really grumpy. I wonder whether that's to do with smoking or yeah. I think being pregnant has affected our relationship but yeah, I'm not sure if any of them are specifically to do with smoking." (Fatima, line 721-722)

3.4.4.2 Support

Support from partners was acknowledged by expectant mothers, and it was generally appreciated. The type of support varied, including emotional support in the form of reassurance and encouragement, and practical support which involved smoking less, not smoking near to the pregnant woman, and helping to provide distractions. Expectant mothers also talked about the amount of support that they felt they had received from their partners, and they reflected on the way that it left them feeling. The ways in which support was offered by expectant fathers and experienced by expectant mothers mapped directly onto the tobacco-related interaction styles of the couples.

Jo and Paul, for example, displayed conflictual interaction patterns and Paul expressed strong, negative feelings in response to her lapses:

“Very disappointed. Because obviously it's not just herself she's intoxicating it's the baby as well.”

“[Paul] had said ‘you need to give up [smoking]’ sort of stern. And I needed it, because it was like, I was stuck there really.” (Jo, line 52-54)

“He's like ‘when the baby comes it's going to have asthma, and it's going to be your doing!’” “He was like, ‘do you feel bad?’” (Jo, line 96-97; 302)

Paul's responses to the lapses seemed to have compounded the difficult feelings that Jo was experiencing:

“He obviously wasn't happy about it. He said ‘that's your baby’ and then it sort of made me feel even worse.” (Jo, line 200-201) “What we do now is we'll go twos, rather than me having the full cigarette, so he's kind of trying to support me in that way.” (Jenny, line 236-237) And this sometimes left Jo with difficult feelings to manage:

"Then you think about that as well... I'm thinking 'oh my god'. You feel really guilty." "It makes you feel really guilty." (Jo, line 100-101; 303)

"I just feel a bit bad. I feel a bad mum." (Jo, line 112)

"If I'd bought a box of fags, I would just end up chucking the rest away, and if I'd had one or two out of the box, and then just chucking them, so they're not there, so you don't want to think about it." (Jo, line 106-108)

Another expectant mother from a couple with predominantly accommodating interaction patterns said the following:

"He tells me when I've done good, and then other days he just goes 'oh, for God's sake, come on, one less tomorrow', and that sort of thing, which is nice, it's not having a go at me, it's just encouraging me in the right way, so it's nice." (Natasha, line 392-395)

Speaking about the manner in which her partner supports her efforts to reduce the amount she smokes, another expectant mother said:

"If I did go to make one a bit earlier than I normally would, like, say I've just had one, but then I'm tempted to make another one, then he'll say no, you've got to wait a bit longer... I know he's doing it for the right reasons so I don't really mind. I'm more grateful than anything that he's reminding me not to do it." (Jenny, line 593-599)

"He does take the baccy off me and hides the baccy, that's helpful for me. He's been good." (Chantelle, line 465-466)

Interestingly, the only expectant mother in the sample who stopped smoking without much difficulty as soon as she discovered her pregnancy did not feel that her partner had done anything significant to support her smoking cessation. In fact, she did not feel

that she needed any help from another person, rather that it was her responsibility to make the decision which she then executed independently. This couple demonstrated a disengaged style of interaction with regard to their smoking behaviour.

The expectant mother from this couple talked about feeling proud of herself for quitting relatively easily since discovering her pregnancy, and when asked how she thought her partner might have felt about it she said:

"I'm not sure until today whether he's given it much thought." (Fatima, line 303)

The expectant fathers talked about the ways in which they had tried to support their partner's tobacco reduction efforts.

"I'm not smoking in front of her, so I don't.. Because I don't want to encourage her to smoke more." (Stefan, line 250-251)

For some, there was just a fine line between being supportive and applying pressure which may have led to stress-related increases in smoking. This was linked in some instances with expectant fathers adopting a cautious or passive approach:

"I know I wasn't helpful constantly being on her case, because then it makes her more stressed which makes her smoke more. So that's made me take a different approach and just talking to her, instead of nagging at her saying 'oh you can't smoke, no more' and 'stop smoking'. It's just stressing her out so she smokes even more." (Scott, line 242-246)

"Try not to argue as much as someone who's not trying to give up, because, trying to keep their stress levels down, because obviously the more stressed you get the more you're going to want a fag." (Paul, line 133-135)

An expectant father from a particularly conflictual relationship talked about the way that he tried (but failed) to regulate the amount that his partner smoked:

"I just give her a fag. I know I shouldn't, but I just give her a fag every hour or so, but then she starts stressing at me and I just give in to her and throw the baccy at her and... 'Do what you want!'. " (Sam, line 370-372)

Some of the expectant fathers spoke of how they had co-reduced their smoking as a way of supporting their partners efforts. These couples seemed to be adopting a team-like accommodating style of relating to one another.

3.4.4.3 Lost Moments

Given the positivity of the couples' experiences of co-smoking, and because it was generally regarded as a useful tool in maintaining a good relationship, by encouraging time together and shared conversation, the couples tentatively explored the potential losses and difficulties associated with quitting.

In some instances, the couples spoke explicitly of feelings of loss and sadness in relation to them no longer sharing tobacco-related moments of comfort and intimacy.

"The only thing that I miss... If I fancy a fag.. It used to be then [Fatima] would join me. You'd sync your cycles a little bit, it would be a situation that you'd both go for one together and you'd sit out, I don't know, it's a bit like stepping outside of yourself, like a little bit." (Arun, line 685-687)

"Yeah I just noticed that it's normally me just out there (points to the garden) and [Fatima] here, just inside. Me outside, her inside." (Arun, line 709-710)

"I miss [the moments smoking together]" (Fatima, line 420)

There seemed to be a struggle, for some, in manage conflicting feelings about wanting to be smoke-free but wanting to smoke also, for the positive functions that smoking serves:

“Every time she smokes, I’ll have like twos on her cigarette, so I’d have half of her cigarette... But then in another way, I did kind of think ‘have twos with me’? I don’t know if it was helping because she’d like... Is that another reason why she’d smoke more? I don’t know” (Stefan, line 177-189)

By co-reducing but sharing every cigarette between them, one couple maintained their physical (and emotional) closeness:

“If we’re at a friend’s and then, say, he’s wandered off and he’s doing whatever, and then I’m waiting there to give him twos or something, I get a bit lost and like ‘oh, I don’t know what to do with this now’ sort of thing.” (Jenny, line 689-691)

Taking this a step further, if her partner had been absent for longer than felt comfortable, she would respond by smoking a full cigarette, instead of half as she would if he were nearby, therefor breaking the ‘code’ hashed between them for the protection of their baby. I found myself wondering about the function of this response, and wondered if co-reducing in this way may become a maintaining factor for continued smoking.

I also wondered whether this couple’s expressions suggested a true accommodating interaction style or perhaps a more disengaged position. On the surface, they presented as unified with a shared goal of co-reduction, but the complexity of the processes involved with smoking (i.e. satiating a craving for nicotine but also aiding interpersonal communication and facilitating closeness) perhaps makes full engagement with the cessation process too difficult for the couple to manage. Instead they seem to use defensive avoidance in a manner which leads to a disengaged style that provides another maintaining factor for continued smoking.

“What I’ll normally do [if my boyfriend isn’t nearby when I smoke] is out it out in the ashtray, but if he is ages then I have been known to pick it up and re-light it.” (Jenny, line 700-701)

3.5 Theoretical Framework

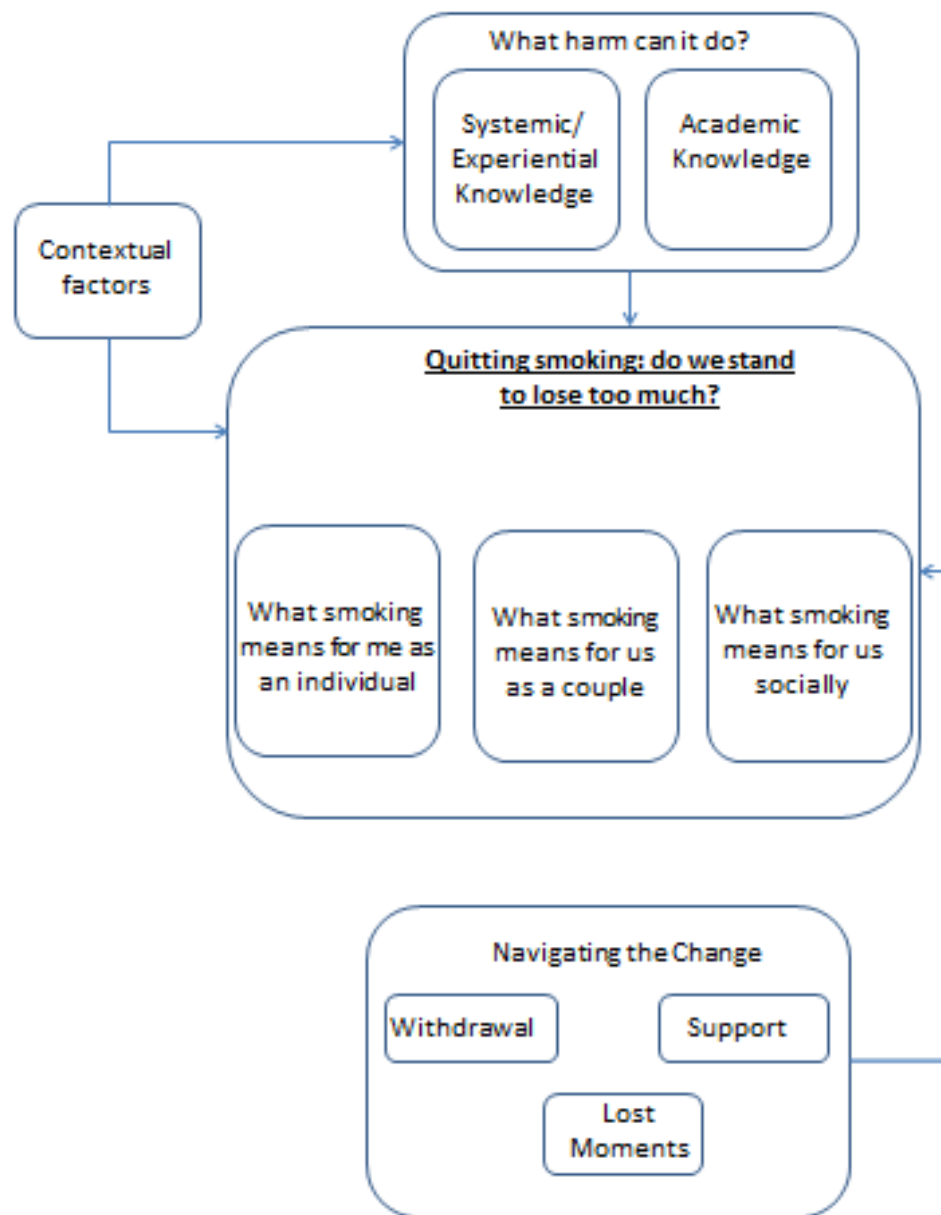


Figure 2: “It’s how we sync our cycles”: A Grounded Theory framework for understanding women’s experiences of smoking cessation, in the context of their intimate relationships

Figure 2 depicts the conceptual categories described in section 3.3. The arrows between the categories describe influential relationships, as they were described by study participants during considerations of the processes implicated in change.

The contextual backgrounds of each individual emerged to be the natural starting point for the model, as they included factors that played a role in shaping many of the basic behavioural and psychological constructs relevant to cigarette smoking and cessation. Said contextual factors seemed to influence the manner with which health risks were perceived and responded to, by expectant parents, and background context were also important for the maintenance cycles that were pertinent to the functions of smoking that emerged in the core category (the functions of smoking). The manner in which couples perceived the health risks associated with smoking was affected by their knowledge, which may have been experiential or fact-based in nature. Their perceptions of the health risks affected their smoking behaviour, and also seemed to influence the functions that smoking fulfilled for them as individuals, as couples, and as members of social systems. Couple dynamics were most pertinent to the meaning of smoking in the context of the couple, and the meaning of smoking across contexts emerged as important in shaping the path towards smoking cessation and the manner with which the couples navigated the many changes associated with stopping smoking during pregnancy. Partner support, nicotine withdrawal, and lost moments emerged as the factors most important for women's navigations of the change processes pertinent to smoking cessation.

3.6 Member Checking

Member checking was completed with one couple. Of the five couples contacted: three couples were not contactable via telephone, one couple said that they would only consent if there was a further financial incentive (which there wasn't), and one couple agreed to provide a member-check but requested that this take place over the telephone. I emailed them a copy of the theoretical framework, and spoke with them via conference telephone call 48 hours later.

The couple who provided the member check was Arun and Fatima. They reported that the framework could describe their experiences in a way that felt accurate and they confirmed that the categories and sub-categories were easily understood and in line with their experiences. Fatima commented that she had quit smoking upon discovering her pregnancy and had not lapsed since; she felt that the 'navigating change' category felt relevant but she suggested that it should include a reference to the loss of shared smoking moments, separately from the sub-categories of 'withdrawal' and 'support' as these did not quite capture the full essence of the smoking-related changes she had experienced. Arun and I agreed that this felt important, and I added a third sub-category label ('lost moments'; 3.3.4.3.) which felt like a more appropriate place for some of the ideas and experiences that had previously been organised within the 'support' sub-category.

3.7 Chapter Summary

This chapter has included the presentation of an interpretative theoretical framework for understanding women's experiences of smoking cessation, in the context of their intimate relationships. The properties of the categories and subcategories have been described, and participant quotes have been used to bring life to the written words and to evidence the manner in which the theoretical framework is grounded in participant data. Participant characteristics have also been considered, as have details of the member checking process.

Chapter 4: Discussion

4. Chapter Overview

This chapter summarises and reviews the study findings. The theoretical model generated using grounded theory is discussed in relation to pre-existing literature, and findings unique to this study are highlighted. The chapter offers critical reflections on the research process and the study's strengths and limitations are reviewed. The implications of this study for clinical practise are also considered, and there is discussion on areas needing further investigation.

4.1 Summary of Findings

Semi-structured interviews were conducted with five couples, to explore their experiences of smoking and smoking cessation in the context of their intimate relationships. The data generated during interviews was analysed using grounded theory methods (Charmaz, 2006), as described in detail in the Methodology chapter. Data analysis led to the generation of a theoretical model of the processes, dynamics, and experiences relevant for women who are attempting to quit smoking during pregnancy, and their partners.

The model that emerged begins with considerations of individuals' contextual backgrounds, including factors such as socioeconomic status, which played a role in shaping many of the basic behavioural and psychological constructs relevant to cigarette smoking and cessation. These contextual factors seemed to influence the manner with which health risks were perceived and responded to, by expectant parents, and were also important for the maintenance cycles that were pertinent to the functions of smoking that emerged in the core category (the functions of smoking). The manner in which couples perceived the health risks associated with smoking was affected by their knowledge, which may have been experiential or fact-based in nature. Their perceptions of the health risks associated with smoking also seemed to influence the functions that

smoking fulfilled for them as individuals, as couples, and as members of social systems. Couple dynamics were most pertinent to the functions of smoking in the context of the couple, and the functions of smoking across contexts emerged as important in shaping the path towards smoking cessation and the manner with which the couples navigated the many changes associated with stopping smoking during pregnancy. Partner support, nicotine withdrawal, and lost moments emerged as the factors most important for women's navigations of the change processes pertinent to smoking cessation.

4.2 The Current Model and the Literature Base

The theoretical model links with previous literature in various ways, and it also offers new insights which hold implications for further study and the design of smoking cessation interventions for pregnant women and their partners.

4.2.1 Couple Dynamics

There has been just one study previously published with a direct focus on the exploration of the role of couple dynamics during smoking cessation attempts in pregnancy; this was published by Bottorff and colleagues in 2006. Also using a grounded theory approach, Bottorff et al. (2006) found that tobacco reduction during pregnancy fundamentally altered couples' previously established tobacco-related routines, and the extent of changes was dependant on the couples' established interaction style. This finding was based on retrospective recall, with participant interviews taking place at 2-4 weeks postpartum and 3-6 months postpartum. The use of retrospective recall suggests that it is important to consider the literature on autobiographical memory, and evidence suggests that the recall of events is prone to error and bias. The postnatal recollection of antenatal smoking-related events would likely rely on heuristic strategies for reconstructing the recalled events (Bradburn, Rips, and Shevell, 1987; Shiffman, Hufford, Hickcox, Paty, Gnys, and Kassel, 1997). Recalling particular episodes as Bottorff et al.'s (2006) participants did, would likely yield

interference from similar events that had occurred either before or after the recalled episode, and this would likely have affected the validity of their study findings. For example, couples experiencing marital difficulties have been found to demonstrate distorted recall so that episodes from their early relationship are described more negatively (Holmberg and Holmes, 1994). We also know that the recall of memories can be affected by a person's current emotional state, so that individuals feeling sad for example may be more likely to recall events associated with sadness and describe them in more negative terms (Teasdale and Fogarty, 1979). Recall can also be distorted by other factors like participants' own mental models of events, their perceptions of smoking-related stigma, attempts to preserve their sense of self-esteem, and efforts to present a coherent narrative (Ross, 1989). These considerations point to numerous potential sources of bias and interference in retrospective recall studies like Bottorff's and highlight the importance of cross-sectional studies for accessing participant's experiences and reflections in the moment to which they relate.

The current study's findings are based upon information collected during pregnancy, and are thus less prone to the various biases associated with delayed recall. The findings are complementary to those of Bottorff and colleagues (2006), lending further support to models that highlight the importance for cessation success of the effects of the specific interpersonal processes that constitute the dynamics of the intimate relationships of pregnant smokers.

The core category in the current study relates to the functions of smoking for the expectant couple, and the functions that it served in individual and interpersonal social contexts. Couple dynamics were important here, as were the various ways in which they altered over the course of pregnancy. By further exploring the relational changes relevant to smoking cessation, and so extending the understanding provided by Bottorff et al (2006), the current study and resulting model also offer a more precise focus as they speak specifically about the processes relevant to antenatal smoking cessation.

Bottorff's study was more concerned with postnatal processes, in the context of postnatal smoking relapse prevention, although this area is clinically important, the broader focus impinges the level of detail with which antenatal process were considered within the study.

The findings of the current study support the conceptual validity of the three styles of interaction patterns presented by Bottorff et al. (2006), and support the notion that there are in some instances changes in couples' tobacco-related routines and shifts in their predominant interaction style. The current model also offers valuable insight into the relationship between couple dynamics (as per the patterns of interaction described by participants) and successful smoking cessation, by suggesting that the interpersonal dynamics determined the ways that couples enacted and experienced their tobacco-related routines. This in turn seemed to affect the nature and meaning of the routines for the couples, and may ultimately have affected the manner with which they negotiated and navigated cessation-related changes.

The couples each set themselves different goals with regard to their smoking behaviour, some pursuing total cessation and others aiming for partial reduction. The nature of the goal was linked with the couple's interpersonal dynamics and their sense of the costs/benefits associated with change. The manner with which goals were pursued were also linked with the couple's interpersonal dynamics, and their ways of relating to one another. Some of the couples expressed shared goals and a common sense of commitment and motivation to achieve them, whether they involved quitting or reducing their smoking, and their tobacco-related interaction patterns and interpersonal dynamics seemed accommodating and facilitative in nature. This approach seemed to allow for an open style of interpersonal communication within the dyad, and served couples well for progressing toward the realisation of their goals. Other couples expressed ideas about each member of the couple being concerned with their own smoking behaviour but not the smoking behaviour of their partner, describing tobacco-related interaction patterns

that seemed disengaged or avoidant. This approach enabled the couple to bypass difficult thoughts or feelings that might be linked with their smoking behaviour. In some instances, individuals seemed to be pursuing goals which were not shared with the other member of the dyad, or pursuing goals that were shared but more realistically achievable by one partner than the other. These couples described tobacco-related interaction patterns that seemed conflictual and they described negative emotions such as disappointment, guilt, anger, and sadness, in relation to their tobacco-related interactions.

As mentioned above, the interpersonal dynamics within the couples affected the decisions that were made regarding smoking cessation, and the goals that were set within the couple regarding their smoking behaviour, and they also affected the manner with which the changes were enacted and managed by the couple. Together, these ideas lend support to the assertion that an understanding of the characteristics of couples' tobacco-related interaction patterns, and the potential disruptions to these patterns that pregnancy and smoking cessation potentially bring, could be helpful for the personalised design of effective smoking cessation interventions. Participant reports suggest that not all women are able to openly discuss smoking cessation with their partners, or to enlist meaningful partner support for cessation without triggering interpersonal conflict or creating unwanted distance or disconnection in the relationship. Interventions may thus seek to enable each partner to critically reflect upon the emotional, social and psychological factors that might be linked with their smoking, consequently increasing their awareness of the ways in which tobacco is embedded in their interaction patterns and enabling a more objective appreciation of their roles in hampering or assisting their partner's cessation attempts.

The couples' descriptions of the interaction patterns that speak of their interpersonal dynamics were closely linked with the manner in which partner support was experienced by the expectant mothers. This is considered in detail below.

4.2.2 Partner Support

Previous work by Pollack et al. (2001) highlighted the subjective nature of 'support' and demonstrated that communications which are intended to be helpful for encouraging a partner to stop smoking are not always perceived as helpful by the recipient. The current study findings support this notion and there were a number of examples of miscommunications and descriptions of partners failing to provide the support that the expectant mother had hoped for, perhaps because of a lack of shared understanding within the couple, about each other's positions or experiences with regard to smoking.

The *tone* of the support provided by partners made a significant difference to the way in which it was experienced by expectant mothers. The use of positive, supportive behaviours such as offering praise, noticing and complimenting effort, providing means for distraction, offering reassurance, and pointing to positive role models was generally experienced by women as supportive and helpful. This fits with the findings of others who have noted the importance of support style (Appleton and Pharoah, 1998; Huag, Aaro, and Fugelli, 1992 ; McBride et al, 1998; Pollack et al, 2006), and the effectiveness of positive social control strategies (Lewis and Rook, 1999; Tucker and Mueller, 2000; Tucker, Orlando, Elliott, and Klein, 2006). Behaviours or communications that elicited negative feelings like anxiety, guilt, or sadness were not experienced as helpful or supportive, and were actually linked with adverse psychological reactions like self-doubt and shame. This process has also been reported elsewhere (Lewis and Rook, 1999).

The current study found that some women, who found it difficult to quit smoking during pregnancy, were particularly sensitive to their partner's feedback and support. Whilst other women met their cessation or reduction goals fairly easily, and did not speak of being affected by the quality or amount of support received. The stress-buffering model (Cohen, Underwood, and Gottlieb, 2000) provides us with a helpful way of understanding this; it suggests that the perceived availability of effective support

reduces the likelihood of stressors being appraised as threatening, and thereby reduces the stressor's negative physiological effect and allows the individual to use adaptive coping strategies. For example, a woman (like Fatima) who is working towards quitting, and feels that she can speak about her cravings with her partner will be better able to cope with the cravings than a woman (like Jo) in the same position who does not feel that she could speak with her partner.

Pollak et al., 2006 reported that partners used women's smoking as a cue to provide negative support; when women stopped smoking their partners stopped providing negative support and when they started smoking again their partners recommenced their provision of negative support. The current study findings further support this notion, with partners offering support based on the perceived need, which was mostly informed by the rate of maternal smoking and noticing whether the rate of smoking had exceeded a previously established benchmark.

Various studies have reported that compared with non-smoking partners, partners who smoked provided lower levels of support overall, and were perceived by women as less helpful (McBride et al., 1998; Pollack et al, 2006). Authors have suggested that this might be part of the reason why partner smoking is such a consistent persistent predictor of a woman continuing to smoke throughout pregnancy. The findings of the current study provide us with a valuable way of understanding why this might be; co-smoking couples generally regard smoking as a useful tool in maintaining a good relationship, as it encourages time together, connectedness, and shared conversation. Quitting is thus potentially associated with significant losses and difficulties, and so partners may be less active in encouraging it by proffering support. Conversely, pregnant smokers in co-smoking relationships, perhaps particularly those with accommodating styles and significant positive couple-based associations with smoking, may not seek support to quit as others would.

4.2.3 Partner Smoking Behaviour

Previous studies examining the role of partner smoking change in women's smoking change during pregnancy have reported that partner quitting is predictive of women's maintained tobacco abstinence in late pregnancy (Appleton and Pharoah, 1998; Wakefield et al., 2003). A flaw in the current study is that it did not include any expectant fathers who had quit smoking since their partner had become pregnant and so there was no opportunity to compare the experiences of couples including expectant fathers who had stopped smoking with the experiences of couples including expectant fathers who had continued to smoke.

Previous studies have also reported that women whose partners do not smoke are significantly more likely to quit smoking upon discovering their pregnancy compared with women whose partners do smoke (Ebert, 2007; McBride et al., 1998; US DHHS, 2004). There were no instances of this in the current study sample but the theoretical model nevertheless provides a framework for understanding the processes that might lie beneath this finding; as described above, women with non-smoking partners might be less likely to use smoking to bring togetherness, connection, and eased conversation. Maternal quitting might not, then, lead to the loss of these effects and the associated negative repercussions on the relationship.

The sample did include non-smoking male partners but this was their longstanding smoking status, and so the established smoking-related interaction patterns of those couples were unchanged as the couple entered pregnancy. It would not be at odds with the current model if one were to hypothesise that a smoking expectant father who quit smoking in early pregnancy would fundamentally alter the couple's smoking-related routines and interactions, thus mobilising change processes and reducing the negative impact of maternal quitting on the relationship, and ultimately encouraging maternal reduction or cessation.

The current study included pregnant smokers with partners who reduced the amount that they were smoking, and this was generally experienced by the women as positive and supportive. In line with the literature (e.g. Appleton and Pharoah, 1998; Waterson et al., 1990), the current study's findings would suggest that women whose partners reduce their rate of smoking during pregnancy may also reduce the amount that they smoke. It is important to note that the direction of this effect is unclear; it could be that changes in partner smoking behaviours impact upon maternal smoking behaviours, but it is equally valid to suppose that partner smoking reduction is affected by maternal smoking behaviour change. Longitudinal investigations are needed to improve our understanding of these reciprocal processes.

4.2.4 Social Support

The proportion of smokers in the social network was described as an important factor for the couples and may have affected the smoking-related style of interaction adopted by couples. Participants described the normalising effect of being with other people who smoke and they also described how seeing others smoke, or knowing that others were smoking, could provide a powerful cue for them to smoke themselves. These findings have been reported elsewhere and remind us of the powerful nature of social influences on smoking cessation, as is represented in the theoretical model. We can better understand the processes involved by considering the tenets of the theory of classical conditioning (Pavlov and Anrep, 2003) which suggest that via processes of conditioning, smoking related stimuli (like a partner or friend lighting a cigarette) become associated with the rewarding aspects of smoking. Exposure to these stimuli (i.e. when the partner/friend smokes) then evokes responses like cravings and obtaining tobacco because they are closely paired with smoking.

In situations where another person or people in the social context of a smoker have quit smoking, participant reports suggest that the influence can work in another way. Women

said that seeing quitting ‘modelled’ by somebody whom they held in esteem, had provided them with encouragement and motivation for quitting. This is important, and again emphasises the importance of considering social factors when devising smoking cessation interventions for pregnant women.

4.2.5 Socioeconomic Context

Participants in the current study described factors related to their socioeconomic status as being relevant to their experiences of smoking and smoking cessation. This is echoed in the broader literature with others noting that smoking has commonly been associated with lower socioeconomic status (Wanless, 2004). The literature base also shows that there are socioeconomic differences between those women who continue to smoke during pregnancy and those who quit, with continued smoking being associated with lower income, single relationship status, lower levels of social support, lower educational attainment, and higher perceived sense of societal persecution (Ebert and Fahy, 2007; Graham, 1996; Tappin et al., 1996; US DHHS, 2004). Although the current study findings do not speak to these variables directly, expectant parents described the manner with which unemployment was perceived to contribute to a sense of boredom and inactivity, and this was experienced as a maintaining factor for smoking which was seen as “something to do” in moments when other options were lacking.

Low income and the various associated financial pressures were also described by study participants as being important in relation to their smoking behaviour. Some couples described a picture whereby their financial concerns meant that they reduced the amount that they smoked in order to save money, but were unable to stop smoking altogether. The descriptions of others suggested that worries about money were associated with stress-related increases in the quantity smoked, thus highlighting the importance of stress for considerations of smoking cessation.

4.2.6 Stress and Coping

Other authors have considered the links between stress and smoking, and numerous studies report finding that smokers report higher levels of perceived stress than non-smokers. A hypothetical explanation for this could be that those experiencing higher levels of stress are more likely to start and continue smoking because they use smoking as a tool for stress-reduction. Before considering the feasibility of this hypothesis in the context of the current study findings it is important to be clear about how we define the word 'stress', so as to avoid misunderstanding. Kassel, Stroud, and Paronis (2003) present a definition that feels clear and understandable, and this same definition is adopted here: stressors are "situations in which environmental demands tax the adaptive capacity of an organism" and a stress response includes "cognitive, emotional, and physiological changes that follow a stressor" (pp. 273).

Research on the effects of stress on smoking cessation has repeatedly found that perceived stress is associated with less favourable cessation outcomes, and it is likely that the relationship between stress and smoking is bidirectional in nature. That is, stress might make it more difficult for a smoker to quit, and not being able to quit might be experienced as stressful for the smoker (Cohen and Lichtenstein, 1990).

Stress-coping (Wills, 1986) and self-medication (Khantzian, 1997) models of tobacco use posit that tobacco serves a coping function whereby it facilitates mood regulation. Indeed as noted above, expectant parents in the current study attributed their smoking, at least in part, to its relaxing and anxiolytic properties. Participants reported that they felt the urge to smoke more when they were stressed, angry, sad, or bored, and the inherent assumption was that smoking would alleviate the aforementioned negative feelings/mood. This pattern is frequently reported in the literature (Brandon and Baker, 1991; Copeland, Brandon, and Quinn, 1995; Shiffman, 1993) and experimental researchers have attempted to determine the biological validity of these self-report

claims, in order that we might gain a clearer understanding of the relationship between stress and smoking.

Taken together, the above considerations suggest that smoking cessation interventions for pregnant couples could usefully include some teaching of adaptive stress-management techniques. This could be particularly helpful for those experiencing socioeconomic disadvantage or other contextual factors that might be linked with stress.

4.2.7 Mental Health

In addition to the factors relating to stress, there were a number of other relevant psychological factors that emerged to be important for the cessation attempts of pregnant women and their partners. As has been reported elsewhere in the literature, depression, anxiety, and personality disorders were described as obstacles for pregnant women and their partner's efforts to stop smoking (Anda et al., 1990; Borrelli, Bock, King, Pinto, and Marcus, 1996; Ludman et al., 2000; McCormick, Brooks-Gunn, Shorter, Holmes, Wallace, and Heagarty, 1990). Although the current study did not use formal measures of psychiatric diagnosis, the experiences described by participants suggest that those with mental health difficulties may need smoking cessation treatment plans that include a goal to ameliorate their depressive or anxiety-related symptomatology. This would require antenatal services to assess the presence of mental health disorders (either directly or via liaison with mental health services) in order to make effective and informed decisions regarding cessation treatment and advice.

Few other studies have investigated the relationship between mental health and smoking cessation during pregnancy but the small body of relevant literature suggests that this is an important area of inquiry (McCormick et al., 1990; Zuckerman, Amaro, Bauchner, and Cabral, 1989). Studies of smokers in the general population (i.e. not in the context of pregnancy) are however plentiful and provide considerable evidence that supports the above assertion; that smoking cessation may be detrimentally affected by

depressed mood, symptoms of anxiety, and other psychiatric symptomatology (Blalock et al., 2005; Burgess et al., 2002; Lasser et al., 2000; Niaura et al., 2001).

Research findings also suggest that smokers who have experienced a major depressive disorder in the past are likely to experience depressed mood during nicotine withdrawal (Breslau, Kilbey, and Andreski, 1992). Again, this points to the importance of these factors being considered and addressed at the treatment planning stage for pregnant women and their partners who wish to stop smoking.

4.2.8 Daily Routines

Participant accounts drew attention to the ways that smoking can become intrinsically woven into the daily, intimate routines of couples, in instances where one or both members of the dyad smoke. This was also noted in the findings of Bottorff et al. (2005) and is important for considerations of the factors relevant to smoking cessation. Couple dynamics affect the way that couples experience their daily routines and the day to day context is where interaction patterns are maintained. In keeping with systemic models, the current model views smoking as embedded within relationships and supported by predictable patterns of behaviour and interaction (Rohrbaugh et al., 2001). The emotion-regulation and communication functions of smoking are also very important in the day to day experiences of smokers and their partners, as considered in the core category “the functions of smoking” and the subcategories “what it means for me as an individual” and “what it means for us as a couple”. Doherty and Whitehead (1986) similarly described the manner with which smoking regulates closeness (or distance) by conveying messages like “let’s talk”, “I need some time alone”, or “let’s relax”. Together these ideas support the conceptualisation of smoking cessation as entailing the potential loss of rituals that have been integral to the bond between intimate partners.

4.2.9 Women's Rights

Discussions of the intra-familial and social pressures experienced by pregnant smokers lead to a consideration of women's rights. Expectant parents in the current study described the way that their views on their own smoking and their partner's smoking changed when they became pregnant, because their considerations had changed to include foetus and its health, which was viewed as inextricably linked with the health and behaviours of its mother primarily, and to a lesser degree its father. They also talked about the expectations expressed by others, with regard to their smoking behaviour, and changes in those expressed expectations since they had become pregnant. Expectant mothers spoke explicitly about feelings of guilt and shame that came when they failed to conform to external pressures, and male participants expressed views regarding the rights of the foetus, and their own rights as fathers to make decisions about their partners' behaviour, in order to protect the unborn child.

These ideas fit with the assertions of Oaks (2001) about the process by which pregnancy sees women move from having legitimate rights to engage in behaviours stemming from their individual ideas, desires, or needs towards a position where the maintenance of foetal health takes primacy. Astbury and Lumley (1989) offered an interpretation of this process, which still feels relevant, almost thirty years on.

“The images which underlie the advice industry are threefold: the perfect child, the perfect mother, and the perfect birth... In order to be a perfect mother and have the perfect birth, a woman is exhorted to lead a selfless, healthy life, uncontaminated by sex, cigarettes, alcohol, employment, or anxiety.” (pp.241)

Women's descriptions of their experiences in the current study made reference to this perceived expectation; that they should follow a set of prescriptive 'pregnancy rules', which include not smoking, if they are to 'do' pregnancy the correct, socially and medically acceptable way, in order to create the “perfect” child and family. Oaks (2001)

suggests that pregnant women face “pregnancy policing” which involves them receiving judgment, criticism, and advice from others about what is best for their baby. This may be part of women’s experiences in medical, social, and sometimes legal contexts, and she describes the landscape in the United States, where some women are not permitted a legal right to an abortion and may face criminal charges of ‘foetal abuse’ if others deem that they are not caring appropriately for their unborn child. The rights of women in the United Kingdom are not curtailed so severely during pregnancy but the negative stigma around smoking is undeniable and was described by participants in the current study. Interestingly, participants in the current study described receiving advice and direction from others in a manner which may or may not have displeased them, whilst simultaneously expressing their own negative judgments of the choices made by others during pregnancy. This suggests that women can be ‘policed’ and ‘policers’ at the same time, perhaps with varying degrees of insight into the processes at play and the potential contradiction in their presentation.

In the context of pregnancy policing, it is interesting to think about *why* there are such strong social concerns over pregnant women’s smoking in the UK. Like other issues that are perceived as both health and social issues, the case of smoking during pregnancy may be seen to reveal the manner with which the public health agenda is driven by a combination of medical health risks and socio-political trends. It has been suggested that smoking was redefined as a health issue in the period from the 1950s to the 1970s (Berridge and Loughlin, 2005) as part of a broader move toward a new ideology which stressed the importance of the individual’s responsibility for healthy lifestyle choices and behaviours. This process of redefinition is considered below.

In 1950 the British Medical Journal first published details about the link between smoking and lung cancer. The response to this discovery was fairly underwhelming and little effort was made by those in positions of authority to communicate the message to the masses. Some have suggested that this was because of His Majesty’s Treasury’s

reliance on revenue from the tobacco industry (Berridge, 1998). It was also likely linked with concerns that publicity might increase public fear and demand for health services at a time when National Health Service (NHS) costs were becoming a political concern (Webster, 1984). In the early 1960s things began to change, and a publication by the Royal College of Physicians (RCP) in 1962 on the health risks associated with smoking led the Ministry of Health to offer free publicity of the health risks for local authorities, and a range of advertising products were released via mass media. Another significant step came in 1972 when the expenditure on the Health Education Council's smoking campaign almost doubled following a further RCP publication on smoking and health around the same time (Seltzer, 1972). Examples of the content of advertisements in the early 1970 are: "The tar and discharge that collects in the lungs of the average smoker" and "you can't scrub your lungs clean", which were linked with a negative shift in public attitudes towards smoking. Perhaps the most striking of images from the campaigns run in the early 1970s though, was one run in 1973-1974 depicting an entirely naked pregnant smoking woman, alongside the caption "Is it fair to force your baby to smoke cigarettes?" Public images of female nudity were uncommon in the advertising culture of this era, so the naked image of the pregnant smoker had terrific shock value. The HEC spent £160,000 on the naked pregnant smoker campaign, which constituted almost two-thirds of their entire antismoking campaign budget for that year. Towards the end of the 1970s the preferred 'harm reduction' agenda for smoking was faltering for various reasons and the wider public health agenda was continuing to evolve. The government published their vision: *Prevention and Health: Everybody's Business* (Prince, 1976; Peterson and Lupton, 1996) which implied a community and individual responsibility for health, rather than a government or service level responsibility.

These changes in the media management and public perceptions of the health costs of smoking were influential for evolving views on the role of women in society, and particularly on the role of women as mothers. Feminist commentators have asserted

that, in the 1970s, the foetus had been viewed as an ‘innocent victim’ of the mother’s harmful smoking but that later, at the time when the public were digesting the 1973-1974 campaign described above, women became viewed as the victims of insensitive media manipulation. In the early 1980s another shift led to women and their children being viewed as the passive victims of second-hand smoke from their husbands and fathers (Berridge, 2007). These various shifts in public attitudes towards smoking during pregnancy are relevant to the current climate; the health risks of smoking and the economic impact of smoking related illnesses on an already stretched NHS are now well known (Scarborough et al., 2011) and the government continue to encourage individual and community ownership of and responsibility for health, thus setting a scene within which pregnancy policing does not feel at all out of place in modern-day British society.

4.3 Critical Reflections

Over the course of this study, there have been many opportunities for learning and reflection, and there have also been numerous challenges to overcome. Consideration of these issues is important for researcher reflexivity and the next section contains descriptions of relevant issues and my associated critical reflections.

4.3.1 Challenges Faced

The most significant challenge faced over the course of the study was participant recruitment, and it felt as though there were two main ways in which this felt difficult. I initially had difficulty developing timely and effective service links and later I struggled to find participants who were willing to speak about their experiences in this heavily stigmatised domain.

4.3.1.1 Building Effective Links with Services

The initial process of gaining approval from the National Research Ethics Service’s Research Ethics Committee (NRES REC) was more time consuming than I had

expected, but once approval had been granted by the REC and also from the University, I began contacting services to present my research proposal and seek support from parties who could grant me access to potential participants. This was the most challenging part of the research process.

I initially approached senior midwives and heads of service for local midwifery teams and antenatal services, but after repeated non-responses I learned through gatekeepers (receptionists and personal assistants) that these individuals were very busy with day-to-day matters and unlikely to respond to me quickly (or perhaps, at all). In fact, of the nine individuals that I contacted (via telephone and email) I only spoke to one senior midwife, who advised me that she was not, in her role, permitted to make decisions about research involvement. She advised that I should contact the head of midwifery in her Trust, which I did, to no avail.

I went on to approach smoking cessation services, and I received a more favourable response here, perhaps because the focus of my research felt more relevant than it did to midwives and antenatal practitioners, and perhaps because the smoking cessation practitioners had more resources to allow them to engage with research. The smoking cessation service was non-NHS, which meant that I was not required to apply for Research and Development (RandD) group approval, thus avoiding further NHS paperwork-related delays. There was a 'research steering group' with whom I liaised prior to commencing recruitment, and they provided me with approval in a fairly straightforward and timely manner. Evidence of all relevant approvals can be found in Appendix A.

My first three couples were recruited via the smoking cessation service, but following the third set of interviews the service was recommissioned and the practitioners with whom I had been liaising were redeployed. I was unable to build relationships that might lead to further recruitment here, so I again made contact with NHS antenatal services

and midwifery leads. This was unproductive so I went on to contact my university Clinical Psychology doctorate course team, which comprises a mixture of individuals whose roles involve varying degrees of research and clinical work. My email included a request for advice on recruitment and I also asked recipients to forward my proposal to any services or practitioners who might be interested in supporting my work. I received a response from an Assistant Psychologist who offered to take my proposal to a team meeting at the Children's Centre within which she was based. At the same time I made a link with the leader of a midwifery team but my liaisons with the Research and Development (R&D) team who gate-keep for this service required extensive liaison and the process took over six months, coming to completion when I was commencing a period of maternity leave. Just prior to my leave, following the support of the Children's Centre Assistant Psychologist mentioned above, I received interest from the Head of a Children's Centre, and with her support I recruited my fourth couple.

Following this, I took a maternity break of twelve months and when I returned I was unable to re-establish meaningful contact with the Trust mentioned above, from whom I was seeking R&D approval. The Children's Centre Head agreed to continue supporting the study following my return, but unfortunately I did not receive any details of potential participants from her. Needing to recruit more couples in order to reach theoretical saturation, I advertised the study using posters in the waiting rooms of non NHS services who had previously agreed to support the study (smoking cessation clinics, antenatal exercise groups, and support groups) and I contacted the head of midwifery for my local NHS Trust, with a plea for support in the final stages of the study. The head of midwifery agreed to support the study and put me in touch with a midwife within her team whose role included a specific duty to facilitate research. She agreed that her midwifery team were well placed to identify couples meeting the study's inclusion criteria, and so I began the process of gaining NHS R&D approval to link with this site. This took some months, because of delays within my university to review and authorise

paperwork, delays within the R&D department, and delays linked with my limited capacity during the final stages of my clinical training. I finally received approval two months before my already extended thesis deadline. I received the details of two potential participant couples in this time but unfortunately, neither one ended up participating. The fifth couple who participated in the study was recruited via a presentation of my research interests at my clinical workplace; a colleague noticed that she matched my inclusion criteria and asked to take part.

4.3.1.2 Finding Pregnant Smokers who were willing to Participate

The other major challenge in conducting this research, beyond the difficulties with finding services to support recruitment, was in finding couples who were willing to speak with me about their smoking behaviours during pregnancy. We know from the literature and from the results of the current study, that smoking during pregnancy is heavily stigmatised. And it is likely that this is one factor that affects the willingness of some pregnant smokers to discuss their smoking behaviour, especially perhaps with someone that they might link with health services and, who they might therefor presume, would not condone their smoking.

The design of this study did not allow for the calculation of the proportion of women who were aware of the study but chose not to speak with the researcher. However, conversation with the research midwife led to the discovery that the last hospital approached for recruitment saw approximately 4,500 women for their 'booking appointments' (when the pregnancy is recorded at the hospital and the patient is booked to have their antenatal care and delivery with that hospital) annually, with around 1,000 of those being self-declared smokers. Allowing for some monthly variation, these figures would suggest that the hospital was seeing around 70-90 pregnant smokers at booking appointments each month. But in the two months that midwives were actively recruiting for this study, by describing the research and asking whether couples would like to

receive further information, just two women gave preliminary consent. This number is strikingly low, constituting around 2.2%-2.8% of potential participants. One of two interested women did not answer or return phone calls about the research, and the other said that her boyfriend refused to take part because “he doesn’t like talking about private stuff with outsiders”.

Other researchers have consistently reported substantial difficulties recruiting this population for research studies (Bottorff et al., 2005; Lopez, Simmons, Quinn, Meade, Chirikos, and Brandon, 2008), and the reactive type of recruitment strategies employed in the current study (poster advertisements and healthcare provider outreach) have previously been found to be less effective than other proactive strategies such as buying telephone numbers from marketing companies and then cold-calling potential participants (Lopez et al., 2008). This latter approach however would not fit within the ethical and resource boundaries of the current study.

An unconnected, and less significant challenge was associated with the processing of study data, once it had been generated. Closeness to the data is important for ensuring that coding, analysis, and the emergent model are grounded in the data (Henwood and Pigeon, 1992), and the grounded theory methodology provides systematic protocols which encourage it. Although I can appreciate the benefits that are associated with data immersion, it also felt rather challenging at times because it was so very time-consuming and interfered with my ability to engage with other non-research related tasks and roles. The periods of transcribing interview data were particularly challenging in this regard, and far more time consuming than I had expected.

4.3.2 Study Strengths

4.3.2.1 Richness of the Data

The research interviews yielded a great deal of incredibly rich data which provided a valuable opportunity to better understand the experiences of participating couples.

Given the poor smoking cessation rates during pregnancy in the UK, research studies such as this, which elucidate the processes relevant to women's cessation efforts are extremely valuable, particularly given that participants were nulliparous and pregnant at the time of interview; important qualities which have previously been under-represented in the literature.

4.3.2.2 Grounded theory methodology

The use of a grounded theory methodology, to capture participant experiences and organise them within an explanatory model, has been helpful for our understanding of the processes relevant to pregnant women's smoking cessation attempts. The model and its constituent categories and subcategories are grounded firmly in participant data and so they provide as close a representation of the true experiences of the study sample as is realistically possible.

By conducting the interviews and then re-hearing and re-reading them during transcription, the researcher became extremely familiar with the data. This familiarity was helpful for the coding process but it also enabled maintained closeness to the data; this is believed to be apparent in the results, and a significant strength of the study. Constant comparison, which involved moving backwards and forwards between new and old data to consider similarities and draw out differences, also helped to maintain familiarity and closeness with the data.

Other indicators of the grounded nature of the model can be seen in the results of the member checking exercise conducted towards the end of the study. Although it would have been preferable to involve a greater proportion of the study participants, the couple who reviewed the theoretical model agreed that its structure and contents were relatable and true to their experiences. The researcher's primary supervisor also listened to early interviews and reviewed the transcripts of all interviews, so as to compare opinions with the researcher on emerging codes and themes. This process highlighted the areas

lacking clarity and/or needing further exploration and development. It also provided another way of ensuring that theoretical ideas were well grounded.

4.3.2.3 Study Design

The current study builds upon the findings of Bottorff et al. (2006) which also consider couples' tobacco-related routines and interaction styles in the context of their smoking cessation attempts. Their findings however were based on retrospective recall, with participant interviews taking place at 2-4 weeks postpartum and 3-6 months postpartum. A strength of the current study is that it is based on data collected during pregnancy, in couples homes, using interviews which sought to elicit reflections on the experiences relevant in their current day to day experience. The findings are entirely complementary to those of Bottorff et al. (2006), thus lending further support to models that highlight the importance for cessation success of the effects of the specific interpersonal processes that constitute the dynamics of the intimate relationships of pregnant smokers, and they are also based on data that has a real-time richness and is less likely to have been prone to recall-related error and bias.

4.3.3 Study Limitations

4.3.3.1 Theoretical Saturation

At the outset of the study, the goal was to continue with data generation until sampling and coding no longer led to the identification of new categories and new instances of variation for existing categories no longer emerge. Although this was a fine goal, in reality it felt as though changes in perspectives or modifications of the organisation of categories could always be possible. And at the point of writing this thesis I could not say with absolute confidence that theoretical saturation, as per the above description, had been achieved. Glaser and Strauss (1967), the original proponents of the grounded theory methodology made reference to this in a way which feels relevant here:

“When generation of theory is the aim, however, one is constantly alert to emergent perspectives, what will change and develop the theory. These perspectives can easily occur on the final day of study or when the manuscript is reviewed in page proof: so the published word is not the final one, but only a pause in the never-ending process of generating theory.” (pp.40)

There were also practical constraints which meant that data generation ended before the researcher reached a position of confidence that new instances of variation for existing categories would not have emerged. It is possible, for example, that the generation of further data from individuals who had successfully quit smoking may have led to further refinement within the category ‘navigating the change’, which was concerned with the processes involved with changing smoking behaviours, and that the way that this is managed by couples. Unfortunately, delays in gaining the necessary ethical approvals and slow recruitment rates meant that it was not possible to continue any further with data generation within the timeframe of the training course for which this thesis is submitted.

4.3.3.2 Qualitative Interviewing Skills

It is apparent that the quality of interviews improved over the course of data generation, and upon reflection, the study could have benefitted from the researcher attending some training on qualitative interviewing prior to the commencement of data generation. Such training may have led to the generation of even richer data, and this would have benefitted the quality of the emergent model.

4.3.4 Personal and Professional Development

The study aimed to explore pregnant women’s experiences of smoking cessation within the contexts of their intimate relationships, with a specific focus on relationship dynamics and tobacco-related interaction patterns. Within this, my ultimate aim was that an understanding of these factors be developed so that a grounded theory might

emerge to offer an explanation of how couple dynamics and interaction patterns within women's intimate relationships affect their smoking cessation attempts. I believe that I fulfilled the aims of the research and I learned a huge amount in the process. I have learned about the grounded theory methodology, which was entirely new to me at the beginning of the study but chosen for its fit with the research aims and my philosophical assumptions. I have learned about the lives of the participants that I have spent *such* a lot of time thinking about over recent months, and about my capabilities as a researcher. I have also learned much about the systemic challenges associated with requesting and gaining study approvals for university-held research of this kind.

4.3.4.1 The Grounded Theory Approach

I greatly enjoyed using a grounded theory methodology, which enabled me to capture an 'emergent' theory, as participant testimonies gave rise to new ideas. I was interested to hear the stories told by participants, and then to compare them with the stories of others, later bringing ideas about categorisation and theorising. Even with the epistemological underpinnings of the grounded theory approach in mind, I was struck by just how significant an effect my qualities and experiences actually had on the research process, and I went through an interesting process of reframing this experience with my supervisor, in order to find ease in adopting a realistic, non-objective position. Sitting with couples in their homes, my own experiences as a mother, an ex-smoker, a trainee clinical psychologist, a married woman with feminist ideals, and a researcher were notably influential in my reflections and my approaches to each interview. These factors, and others, would determine the questions that I asked and the way that I asked them. There would be variations in the confidence with which I would pursue particular avenues of enquiry in different moments and with different participants. And there were undoubtedly differences in the level of trust and openness that I was able to inspire in the participants. My approach was also guided by my research interest and the specific focus on couple dynamics and interaction patterns that I imposed. I therefore felt that the

adoption (and open acceptance) of a moderate social constructionist position enabled me to pursue my goal to better understand the experiences of pregnant women and their partners, and also permitted me to acknowledge that there is no such thing as an objective view of social reality and that my own assumptions and expectations would (and did) inevitably shape the theoretical model that was developed.

4.3.4.2 Reflexivity

Actively working to ensure researcher reflexivity throughout the course of the study, I came to understand the potential learning gains associated with the use of a reflective journal and ongoing personal and supervised reflections. This process also reminded me of the importance of curiosity and challenging one's own biases. These skills and practices transpired to be very important for the facilitation of honest and meaningful research interviews. They have also been helpful in other areas, and have come to inform my clinical and personal endeavours too.

4.4 Clinical Implications

4.4.1 Smoking Cessation Intervention Design

The findings of this study suggest that there is an important link between pregnant women's smoking behaviour and their interpersonal relationships with an intimate partner. The patterns of interaction that comprise the dynamics within the couple are also important. It therefore seems natural to suggest that services and interventions should take account of this context and involve women's partners and/or other people with whom the pregnant smoker has valued relationships that are liable to be affected by smoking cessation. This is important not only in instances where the partner also smokes, as it seems that pregnant smokers with non-smoking partners might also have smoking-related routines that are important for the broader context of the relationship. The involvement of a woman's partner in the smoking cessation intervention process should be used to encourage awareness of the ways in which tobacco may be

embedded interaction patterns, and to encourage each member of the dyad to gain an objective appreciation of their roles in hampering or assisting their partner's cessation attempts.

Following an assessment of the personal, contextual and psychological factors relevant for the couple, the findings of the current study also suggest that interventions should include, where relevant: goals to ameliorate depressive and/or anxiety-related symptomatology; the generation of adaptive stress-management techniques; the delivery of advice and support for debt and financial management; and consideration of issues associated with the proportion of smokers in the social network. Each of these recommendations is discussed in more detail in section 4.2.

4.4.2 Health Education

There was significant variation in way that pregnant women in the study talked about the risks of smoking during pregnancy. They all knew that there were risks of some sort involved, and they all reported that they had been told something of the risks by healthcare professionals. There are a number of ways that we might try to understand this. It may be that there was a lack of consistency in the information given to women by healthcare professionals, in which case it would be reasonable to suggest that couples accessing antenatal services in the future might benefit from more coherent explanations about the mechanisms by which maternal smoking is harmful to the foetus and child. Another possibility is that the couples were talking about risks in particular ways in order to limit the degree of incongruence between their smoking behaviour and the health-related advice/information that they have been given.

The principle of cognitive dissonance (Festinger, 1962) is helpful here, for our understanding of how it might feel to be in the position of an expectant mother experiencing conflicting thoughts, such as: "I want/need to smoke" and "smoking will harm my unborn child". The principle suggests that this type of internal conflict would

likely yield an unpleasant state of psychological tension. This could cause the individual to change their beliefs in order to reduce the tension, with a less conflicted position involving thoughts like: “I want/need to smoke” and “I don’t know whether smoking will harm my baby or not”. Similar processes of cognitive shifting could reasonably be hypothesised for the expectant fathers who seem to believe that it would be better for their partner’s health, and for the health of their baby, if she continued to smoke at a reduced rate, rather than quitting smoking altogether. This understanding could be helpful for health professionals in understanding the narratives presented by pregnant smokers and their partners.

4.5 Further Research

The challenges associated with recruiting participants for this study were really very significant, and other researchers have reported similar struggles in getting to speak with pregnant smokers. This suggests that it would be helpful for the field of research if we could better understand why it is such a difficulty to recruit from this population. It would clearly be a difficult task, but a study exploring pregnant smokers’ views on research participation could be helpful for the planning and successful completion of future research in this important area.

Further research exploring women’s smoking cessation experiences in the context of their intimate couples is warranted, as it seems that there is yet more to learn. Future studies should include expectant fathers who have stopped smoking since discovering the pregnancy, and co-quitting couples as these were absent in the current study but their testimonies may lead to further refinement and/or extension of the model presented here. Further investigation of expectant fathers’ smoking could also be helpful more broadly, in generating strategies for engaging them in smoking cessation process.

Reviewing the health literature, it would seem that the relative ‘safety’ of e-cigarettes/vaporisers cannot yet be ascertained. Further research in this area is needed,

and if longitudinal studies assessing the health risks in pregnancy deem them to be safer than tobacco smoking, then the current study findings suggest that they may offer a means by which women can maintain their nicotine use and avoid disruption to smoking-related interaction patterns in the context of their intimate relationships whilst making potential reductions to the associated health costs.

4.6 Conclusions

Maternal smoking during pregnancy is associated with an array of adverse health outcomes, for women and their children (Gluckman, Hanson, Cooper, and Thornburg, 2008; Green et al, 2005; Hammoud et al, 2005; Kramer, 1987; Salihu and Wilson, 2007; US DHHS, 2004;). Despite these risks, the literature demonstrates that tobacco smoking during pregnancy is fairly common, and the effectiveness of smoking cessation interventions for pregnant women is poor, with around 6% of women accessing such interventions successfully stopping smoking during pregnancy (Lumley, Chamberlain, Dowswell, Oliver, Oakley, and Watson, 2009). The interventions offered to pregnant smokers are most commonly provided on an individual basis, to expectant mothers and not to their partners, most commonly involving the use of nicotine replacement therapies, motivational interviewing, and strategies for modifying cognitive and behavioural patterns.

The use of semi-structured, individual interviews elicited the smoking cessation related experiences of nulliparous women, in the context of their intimate relationships. The use of grounded theory methods, including constant comparative analytic methods, focusing on women's experiences and relevant processes of change, revealed that couple dynamics were pertinent to the meaning attributed to smoking by the expectant couple. The meaning of smoking in individual and social contexts were also relevant, as were contextual factors and beliefs about risk. These factors, in turn, emerged to be relevant to the manner with which couples navigated the important changes associated with

smoking cessation, ultimately affecting the potential success of the pregnant smoker's cessation attempt.

A number of implications for the design of smoking cessation interventions have been suggested, perhaps the most important being the involvement of a woman's partner in the smoking cessation intervention process. The focus of partner involvement should be on encouraging awareness of the ways in which tobacco may be embedded in interaction patterns, and on encouraging the partner to gain an objective appreciation of their role in hampering or assisting the expectant mother's cessation attempt.

The study's findings also suggest that smoking cessation interventions for pregnant women could benefit from the inclusion of goals to ameliorate depressive and/or anxiety-related symptomatology; the generation of adaptive stress-management techniques; the delivery of advice and support for debt and financial management; and consideration of issues associated with the proportion of smokers in the social network.

4.7 Chapter Summary

This chapter has summarised the findings from the research study, and discussed the resultant model in relation to the pre-existing literature base on factors related to social and interpersonal dynamics, and smoking cessation during pregnancy. The challenges and successes related to the research process have also been considered, as have study limitations and suggestions for further enquiry. Ongoing reference has been made to criteria which are viewed as relevant for ensuring the quality of Grounded Theory research, and unique contributions to the field have been highlighted. There has also been important consideration of the clinical implications of the study.

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Appendix A



Health Research Authority

NRES Committee South Central - Berkshire B

Bristol REC Centre
Whitefriars
Level 3, Block B
Lewins Mead
Bristol
BS1 2NT

Telephone: 01173421331
Facsimile: 01173420445

29 April 2014

Ms Ruth Jennings-Hobbs
34 Rochford Avenue
Shenfield, Brentwood
Essex
CM15 8QW

Dear Ms Jennings-Hobbs

Study title:	Couple dynamics and maternal smoking cessation during pregnancy: A qualitative examination of nulliparous women and their partners
REC reference:	14/SC/0240
Protocol number:	N/A
IRAS project ID:	148075

Thank you for your letter of 29 April 2014, responding to the Proportionate Review Sub-Committee's request for changes to the documentation for the above study.

The revised documentation has been reviewed and approved by the sub-committee.

We plan to publish your research summary wording for the above study on the NRES website, together with your contact details, unless you expressly withhold permission to do so. Publication will be no earlier than three months from the date of this favourable opinion letter. Should you wish to provide a substitute contact point, require further information, or wish to withhold permission to publish, please contact the REC Manager Miss Stephanie Macpherson, nrescommittee.southcentral-berkshireb@nhs.net.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised.

Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at <http://www.rdforum.nhs.uk>.

Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of approvals from host organisations.

Registration of Clinical Trials

All clinical trials (defined as the first four categories on the IRAS filter page) must be registered on a publically accessible database within 6 weeks of recruitment of the first participant (for medical device studies, within the timeline determined by the current registration and publication trees).

There is no requirement to separately notify the REC but you should do so at the earliest opportunity e.g when submitting an amendment. We will audit the registration details as part of the annual progress reporting process.

To ensure transparency in research, we strongly recommend that all research is registered but for non clinical trials this is not currently mandatory.

If a sponsor wishes to contest the need for registration they should contact Catherine Blewett (catherineblewett@nhs.net), the HRA does not, however, expect exceptions to be made. Guidance on where to register is provided within IRAS.

You should notify the REC in writing once all conditions have been met (except for site approvals from host organisations) and provide copies of any revised documentation with updated version numbers. The REC will acknowledge receipt and provide a final list of the approved documentation for the study, which can be made available to host organisations to facilitate their permission for the study. Failure to provide the final

versions to the REC may cause delay in obtaining permissions.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Approved documents

The documents reviewed and approved by the Committee are:

Document	Version	Date
Covering Letter		01 April 2014
Evidence of insurance or indemnity	Ref: 5067424	16 September 2014
Interview Schedules/Topic Guides	Female Participants v.1	01 April 2014
Interview Schedules/Topic Guides	Male Participants v.1	01 April 2014
Investigator CV	Academic Supervisor 1 - Peter Appleton	
Investigator CV	Academic Supervisor 2 - Susan McPherson	
Investigator CV	Chief Investigator/ Student - Ruth Jennings-Ho bbs	
Letter from Sponsor		11 April 2014
Participant Consent Form	1	01 April 2014
Participant Consent Form: Consent to Contact Form	1	01 April 2014
Participant Information Sheet: Participant Information Sheet	2	29 April 2014
Protocol	1	12 November 2013
REC application		11 April 2014
Response to Request for Further Information		29 April 2014

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Reporting requirements

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

Feedback

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

Further information is available at National Research Ethics Service website > After Review

14/SC/0240	Please quote this number on all correspondence
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We are pleased to welcome researchers and R & D staff at our NRES committee members' training days – see details at <http://www.hra.nhs.uk/hra-training/>

With the Committee's best wishes for the success of this project.

Yours sincerely



Pp Dr John Sheridan
Chair

Email: nrescommittee.southcentral-berkshireb@nhs.net

Enclosures: "After ethical review – guidance for researchers" [SL-AR2]

Copy to: Ms Sarah Manning-Press, University of Essex
sarahm@essex.ac.uk

Ms Fiona Horton, North East London NHS Foundation Trust, R&D
Department
Fiona.Horton@nelft.nhs.uk

Ref: 2015GC10

Norfolk & Suffolk Primary & Community Care Research Office

Hosted by: South Norfolk CCG

Lakeside 400

Old Chapel Way

Broadland Business Park

Thorpe St Andrew

Norwich

NR7 0WG

Ms Ruth Jennings-Hobbs
North Essex Partnership NHS Foundation Trust
Clinical Psychology Department
The Bungalow
Turner Village Site, Turner Road
Colchester Essex CO4 5JL
United Kingdom

Tel: 01603 257283

Fax: 01603 257292

12 August 2015

E-mail: snccq.randdoffice@nhs.net

<http://nspccro.nihr.ac.uk>

Dear Ms Ruth Jennings-Hobbs

Re: 2015GC10. Couple dynamics and maternal smoking cessation during pregnancy: A qualitative examination of nulliparous women and their partners

REC Number: 14/SC/0240

Chief Investigator: Ms Ruth Jennings-Hobbs

Sponsor: University of Essex

Further to your submission of the above project to the Norfolk & Suffolk Primary & Community Care Research Office your project has now been reviewed and all the mandatory research governance checks have been satisfied. I am therefore pleased to inform you on behalf of Norfolk Community Health & Care NHS Trust that NHS permission (R&D approval) was granted on 12th August 2015 for your study to take place at the following sites:

Norfolk Community Health & Care NHS Trust

You may now begin your study at the above sites. Please note also, if you wish to extend approval to any sites other than those listed above you must apply for this through the Norfolk & Suffolk Primary & Community Care Research Office.

Transfer of data:

- *Transfer of patient identifiable or confidential data must be in accordance with Trust policies.*

NHS Permission is granted on the basis of the information supplied in the application form, protocol and supporting documentation, if anything subsequently comes to light that would cast doubts upon, or alter in any material way, any information contained in the original application, or a later amendment application there may be implications for continued NHS Permission.

Permission is granted on the understanding that the study is conducted in accordance with the Research Governance Framework and the terms of REC favourable opinion. It is understood that SureStart (NCH&C) will be acting as a site and will be responsible for:

Chairman: Ken Applegate

Interim Chief Executive: Mark Easton

Norfolk Community Health and Care NHS Trust Head Office: Elliot House, 130 Ber Street, Norwich, Norfolk NR1 3FR

The Norfolk & Suffolk Primary & Community Care Research Office, hosted by South Norfolk CCG, undertakes research management, design and delivery services for Primary and Community Care across Norfolk & Suffolk

RE: Ethics application (Ref. 13024) - electronic copy

McKee, Lisa C

Tue 16/09/2014 10:53

Thesis

To: Jennings-Hobbs, Ruth <rjennia@essex.ac.uk>;

Dear Ruth,

Re: Ethical Approval Application (Ref 13024)

Thanks very much for sending the electronic copies of the documents.

This is just to let you know that your application for ethical approval has now been approved by Dr Wayne Wilson on behalf of the Faculty Ethics Committee. You will shortly receive a letter confirming this together with a signed copy of your application form.

Best wishes,
Lisa

From: Jennings-Hobbs, Ruth
Sent: 04 September 2014 21:50
To: McKee, Lisa C
Subject: RE: Ethics application - electronic copy

Dear Lisa,
Please find attached the electronic versions of the documents that I submitted earlier this week.
Sorry for my delay in getting them to you!
Please let me know if you require anything further from me.
Best wishes,
Ruth

Ruth Jennings-Hobbs
Trainee Clinical Psychologist
Department of Health and Human Sciences
University of Essex
Wivenhoe Park
Colchester
Essex
CO4 3SQ

From: McKee, Lisa C
Sent: 04 September 2014 11:56
To: Jennings-Hobbs, Ruth
Subject: RE: Ethics application - electronic copy

Hi Ruth,

Clinical and Corporate Governance
659-662 The Crescent
Colchester Business Park
Colchester
Essex

Tel: 0843 507 3637

Ruth Jennings-Hobbs
34 Rochford Avenue
Shenfield
Essex
CM15 8QW

5th August 2014

Dear Ruth,


Re: Research & Development Permissions

I am writing following your research proposal on 'Couple dynamics and maternal smoking during pregnancy'.

As part of ACE Governance processes this letter is to confirm that the ACE Quality and Safety Assurance Group approved the research through the Chairman's action on Friday 25th July 2014

I wish you every success in your research and look forward to discussing the outcomes of your work.

Yours sincerely,



Jayne Hiley
Director of Clinical and Corporate Governance

Managing Director: Lynne Woodcock
Chairman: Richard Kearton

Anglian Community Enterprise (Community Interest Company) providing NHS Services

Registered Address: 659-662 The Crescent, Colchester Business Park, Colchester, Essex, CO4 9YQ

Company No: 7376913

Basildon and Thurrock University Hospitals

NHS Foundation Trust

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Ruth Jennings-Hobbs
Clinical Psychologist in Training
Ida Darwin Centre for Young People
Cambridgeshire and Peterborough NHS Foundation Trust

28/07/17

Dear Ruth Jennings-Hobbs,

Letter of Access – Couple Dynamics and Maternal Smoking Cessation during Pregnancy

As an NHS employee you do not require an additional honorary research contract with this NHS organisation. We are satisfied that such checks as are necessary have been carried out by your employer and that the research activities that you will undertake in this NHS organisation are commensurate with the activities you undertake for your employer. This letter confirms your right of access to conduct research through Basildon and Thurrock University Hospitals NHS Foundation Trust for the purpose and on the terms and conditions set out below. This right of access commences on 28/07/2017 and ends on 30/10/2017, unless terminated earlier in accordance with the clauses below.

You are considered to be a legal visitor to Basildon and Thurrock University Hospitals NHS Foundation Trust premises. You are not entitled to any form of payment or access to other benefits provided by this organisation to employees and this letter does not give rise to any other relationship between you and this NHS organisation, in particular that of an employee.

While supporting research through Basildon and Thurrock University Hospitals NHS Foundation Trust you will remain accountable to your employer Cambridgeshire and Peterborough NHS Foundation Trust but you are required to follow the reasonable instructions of your nominated manager in this NHS organisation or those given on their behalf in relation to the terms of this right of access.

Where any third party claim is made, whether or not legal proceedings are issued, arising out of or in connection with your right of access, you are required to co-operate fully with any investigation by this NHS organisation in connection with any such claim and to give all such assistance as may reasonably be required regarding the conduct of any legal proceedings.

You must act in accordance with Basildon and Thurrock University Hospitals NHS Foundation Trust policies and procedures, which are available to you upon request, and the Research Governance Framework.

You are required to co-operate with Basildon and Thurrock University Hospitals NHS Foundation Trust in discharging its duties under the Health and Safety at Work etc Act 1974 and other health and safety legislation and to take reasonable care for the health and safety of yourself and others while on Basildon and Thurrock University Hospitals NHS Foundation Trust premises. Although you are not a contract holder, you must observe the same standards of care and propriety in dealing with patients, staff, visitors, equipment and premises as is expected of a contract holder and you must act appropriately, responsibly and professionally at all times.

You are required to ensure that all information regarding patients or staff remains secure and strictly confidential at all times. You must ensure that you understand and comply with the requirements of the NHS Confidentiality Code of Practice (<http://www.dh.gov.uk/assetRoot/04/06/92/54/04069254.pdf>) and the Data Protection Act 1998. Furthermore you should be aware that under the Act, unauthorised disclosure of information is an offence and such disclosures may lead to prosecution.

Basildon and Thurrock University Hospitals NHS Foundation Trust will not indemnify you against any liability incurred as a result of any breach of confidentiality or breach of the Data Protection Act 1998. Any breach of the Data Protection Act 1998 may result in legal action against you and/or your substantive employer.

Chairman: Nigel Beverley
Chief Executive: Clare Panniker

Appendix B: Participant Information Sheets

Couple Dynamics and Maternal Smoking during Pregnancy

PARTICIPANT INFORMATION SHEET

Researcher: Ruth Jennings-Hobbs

You are being invited to take part in a study of pregnant women and their partners. You do not have to take part in this study. Before you decide whether or not you would like to take part, please read this information sheet.

What is the purpose of the study?

Smoking cessation services are not effective for all pregnant women, and we are interested in why this might be. We know that it can be very difficult for women to stop smoking when they become pregnant, and partners often play an important role in the smoking cessation process. By speaking to you, we hope to gain a better understanding of how pregnant women try to stop smoking and how their partners feature in this process. We hope that the results of the study will lead to the development of more effective smoking cessation services for pregnant women in the future.

The chief investigator of the study, Ruth Jennings-Hobbs, is currently undertaking a doctorate in Clinical Psychology at the University of Essex. This study forms part of Ruth's doctorate and she intends to write it up as her doctoral thesis.

What will I have to do, if I decide to take part?

If you decide to take part, the researcher will meet with you at your home or at your local clinic to ensure that you understand what is being asked of you and to answer any questions that you might have

She will then arrange to meet with you on a second occasion to conduct two separate interviews. The male participant will be interviewed first and the pregnant female participant second. Each interview will take 60-90 minutes and you will be reimbursed for your time with £20 for each interview.

The researcher will contact you via telephone 2-4 days after your interview, to thank you for your participation and to see whether the interview has left you with any unresolved queries or difficulties. In cases where difficulties have surfaced as a result of the research interviews, the researcher will be prepared to offer information and advice about relevant local support services.

Why are you asking me to take part?

We would like to speak to seven pregnant women and their partners and we are recruiting people via the Smoking Cessation Service that you were referred to. By speaking to seven women and their partners we can be confident that the study will provide results that are as meaningful and useful as possible.

Do I have to take part?

No, you do not have to take part. It is entirely up to you. If you do say that you would like to take part, you can change your mind and withdraw from the study at any time. Your decision will not affect the subsequent care that you receive from any health-care service.

If I decide to take part, what will happen to the information I provide?

Your interview will be audio-recorded using a dictaphone and then anonymously transcribed by the researcher. This means that it will be typed out but your name will not be written on your transcript; instead a code will be used to label your information. Your recording will be securely destroyed after transcription and your transcript will be stored in a locked cupboard in the Department of Health and Human Sciences at the University of Essex. It will be accessible only to the researcher and her supervisors.

Your transcript will be kept locked in a cupboard, accessible only to the researcher, her supervisors, and one other doctoral student. It will be destroyed after 3 years. The staff that you have seen at Maternity Services or the Smoking Cessation Service will not have access to any of the information that you provide.

The findings of the study will be written up as a doctoral thesis and a copy will be deposited in the Albert Sloman Library at the University of Essex. The study findings may also be

written up as academic articles to be published in scientific journals. If you would like to know about the study's findings, please let the researcher know and she will provide you with a brief summary either by post or over the telephone. No identifiable information will be presented in any reports or publications but anonymised quotes may be used.

Will my taking part in the study be kept confidential?

Yes, we will follow ethical and legal practice and all information about you will be handled in the strictest confidence.

There are rare exceptions to the duty of confidentiality that may require the use or disclosure of information gathered during a research interview. This might happen in circumstances where serious concerns were raised about your safety or the safety of the public. If such concerns were to arise, the chief investigator would inform you before making a disclosure.

What are the potential advantages and disadvantages of taking part?

You may feel rewarded to know that you have contributed to a study which may help to improve future services for pregnant women who wish to stop smoking. You may also find it helpful to think about your own experiences of smoking whilst pregnant or having a partner who has smoked whilst pregnant, and to have an opportunity to have your say about your experiences.

On the other hand, you might not want to think about experiences that may have been difficult. The interview will last for up to 90 minutes and you might feel that this is too long.

Who has reviewed the study?

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee. This study has been reviewed and given a favourable opinion by the Berkshire B Research Ethics Committee.

The study has also been reviewed by academic and research supervisors at the University of Essex, and by the Norfolk and Suffolk Community and Primary Care Research Office.

What should I do next?

If you would like to take part, you should sign the consent form that the researcher will give to you.

If you feel you could benefit from assistance in understanding the information presented in this sheet, or if you have any questions about it, you can contact the researcher using the details given at the bottom of this page.

What happens if I don't want to carry on with the study?

You can withdraw from the study at any time, without giving reason. Should you make the decision to withdraw, any information collected from you prior to your withdrawal would be confidentially destroyed and you would not be contacted regarding the research again. This would be without consequence and would not affect the subsequent care that you receive from any healthcare service.

What if there's a problem?

If you have any questions or concerns regarding the study, please contact Ruth Jennings-Hobbs (chief investigator) by telephone on 0795107767 or via email on rjennia@essex.ac.uk.

If you are unhappy with the way that you have been treated during the research process and wish to make a complaint, you can contact Ruth's supervisor to discuss your concerns. His name is Dr Peter Appleton and you can contact him via email on papple@essex.ac.uk or via telephone on 01206 873910.

Who should I contact for further information?

This study is organised by Ruth Jennings-Hobbs as part of her Doctoral studies at the University of Essex, sponsored by the University of Essex, and funded by North Essex Partnership NHS Foundation Trust.

If you have any questions or would like to talk further about this study, please contact Ruth Jennings-Hobbs using the details noted above.

Thank you for taking the time to read this information sheet.

Appendix C: Recruitment Poster

Researcher: Ruth Jennings-Hobbs (Trainee Clinical Psychologist, University of Essex)

Hi there,

Are you **Pregnant**?

Are you a **Cigarette Smoker**?

Or **Trying to Quit** Smoking?

Or **Have you Quit** since you became Pregnant?

Is this your **First Pregnancy**?

Whatever your experience, I'd love to hear about it!

I'm conducting a research study, exploring the smoking-related experiences of pregnant women and their partners. If you and your partner decide you'd like to take part I will meet with you both on one occasion to ask you some questions about your experiences. I expect that I would be with each of you for **30-60 minutes**, and I would reimburse you with **£20 each** for your time. I hope that my study findings will help to improve services for pregnant women in the future.

If you think you might be interested, or you'd like more information, please phone or text Ruth on 07951077697.

Thank you for your time!

Appendix D: Participant Consent Forms

Couple Dynamics and Maternal Smoking during Pregnancy

CONSENT TO CONTACT FORM

Name of Researcher: Ruth Jennings-Hobbs

Please initial box

I have been given a verbal description of the study of smoking cessation during pregnancy.

I consent to my name and telephone number being shared with the study's chief investigator.

I understand that at the present time I am not agreeing to take part in the study, I am agreeing to my contact details being shared with the study's chief investigator.

I understand that the study's chief investigator will telephone me within the next seven days to provide me with further information about the study.

I understand that I am free to withdraw at any time without giving any reason and without any consequences.

Name of participant

Signature of participant

Date

Name of practitioner

Signature of practitioner

Date

Couple Dynamics and Maternal Smoking During Pregnancy

CONSENT FORM

Name of the Researcher: Ruth Jennings-Hobbs

Please initial box

I have read and understood the information sheet providing details of the study of smoking cessation during pregnancy.

I have had the opportunity to ask the researcher questions about the evaluation, and I feel that they have been satisfactorily answered.

I understand that my participation in the evaluation is entirely voluntary and that I am free to withdraw at any time without giving any reason and without any consequences.

I understand that the researcher will be writing a doctoral thesis on the basis of information gathered in this evaluation. This will not contain any personally identifiable information.

I understand that the researcher may also use the information gathered to write further papers in the future.

I understand that my name will not be used in any report but anonymised quotes might be used.

I understand that the researcher will provide me with details of relevant support services should I need to discuss any issues raised in the evaluation interview.

I consent to my interview being audio-recorded.

I agree to take part in this study of smoking cessation during pregnancy.

Name of participant

Signature of participant

Date

Name of chief investigator

Signature of chief investigator

Date

Appendix E: Interview Schedules

Couple Dynamics and Maternal Smoking during Pregnancy

INTERVIEW SCHEDULE: FEMALE PARTICIPANTS

Researcher: Ruth Jennings-Hobbs

1. Could you begin my telling me a bit about your relationship with [partner]? How long have you been in a relationship with [partner]? How did you meet?
2. Were you a smoker when you met? Was he a smoker? Is he a smoker now?
3. And now you are pregnant. Congratulations. I was wondering how many weeks you are now.
4. Was your pregnancy planned?
5. Have your smoking habits changed since you became pregnant? Or before you became pregnant?

If so, could you describe the changes? (Prompts: Frequency? Location? Function?)
6. How do you feel about these changes?

Or

How do feel about having not made changes?
7. How has your partner responded to these changes?

Or

How has your partner responded to you having not made changes?
8. Have you received support to make changes to your smoking habits?

If so, could you please tell me about the support you have received?
9. Has your partner supported you to make changes?

If so, how?
10. What support have you found helpful?
11. What support have you found unhelpful?
12. Has your partner's smoking habits has changed since you became pregnant?

If so, in what way?
13. How do you feel about these changes?
14. Do you smoke together **with** your partner during a typical day?

If so, tell me about those times (Prompts: Where? When? How many? Who initiates? How does it feel?)

15. Have you noticed any changes in the times you smoke with your partner, since becoming pregnant?

If so, what has changed? (Prompts: Frequency? Feeling?)

16. Do you have discussions about smoking, with your partner, during a typical day? (Prompts: Frequency? Function?)

17. Have these discussions changed since you became pregnant?

If so, tell me what has changed (Prompts: Frequency? Function?)

18. Do you smoke **without** your partner during a typical day?

If so, tell me about those times (Prompts: Where? When? How many? Alone or with others? Does your partner know? How does it feel?)

19. Have you noticed any changes in the times you smoke without your partner, since becoming pregnant? If so, what has changed? (Prompts: Frequency? Function?)

20. Do you feel that the recent changes in your smoking habits have impacted upon your relationship with your partner? If so, in what way?

Or

Do you feel that you not changing your smoking habits since becoming pregnant has impacted upon your relationship with your partner? If so, in what way?

Couple Dynamics and Maternal Smoking during Pregnancy

INTERVIEW SCHEDULE: MALE PARTICIPANTS

Researcher: Ruth Jennings-Hobbs

1. Could you begin by telling me a bit about your relationship with [partner]? How long have you been in a relationship with [partner]? How did you meet?
2. Are you a smoker? Were you a smoker when you met [partner]?
3. Was [partner] a smoker when you met? Is she a smoker now?
4. And now [partner] is pregnant. Congratulations. Was the pregnancy planned?
5. Have your partner's smoking habits changed since she became pregnant? Or before she became pregnant?

If so, could you describe the changes? (Prompts: Frequency? Location? Function?)

6. How do you feel about these changes?

Or

How do you feel about her not making changes?

7. How do you think your partner feels about it?
8. Have you found yourself able to support your partner to make changes? (Prompt: How?)
9. Have your smoking habits changed since your partner became pregnant? If so, how?
10. How do you feel about these changes?

Or

How do you feel about having not made changes?

11. Do you smoke together **with** your partner during a typical day?

If so, tell me about those times (Prompts: Where? When? How many? Who initiates? How does it feel?)

12. Have you noticed any changes in the times you smoke with your partner, since she became pregnant?

If so, what has changed? (Prompts: Frequency? Function? Feeling?)

13. Do you have discussions about smoking, with your partner, during a typical day? (Prompts: Frequency? Function?)

14. Have these discussions changed since she became pregnant?

If so, tell me what has changed (Prompts: Frequency? Function?)

15. Do you smoke **without** your partner during a typical day?

If so, tell me about those times (Prompts: Where? When? How many? Alone or with others? Does your partner know? How does it feel?)

16. Have you noticed any changes in the times you smoke without your partner, since she became pregnant?

If so, tell me what has changed? (Prompts: Frequency? Function?)

17. Do you feel that the recent changes in your smoking habits have impacted upon your relationship with your partner? If so, in what way?

Or

Do you feel that you not changing your smoking habits since becoming pregnant has impacted upon your relationship with your partner? If so, in what way?

Appendix F: Socio-Demographic Questionnaire

Date of Birth _____

Occupation _____

Do you currently receive any financial benefit support? (please circle):

Yes

No

If yes, what type of benefits do you receive?

Is your home (please circle):

Privately Rented
with Parents

Housing Association

Council Property

Living

Owned

Other: _____

What is your highest level of education? (please circle):

No formal qualifications

GCSEs

ALevels

Professional Qualification

Degree

Postgraduate Qualification

How many weeks pregnant are you/your partner? _____

Do you have any other children? (please circle):

Yes

No

If yes, how many? _____

Was the current pregnancy planned? (please circle):

Planned

Unplanned

How long have you been in a relationship with your current partner? _____

Do you smoke cigarettes? (please circle):

Yes

No

If yes, roughly how many cigarettes do you smoke per day? _____

Appendix G: Transcript Extract

I = Interviewer

R = Respondent

I: Are there any particular times of the day for example, that you would tend to have a cigarette together or particular-?

R: Yeah. At the weekends we would have breakfast and then have a coffee and a cigarette type of thing and then it would be in the evenings usually with other friends.

I: Yeah okay so having the coffee and a cigarette after breakfast, what was that like?

R: Yeah, I think since I have smoked relatively regularly since I was in my early 20's it felt like a treat or something and it felt like a way of marking the weekend and a bit like being on holiday, sitting out on the balcony. Yeah, it has those kind of relaxing associations with it and it was not something I would do during the week. I've never had a cigarette before going to work.

I: Okay, oh interesting, so there was something special about the weekend.

R: Yeah, just calm and..[trails off]

I: And then the cigarettes that you have together towards the end of the day, how would you describe those ones?

R: From my memory it's like being in the pub and going outside and having a cigarette.

I: Would that be just the two of you?

R: Yeah, like lots of our friends in [REDACTED] smoked, so yeah it was sometimes a wider social thing.

I: Yeah and did it feel like there was something special in you sharing those moments or did it feel quite run of the mill and just something that happened?

R: Yeah it just felt run of the mill really, yeah.

I: And why do you think that is?

R: I think it was just so normal and because so many of our friends in [REDACTED] smoked, yeah.

I: Okay.

R: We'd all agree to meet in the pub and all end up standing outside the pub.

I: Yeah.

R: It seems a bit silly, but yeah.

I: It was quite common in your social circle...

R: Yeah.

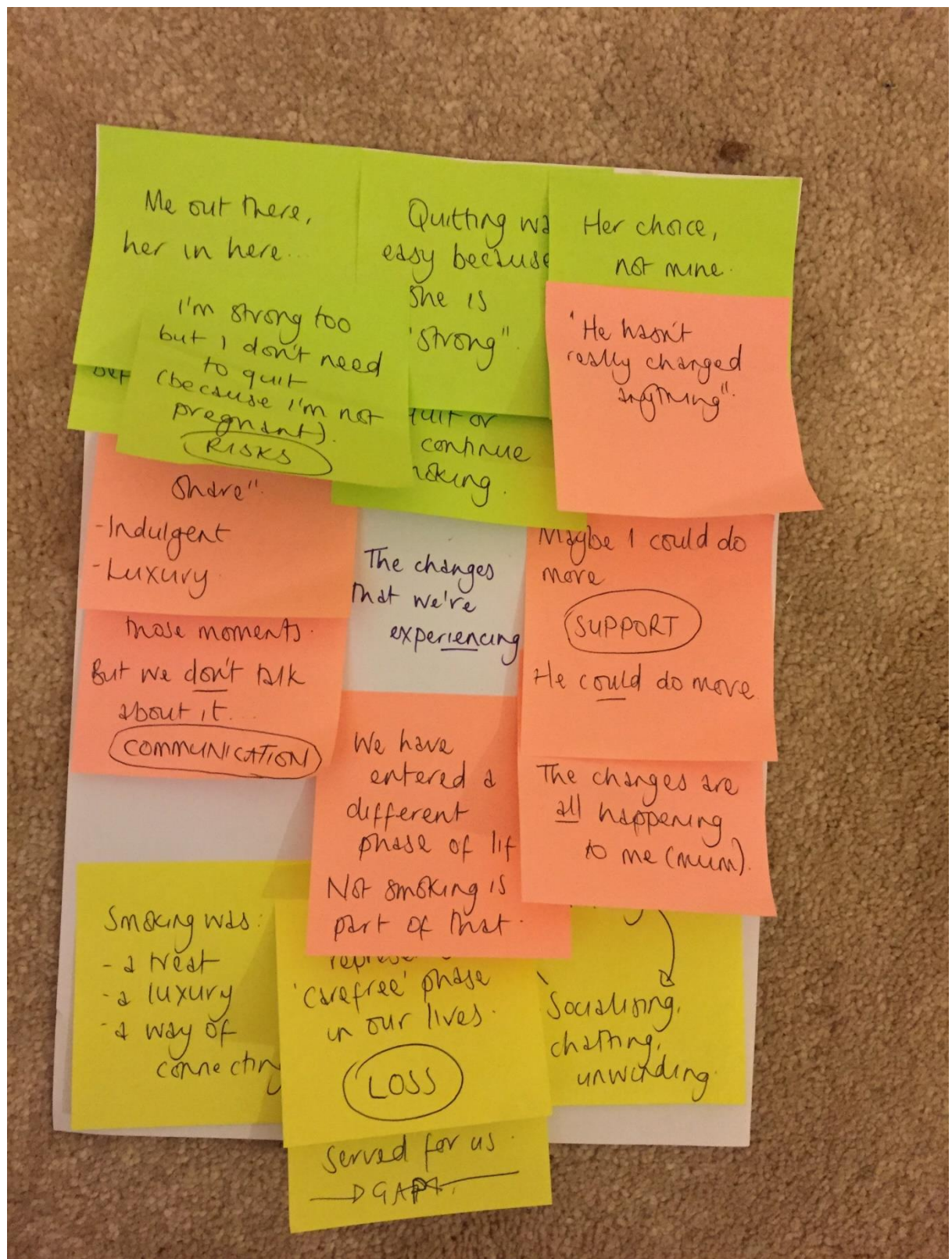
I: And you don't have those moments now and it feels like socially things are quite different now anyway because you've not been feeling so well, and I presume you've not been in [REDACTED] at the weekends?

R: No.

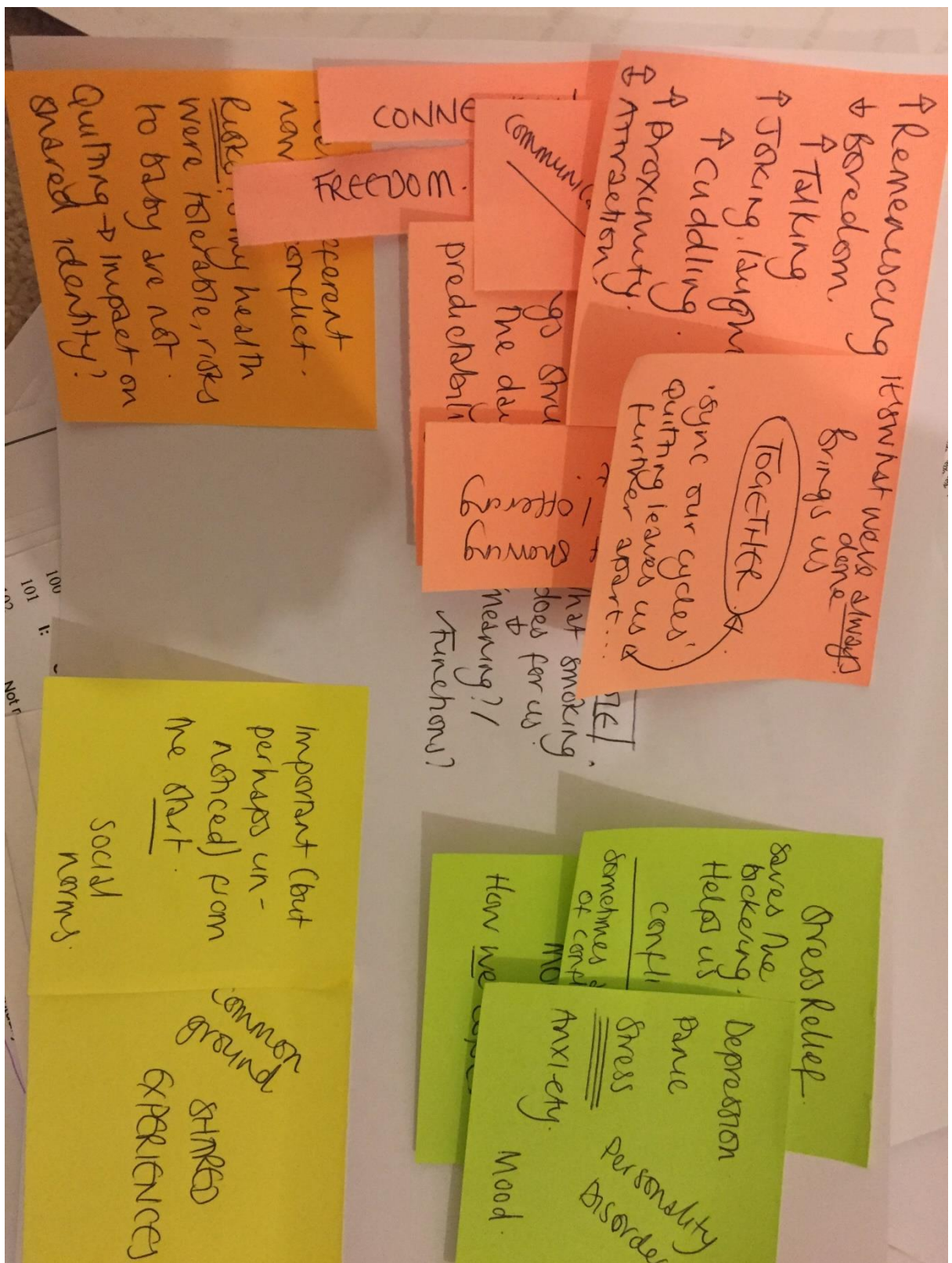
I: Have there been times when you've thought about not doing those things anymore? Not having the moments, going outside, having a smoke, grabbing the coffee and the-?

R: Yeah I miss them.

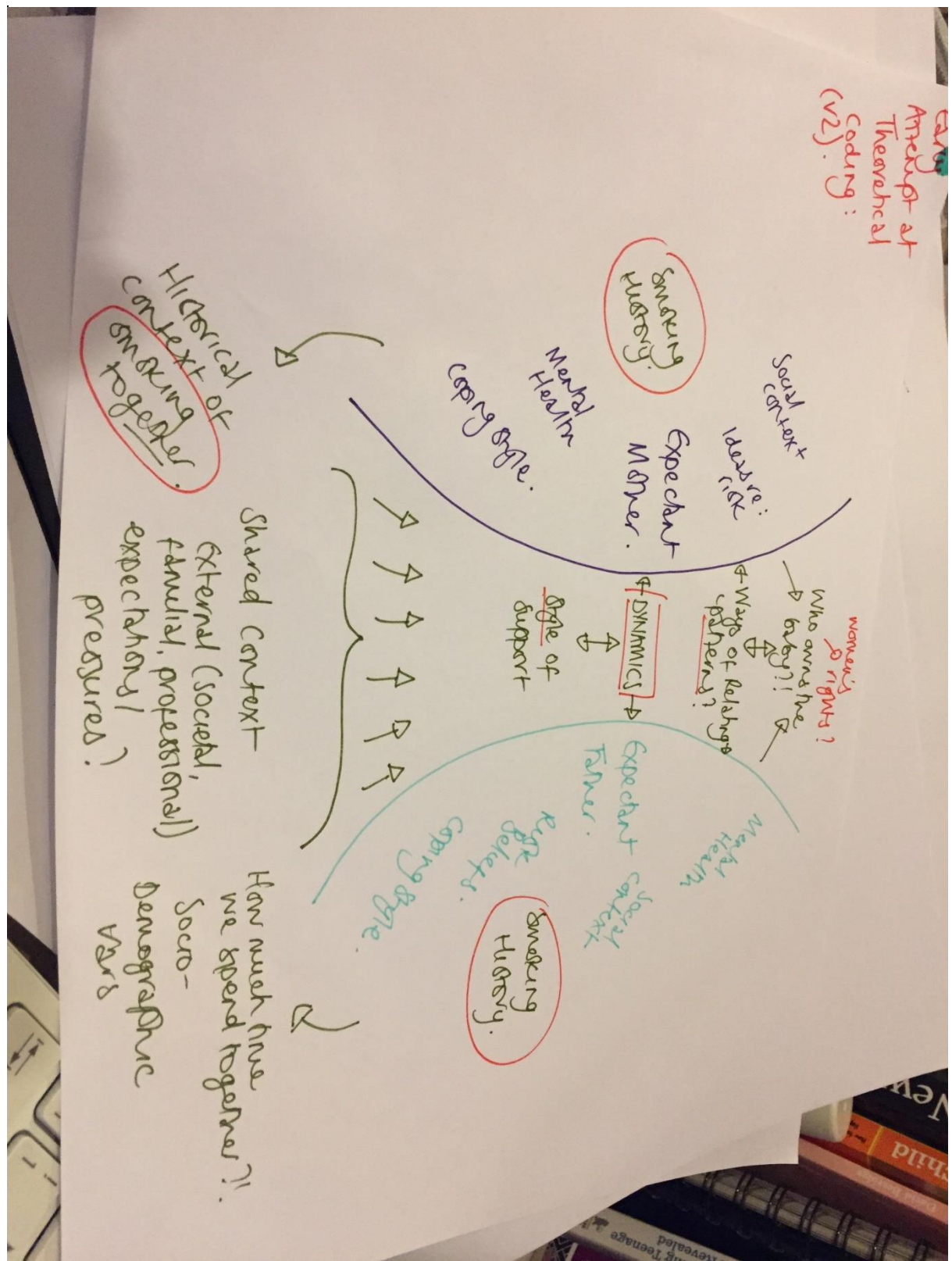
Appendix H: Open Coding



Appendix I: Example of Focused Coding



Appendix J: Example of Theoretical Coding



Appendix K: Example of Memo Writing

Summary
[redacted] + [redacted]
Couple: 5.
[redacted] quit smoking as soon as she discovered her pregnancy. She said that this was an easy decision and easy to execute (because of family norms, cultural influences, meaning of smoking - socialising, meaning of pregnancy?) [redacted] has not changed his smoking habits. [redacted] is displeased about this but [redacted] reportedly has not thought about it until the research interview(?). They both speak fondly of historic shared smoking experiences but have not talked about them together.
"It was how we'd sync our cycles".

... smoke rv ne (y u let him?)

6/9

[REDACTED] (593-599):

Is she using this as a way of keeping him close, like: if you don't stay with me I'll smoke more and this will harm our (your) baby... Or is this unfounded?

*R ↳ PETER'S THOUGHTS??!