

THE FAMILY IN FLUX: A MIXED METHODS STUDY ON MEN'S EXPERIENCES
OF ANTENATAL GENETIC SCREENING

by

SANDI DHEENSA

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College of Medical and Dental Sciences
University of Birmingham

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ABSTRACT

Women's views of antenatal screening have been widely researched, but men's remain under-explored. The original contribution of this research was to conduct a mixed-methods study about men's experiences specifically. In-depth interviews were firstly conducted with twelve men. Six women were interviewed about their views on men's involvement. A grounded theory was developed, which was that men began developing a prenatal paternal identity and a schema of their child. These conceptualisations were reinforced or distorted by screening, causing their ideas and feelings about their growing family to be in a state of flux. To explore this theory with a more diverse group, a questionnaire was designed, pretested (n=30), piloted (n=53) and administered to 200 men. Exploratory factor analysis showed prenatal paternal identity and child-schema consisted of 'bonding and closeness', 'genetic relationship' and 'imagined interactions'. Regression analyses showed investing time in screening, seeing more ultrasound scans, and making screening decisions, predicted higher scores on 'bonding and closeness'. Investing time and being younger predicted higher scores on 'genetic relationship'. Investing time, feeling fetal movements, being of a higher socioeconomic status and being younger predicted higher scores on 'imagined interactions'. Longitudinal research is now required to identify implications for men, women and children.

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DISSEMINATION

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CHAPTER 1

MEN'S EXPERIENCES OF SCREENING AND PREGNANCY: INTRODUCTION AND BACKGROUND

1.1 Introduction, aim and research questions

This thesis aimed to answer the research question, 'what are men's experiences of antenatal genetic screening?'. To introduce this topic, there is firstly a description of the types of antenatal screening and prenatal diagnostic tests that are offered within the NHS. Subsequently, research involving women is outlined to highlight the psychosocial issues individuals face when participating in screening. The potential benefits and problems with men's involvement are then explored, followed by a discussion of the current policies regarding men's involvement in screening.

1.2 Antenatal genetic screening and prenatal diagnosis

In Great Britain, women see a team of healthcare professionals during pregnancy, including midwives, obstetricians, physiotherapists and sonographers. The first appointment is the booking-in appointment, where midwives give women information and take their medical history. Women are routinely offered ultrasound scans to check for gestational age, tests for infectious diseases such as HIV, and antenatal genetic screening, which is the focus of the current study. Antenatal genetic screening refers to the biochemical (i.e. blood) and ultrasound screening tests that are used to estimate the risk of a fetus being affected by a genetic or chromosomal anomaly (NICE, 2008). Below is an outline of the screening and diagnostic tests that are commonly offered, although the availability of tests and the number of markers (i.e. signs of anomaly) screened for varies throughout Great Britain (Armstrong and Harcombe, 2008). If

screening tests are taken up, they have to be administered within a certain timeframe to receive accurate results (Reed, 2012). All tests are optional and are conducted by midwives and sonographers for those who accept.

1.2.1 First trimester screening

Screening begins with a maternal blood test, carried out between 8 and 10 weeks' gestation to check whether the mother is a carrier of a haemoglobinopathy (an anomaly with blood cells), such as thalassaemia. If inherited, thalassaemia can cause skeletal deformities, heart failure, liver cirrhosis, diabetes and death in children under 5 if left untreated (NICE, 2008). In high-risk populations, for example African-Caribbean or Pakistani people, a sickle-cell carrier test is also given. Sickle-cell can cause chronic and severe pain, stroke, a weakened immune system and disorders of the lungs and kidneys (NICE, 2008). Other haemoglobinopathies that are tested for in high-risk populations include Haemoglobin E, Haemoglobin C and Haemoglobin D-Punjab.

If women are identified as carriers, men will also need to be tested to calculate the risk that the fetus will inherit the condition. Hence engaging men is crucial for these tests. However, a cluster-randomised trial by Dormandy et al. (2010) with 1421 participants showed that men's uptake of haemoglobinopathy screening was low—between 0% and 2% by the recommended gestation of 77 days and only 3% and 8% overall. Prospective parents might therefore be under-informed and under-prepared for the possibility of having a child with a haemoglobinopathy. Moreover, if an anomaly is diagnosed at a later gestation, a more invasive procedure would be required to terminate the pregnancy if this is what the woman chooses (Royal College of Obstetricians and Gynaecologists,

2010).

The second blood test is used to check the risk of chromosomal anomalies, such as Down syndrome, which is caused if there is a third copy of chromosome 21. It can cause severe learning disabilities, congenital heart disease and sight and hearing problems (NHS Choices, 2010). The blood test is carried out between 11 weeks and 13 weeks and 6 days and is referred to as serum screening (NICE, 2008).

An ultrasound scan called a nuchal translucency scan or nuchal fold scan is also administered within the same timeframe. Like maternal serum screening, it can help to determine the risk of conditions such as Down syndrome. During the scan, the amount of fluid collected behind the fetal neck, in an area called the nuchal fold, is measured. A measurement above or below the average indicates a higher chance of the fetus being affected by a chromosomal anomaly.

First trimester screening can involve a nuchal translucency scan alone, or a 'combined test' (a test for two proteins/hormones called human chorionic gonadotrophin and pregnancy-associated plasma protein-A, plus the scan), depending on the availability at different trusts, the decision of the parents and the gestation at booking-in visit. The result of these tests is used to obtain a risk score for the fetus. Women who score below an established cut-off are considered to be at high-risk (NHS FASP, 2011).

1.2.2 Second trimester screening

Another blood screening test is offered between 15 and 20 weeks to test maternal blood for various hormones and proteins that would indicate an elevated risk of fetal

anomalies, such as Down syndrome, Edward's syndrome and Patau's syndrome.

Edward's and Patau's syndromes are serious complications that can result in intrauterine death, or death shortly after birth (NHS FASP, 2012a; 2012b). Second trimester serum screening may be in the form of a double test (testing for human chorionic gonadotrophin and, unconjugated estriol), triple test (with the addition of alpha-fetoprotein) or a quadruple test (with the addition of inhibin A). Alternatively, an integrated test (a combined test in the first trimester, followed by a test for unconjugated estriol, alpha-fetoprotein and inhibin A at 15–20 weeks') or a serum integrated test (integrated test without nuchal translucency scan) may be offered. Again, there are regional variations.

An ultrasound scan, called the structural anomaly scan, is also offered at around 20-weeks' gestation to check for anomalies including neural tube defect, such as spina bifida and anencephaly. Both are severe deformities of the spine and brain. Anencephaly is so severe that the child would not survive birth. Like first trimester screening, there is a national cut-off, and if the woman scores below this she is classed as high-risk (NHS FASP, 2011).

1.2.3 False positives and false negatives

Blood and ultrasound tests have a false-positive rate of 3-5%, meaning three to five fetuses out of 100 will be screened as high-risk for Down syndrome when they are unaffected, and a false-negative rate of 30-35%, which means for every 100 affected fetuses, a Down syndrome diagnosis will go undetected in 30 to 35 (NHS Choices, 2010). The threshold for risk is set so that it is low enough to reduce the chances of a

false-positive result, but high enough so actual cases have a good chance of being detected (NHS FASP, 2011). The potential for false results is a limitation of screening and testing that expectant parents might consider when deciding whether to undergo the procedures.

If a screening test suggests there is a high-risk of the fetus being affected by an anomaly, couples are offered genetic counselling and more invasive prenatal diagnostic tests.

Diagnostic tests may also be offered where there is a family history of genetic or chromosomal conditions. Since the risk of having a child with Down syndrome rises with age, for example from 1 in 800 for women aged 30-34 and 1 in 385 for women aged 35-39, women aged 35 years old or above may also be offered diagnostic testing (NHS Choices, 2010; NICE, 2008). These diagnostic tests are discussed next.

1.2.3 Chorionic villus sampling

This diagnostic test is offered before 10-weeks' gestation in high-risk pregnancies.

There are two types, which are transabdominal and transcervical. The former involves a needle being passed through the woman's abdomen and into the uterus to sample part of the developing placenta, known as chorionic tissue, which has the same genotype as the fetus. The latter involves the insertion of a tube through the vagina and cervix.

Chorionic villus sampling has around a 2% risk of miscarriage (NHS Choices, 2012), a false-positive rate of 1-2%, and a false-negative rate of 2% (NHS Choices, 2010).

1.2.4 Amniocentesis

Amniocenteses are offered between 15 and 20 weeks of a high-risk pregnancy. A needle

is passed through the woman's abdomen and uterus to sample the amniotic fluid, which contains fetal cells. These are then examined for various chromosomal and genetic anomalies. Amniocentesis introduces a 0.5-1% risk of miscarriage (NHS Choices, 2010), and has a false-positive and false-negative rate of less than 1% (NHS Choices, 2010).

1.2.5 Non-invasive prenatal diagnosis

This test is conducted via maternal blood tests and has recently been introduced in the NHS to diagnose X-chromosome linked disorders, such as Duchenne muscular dystrophy. Currently, the NHS does not offer non-invasive testing for specific genetic and chromosomal conditions (Chiu et al., 2009; Lo et al., 2007; RAPID, 2012).

1.3 Women's experiences of screening

Women's experiences of screening have received much attention in psychological, sociological and health research. The reasons for this attention are multiple and inter-related, a major one being that screening can be a gateway to major decisions in pregnancy.

Women's reasons for accepting or declining screening are numerous. Some women accept screening and further testing to know whether their child will be born with an anomaly. Other women decline screening because they would not accept prenatal diagnosis or termination. Some choose not to participate in screening because of the worries it could cause—these women rationalise that if their own mood is better, then the fetus will be healthier too (Reid et al., 2009). Some might accept screening and

sometimes prenatal diagnosis even if they would not terminate a pregnancy, to prepare for the possibility that a child with a disability might be born (Reid et al., 2009; Heyman et al., 2006). For some women who have worked with children with Down syndrome, or have affected family members, the idea of a child with Down syndrome being called a “risk” seems discriminatory, and prenatal diagnosis is as a result seen as less valuable (Rapp, 2000). Whatever their reasons, it is important that women make informed choices (NICE, 2008), which is a common focus of antenatal genetic screening research. A related topic that has received some attention is the psychological and emotional impact of screening and decision-making on women.

1.3.1 Informed choice and psychological impact

As Dormandy et al. (2002) write, informed choice is first what that individual knows about screening, and second whether they make choices in line with their values. That is, whether women who have a positive opinion of screening accept it, and whether those who have a negative opinion of it, for whatever reason, refuse it. Informed choice in antenatal genetic screening is of particular interest because as Williams et al. (2005) wrote, “this is an area of medicine where, rather than being strategically introduced, antenatal screening programmes tend to ‘creep in’, often leading to a subtle but rapid process of incorporation, routinisation and consequent consumer demand” (p. 1989).

Research suggests that women do not make explicit, informed choices to undergo screening tests. However, these women do not see this as a problem, since tests are non-invasive, carry no risk to the fetus, and are endorsed by trusted authority figures, i.e.

midwives in the NHS (Reid et al., 2012; Tsianakas et al., 2012). A consequence, then, of antenatal screening being offered routinely is that the risks posed by screening are not processed as thoroughly by women, or perhaps presented as explicitly by healthcare professionals, as may be the case if screening was specifically sought out by women.

For some women, handling screening information can have an iatrogenic effect of increasing anxiety or uncertainty, rather than providing reassurance. Women are made to process large amounts of information and make decisions within short timeframes about what tests they want to take-up. Some women worry that they may forget to make appointments for tests at the correct time (Reed, 2012). The actual screening procedures can also have adverse effects. For example, couples in Sandelowski et al.'s (1994) study felt that ultrasound scans—those given throughout pregnancy rather than those specifically used for screening—created a sense of uncertainty, unease and ambiguity because of the indecipherable image of the fetus. Some women felt more distanced from the fetus as they became more ‘acquainted’ with it, feeling that the fetus was becoming its own person, separate from the woman. In contrast, other participants in the study began seeing it as a ‘person’ or a ‘baby’, rather than a “little thing”, causing them to feel emotionally closer to their fetus (Sandelowski et al., 1994, p.604). As well as being a time when a ‘thing’ becomes a ‘baby’, ultrasound scanning is a time when anomalies can be detected (Draper, 2002; Rapp, 2000; Sandelowski, 1994). Any decisions that need to be made about further testing or termination can become more morally imbued as a result. For some women, any joy or emotional connection they feel to their fetus at that moment must be controlled, in case the scan shows something is wrong (Lawson et al., 2006; Rapp, 2000). As Katz-Rothman (1994) wrote, the uncertainty of whether a

fetus will be affected by an anomaly or not creates a 'tentative pregnancy'. Due to the potential inaccuracies in screening results, some women never feel fully reassured, even if they receive a low-risk result.

When there is a high-risk result, women are confronted with statistics and risk scores, which some find intimidating, confusing and frightening (Green et al., 2004; Reid et al., 2009). Women often know little about the conditions that are screened for and want more information about what life with an affected child would be like, rather than receiving risk scores alone (Carroll et al., 2012; Pilnick and Zayts, 2012).

Reid et al. (2009) also found that women with a high-risk pregnancy questioned their ability to mother a child with a disability, experiencing self-doubt and ambivalence about future motherhood. Women worried about the additional costs and strains that a child with additional needs might place on the existing family, particularly if women already had young children who they felt may receive less attention if such a child were born (Rapp, 2000).

Women may accept screening without the realisation that tests have a false-positive or false-negative rate. If they receive a high-risk screen, they are then forced to consider tests that pose a risk to the fetus (Björklund et al., 2012; Dormandy et al., 2002; Dormandy et al., 2006; Heyman et al., 2006; Reid et al., 2009). These issues illustrate the problem with making uninformed choices.

Because of the problems women face in screening, some of the feminist literature

suggests that reproductive technologies and antenatal genetic screening tests diminish choice for women. The offer of screening and prenatal diagnosis limits women's autonomy and sense of control (Katz- Rothman, 1994), because women face sociocultural pressures to take up screening and accept further testing if a high-risk result is received. This acceptance is seen as being for the good of the baby and thus a part of good mothering (Tsianakas et al. 2012). Choice is also limited because if a diagnosis is made, women are limited to two potentially burdensome options, which are to terminate the pregnancy, or raise a child with a disability (Ettore, 2002; Katz- Rothman, 1994; Rapp, 2000; Ward, 2005). As illustrated, there are various considerations, advantages and disadvantages of screening.

The need to undertake the major decisions required around antenatal screening can cause considerable stress and anxiety for women, and ultimately if the pregnancy is ended, the termination is performed on their bodies (Locock and Alexander, 2006). This probably explains why research has been so focused on women's views, experiences and health outcomes and possibly explains why men have been marginalised in the literature. Involving men can introduce more issues.

1.4 Men's involvement in screening: some considerations

Men's involvement in screening may consist of various actions, such as their attendance at antenatal appointments, their participation in seeking and receiving screening information, and their participation in making decisions about screening. It may also consist of their opinions, views and feelings about screening tests and the conditions that are screened for. There are potential benefits of men being involved in screening,

but also potential problems.

1.4.1 Women's views on men's involvement

If men are not involved in screening, the process could be more difficult for women. Evidence suggests that some women want input from men when making screening decisions, particularly since decision-making is burdensome, and the decisions made can have a long-term impact on the lives of couples (Ahmed et al., 2005; Aune and Möller, 2012; Locock and Alexander, 2006; Markens et al., 2003). For example, Rapp (2000) found that white middle-class women were especially likely to refer to the pregnancy as being “ours” rather than “mine”, and encourage men to participate in decision-making about prenatal diagnosis and abortion. Rapp (2000) and Henderson (1999) also found that the support men gave to women and their attitudes towards abortion and/or fathering a child with a disability played a large role in their decisions of whether to continue with a pregnancy or not. In more recent research by Jaques et al. (2004), 79.8% (387/485) of women undergoing screening or diagnosis and 73.9% (116/157) of those not undergoing tests reported that their partner strongly influenced their decisions. Women in Jaques et al.'s study were not asked whether they wanted their partners involved in decision-making, or if they felt pressured to make a decision that pleased their partners.

In their study with 1667 pregnant women, Van den Berg et al. (2008) created a model for predicting women's intentions to undergo antenatal screening for Down syndrome. In support of previous research (Michie et al., 2004), the most predictive factor was subjective norm. This construct looks at the total set of accessible normative beliefs

about the behaviour, and was measured in their study by asking women what their partners and midwives thought about screening. Women were also asked about their motivation to comply with the opinions of people like partners and midwives. These results indicate that the views of partners, among others, were more influential in women's uptake of screening than the perceived risk of having a child with Down syndrome, perceived severity of Down syndrome, attitude towards prenatal screening and termination, and response efficacy—i.e. the perceived efficacy of screening in lowering the chances of having an affected child. Again, women were not asked whether they actually wanted their partners to be involved in decision-making or not. However studies such as those by France et al. (2012), Green et al. (2004) and Humphreys et al. (2003) suggest that women want their partners included in managing antenatal information.

Some research with women suggests that men are indeed involved in screening. For example, Redshaw and Heikkila (2010) conducted a study with 5333 women who gave birth within a two-week period. Of these women, 88% of partners attended one or more ultrasound scans, 40% sought pregnancy information, and 56% participated in decision-making. Eighty-three percent of women thought healthcare professionals communicated with men very or quite well. Nevertheless, the reliance of women's proxy-reports about men's involvement limits the insight into men's personal experiences of antenatal screening, with regard to the exact nature of their participation, and their interactions with staff. The limitations of proxy-reports are further illustrated by Skirton and Barr (2009). In their study, 79.3% of the 111 respondents, 100 of whom were women, stated that both parents made screening decisions. At the same time, only 31.5% reported

discussing decisions with their partners, and 19.8% said they had discussed decisions a little. Therefore almost a third of those who claimed that their decision was jointly made had not actually discussed it with their partners. Further research was therefore needed to determine how involved men feel and what their experiences of screening are.

1.4.2 Potential benefits of involving men

Contributing to decision-making about screening is just one possible benefit of men's involvement in screening. Another benefit for women is that if there are two people to receive and process screening information, decision-making can be more informed and shared between the couple. Nonetheless, in Reed's (2012) study, women felt midwives gave information to them alone and not men, meaning women had to disseminate this information to their partners. Sometimes, they felt they were not given enough time to do this before a decision about screening and testing needed to be made and women ended up making decisions alone as a result. If men were in attendance at appointments, and if midwives spoke to the couple, rather than the women alone, there could be more time for making informed decisions. Men's involvement would also mean that if women were given bad news, men would be able to support them (Locock and Alexander, 2006).

There is also a potential benefit to women's physical health. Men who are involved in the pregnancy more generally can encourage women to eat healthily and take exercise during pregnancy (Ogle et al. 2011). Women who smoke are also more likely to reduce smoking if their partners support their smoking cessation or reduce their own smoking (Duckworth and Chertok, 2012; Homish et al., 2012).

There are possible benefits for men and children. Early paternal involvement, for example attending ultrasound scans, feeling the fetus move and attending birth classes, can predict increased participation, such as playing and reading with the child, up to three years after birth (Bronte-Tinkew et al., 2007; Cabrera et al., 2008). Men's involvement in their child's early years, across domains such as discipline, teaching, financial support and affection, can in turn positively impact on children's pro-social behaviour, mental health and educational attainment (Flouri, 2005; 2008; Flouri and Buchanan, 2003a; 2003b; 2003c; 2004). Whether screening is an appropriate way to involve men in pregnancy is contested, however. In a Swedish study by Hildingsson and Sjöling (2011) that sampled 655 men, mere attendance at appointments was not sufficient to produce a sense of engagement and involvement in the pregnancy. Being expected to attend antenatal appointments, but feeling uninvolved by midwives, was associated with feeling unsupported. Being unsupported was in turn associated with seeing antenatal visits as unhelpful for becoming involved with the baby. Draper and Ives (2010) also suggest that if men attend antenatal services but have no role to fulfil, they might feel redundant or helpless, and these feelings may persist once the child is born. What 'involvement' means to men therefore needs further research.

1.4.3 Potential problems with men's involvement

Involving men in antenatal screening might limit women's choice and autonomy further if women feel pressured to make certain decisions that would please men. For example, women in studies by Markens et al. (2003) and Browner and Preloren (1999) wanted to please their partners and protect themselves against any blame, so ceded the decision of

whether to undergo amniocentesis to their partners. It is possible that these women felt coerced, pressured and controlled into ceding these decisions, which highlights the delicate balance between involving men without compromising women's autonomy. Healthcare professionals have recognised the need to maintain this balance. Midwives in Reed's study (2009b) worried about involving men, discussing that at times, men whose wives could not speak English seemed to be making decisions without explaining them to women. Some women may not want their partners involved in case they disagree with their opinions; for example, Rapp (2000) found that women from Spanish speaking communities wanted amniocenteses, but thought their partners would object, so did not discuss the test with them and planned to claim they had experienced a miscarriage if they decided to abort.

A related problem of involving men is that there would be less chance for midwives to speak to women alone and determine whether there was a risk of domestic violence, and less opportunity for women to speak to staff members in confidence about any issues, such as drug or alcohol use (NICE, 2008). Nevertheless, engaging men may also be useful to assess attitudes and behaviours of prospective fathers in case there were issues such as hostility and rejection of the pregnancy that may be a cause for concern to healthcare professionals.

1.5 Recognition in policy

In policy documents, the positive impact of men's involvement in pregnancy has been recognised but few are based on research with men, or outline the practicalities of how men can be included (COMAB, 2009; NICE, 2008; Department of Health, 2009a).

Some limited guidance is provided by the Department of Health (2009b) in the 'Healthy Child Programme'. It is suggested that the father's health and well-being should be assessed by the twelfth week of pregnancy as part of the routine health and development reviews provided for expectant parents in pregnancy. There is also a consultation underway to extend paternity leave so that men can attend the two ultrasound screening tests during pregnancy (Department of Business, Skills and Innovation, 2011), based on research by Draper (2002) that suggests seeing the scan can instigate a bonding process in men towards the fetus. Giving men this leave could be important, as work commitments and constraints are one reason why men sometimes do not attend antenatal appointments (Reed, 2012).

Practical guidance on how to involve men is provided by the Royal College of Midwives (2011) in their recent guidance on how to involve men in the antenatal, intra-partum and post-birth phases. The guide is somewhat limited because much of the research it references is from outside of the UK, in countries like Australia and Sweden. Its relevance for men in the NHS is thus questionable. There is also little information regarding screening, for example on how to get screening information to men, whether men should be involved in making decisions about screening and how conflict between men and women regarding tests should be dealt with. Nonetheless, various useful tips are provided, for example, encouraging women to attend early antenatal appointments with their partners, making appointments at times when men can attend, and recording details about men.

1.6. The need for research with men

The need for research with men is particularly urgent because of the rapidly growing use of non-invasive prenatal diagnosis. These tests require only women's consent, meaning men's genetic information will soon be more easily accessed and paternally inherited conditions more easily identified. Non-invasive tests could therefore pose a challenge to "paternal autonomy" (Wright, 2009, p. 17), i.e. men's autonomy over whether their genetic material is accessed. More research is needed on men's experiences and views on screening before non-invasive tests are made routine, so that their needs as expectant fathers can be met.

Another issue that makes men's involvement in screening a timely topic is that information about screening that was previously given by midwives to women is now easily accessible by men online (Reed, 2012). What was previously a knowledgebase guarded by women is now accessible to men too. Men's involvement in screening may therefore be increasing, but there remain few studies about men. As outlined, there are various potential benefits of men being involved in screening, not least the positive impact partners' involvement can have on women's screening experiences. There are also potential problems if men are more involved in screening. To work out these complexities, research is required with men to gain their views on involvement and explore the issues in more detail. The few studies that have looked at men's experiences are synthesised in the next chapter to present a consensus on what is currently known about men's experiences and involvement in screening.

1.7 Chapter summary

Antenatal screening involves ultrasound scans and blood tests that can determine the risk of a fetus being affected by a genetic or chromosomal anomaly. The screening process begins with blood tests for haemoglobinopathies, followed by further blood tests and scans for conditions such as Down syndrome. All tests have a false-positive and false-negative rate, so if a high-risk result is returned, women and their partners are offered prenatal diagnostic tests to confirm whether the fetus is indeed affected. There is a large amount of evidence to suggest that women do not always make informed choices about screening. These women may be unprepared for high-risk screening results.

Evidence also suggests that women are made anxious by screening, and this anxiety does not always dissipate if a low-risk score is given, because of the potential for inaccurate results. Women are also made anxious because they have to handle complex information and make decisions about sensitive issues, such as termination. Decision-making can therefore be burdensome for women. Involving men may ease or exacerbate this feeling for women, since they may assist or pressure women into making decisions.

A related issue is that midwives may be less able to check whether women are experiencing domestic violence if men attend appointments. Nonetheless, these potential problems are balanced by the potential benefits of including men, for example, helping women to manage information and make decisions. Men's involvement in pregnancy more generally can have a positive impact on women's physical and mental health, and can also lead to greater involvement with the child in later life. However, whether screening is a good way to engage men in pregnancy is not clear, particularly since research suggests that men may feel ignored in the antenatal setting, which could in turn make their role as a father seem redundant. It is also unclear what men's

experiences of screening are like, whether they want to be involved, and what the enabling and constraining factors are to their involvement. In the next chapter, where the existing research with men is synthesised, some of these issues are tackled.

CHAPTER 2

SYSTEMATIC REVIEW AND METASYNTHESIS OF LITERATURE

2.1 Introduction

In the previous chapter, the potential benefits and problems with involving men in screening were exposed. It was also pointed out that there is a lack of literature specifically about men's experiences. In this chapter, a systematic review of the relevant literature about men's experiences is presented. The majority of the studies retrieved were qualitative, which was unsurprising, since qualitative research is suitable for exploring experiences. Therefore qualitative metasynthesis was used to synthesise the studies. The aim of this metasynthesis was to develop a consensus on what was already known about men's experiences of screening—for example, the barriers and facilitators men face to involvement, the problems they might experience, and whether men want to be involved—and to identify issues requiring further investigation. Within metasyntheses, findings from a range of qualitative studies are interpreted and combined to create a set of novel findings, more substantial than the findings from each individual study (Downe, 2008; Finfgeld, 2003; Jensen and Allen, 1996). Metasynthesis thereby involves the construction of new knowledge, namely a consensus on what men's experiences are like. The metasynthesis was one of the original contributions to research from this project—it is the first review of men's screening experiences. One of the papers included in the metasynthesis was the pilot study for the current project (Williams et al., 2012). The metasynthesis has also been published in the *International Journal of Nursing Studies* (Dheensa et al., 2012).

2. 2 Method

2. 2.1 Inclusion / exclusion criteria of papers

The systematic review included refereed journal articles and grey literature. It was conducted in June 2010, and rerun weekly until June 2012, to identify existing research about antenatal screening and prenatal diagnosis. No limits were placed on the publication date of the studies. A full list of the search terms used is presented in Table 2.1. Terms in the left column of the table were combined with terms in right using the 'AND' Boolean operator. The databases used, the exclusion criteria and the results of the review are shown in Figure 2.1. Twenty-two qualitative and seven quantitative articles were retrieved, the details of which are contained in Table 2.2 and 2.3, respectively. They are presented separately to prevent tables from becoming cumbersome.

Table 2.1: Metasynthesis search terms

Terms combined with 'OR'	Terms combined with 'OR'
Antenatal screening	Fathers
Prenatal diagnosis	
Prenatal care	Expectant fathers
Pregnancy outcomes	
(Pregnancy disorder / pregnancy complications)	Expectant parents
Congenital malformations / fetal diseases	Father-child relations
Fetus malformation	
Down syndrome	Spouses
Trisomies / monosomies / aneuploidy	
Neural tube defects	(Male* or Men* or man or father* or patern* or husband* or partner*) adj3
Spina bifida	(involv* or include* or respons* or engag*)
Anencephaly	
Haemoglobinopathies	
Sickle-cell	
Thalassemia	
Fetus echocardiography	
Fetus echography	
Nuchal translucency	
Maternal serum screening	
"Soft markers"	
"Structural anomaly scan"	
Ultrasound	
Sonography	
Scan	
Amniocentesis	
Cordocentesis	
Chorionic villus sampling	
Fetoscopy	
Midwife* / midwives	
(Ante?natal OR pre?natal) adj3 (screen* OR scan* OR test*)	
(Antenatal OR prenatal OR Ante-natal OR pre-natal) W3 (screen* OR scan* OR test*)	
OR H*emoglobinopath* OR "sickle-cell"	
OR Thalass*emia	

Figure 2.1: Search terms, results and exclusion criteria

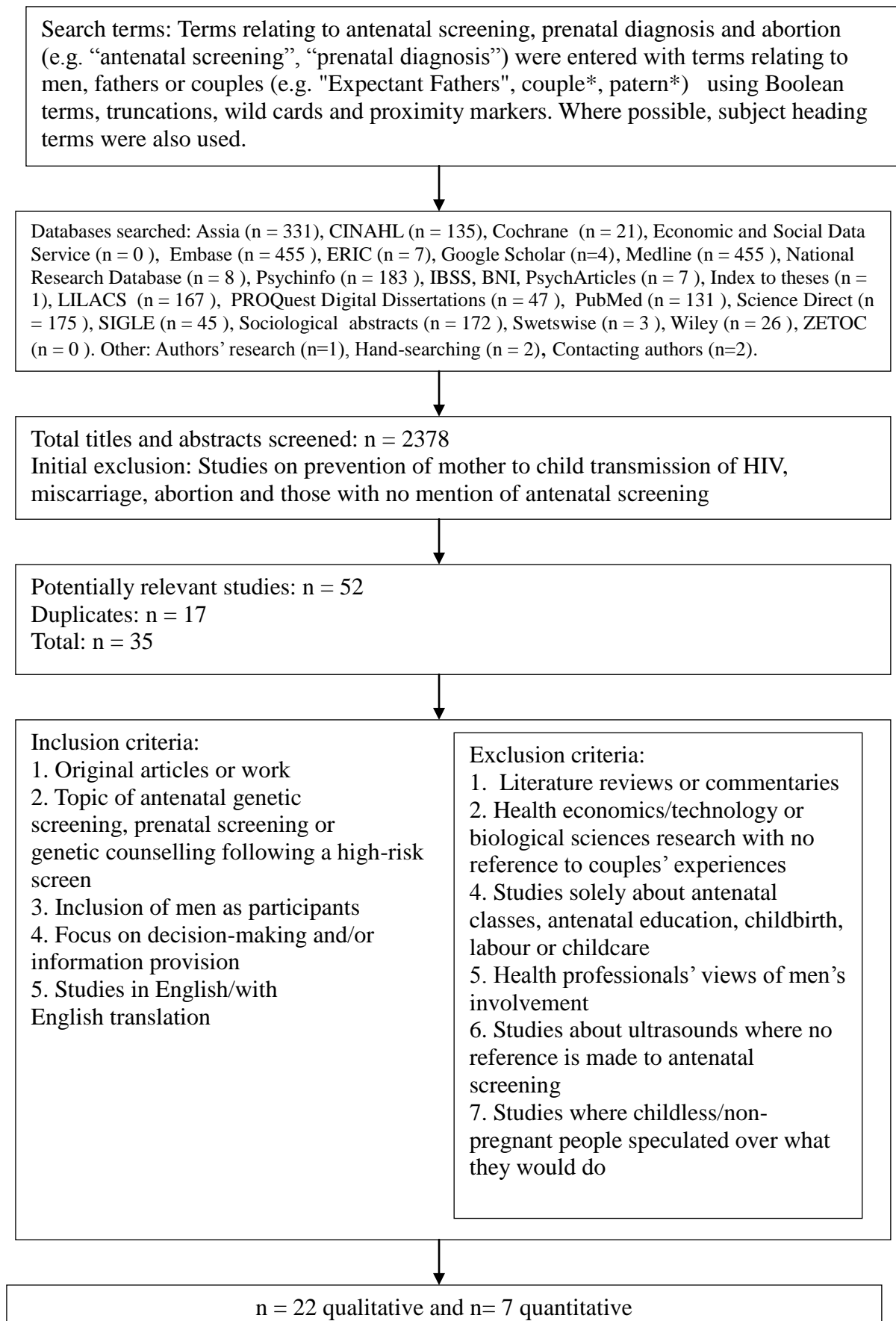


Table 2.2 Details of included qualitative studies

Authors, Year, Country	Screening stage focus	Methods	Participants / Interviews	Data analysis
1. Ahman et al. (2011), Sweden	Ultrasound at 18 weeks where minor structural anomaly detected, with 7 accepting amniocentesis	Semi-structured interviews 6-12 weeks after discovery of soft marker	n=17 men	Thematic analysis
2. Browner and Preloren (1999), USA	High-risk maternal serum screening/amniocentesis	Observations and case studies after amniocentesis (before results)	Observations n = 65 women and partners (how many of each unspecified). Case studies n=2	Content analysis
3. Carroll et al. (2012), England	Down syndrome screening (maternal serum and nuchal translucency ultrasound screening)	Semi-structured interviews	n=26 13 couple interviews Five pre-screening, eight post-screening	Framework analysis (thematic)
4. Draper (2002), England	General ultrasound screening	Three interviews: second trimester, third trimester, and eight weeks postnatal	n=18 men	Theoretical analysis
5. Ekelin et al. (2004), Sweden	Ultrasound at 20 weeks'	Interviewed 2-4 weeks after scan	n=44 22 with women 22 with partners	Grounded Theory

Authors, Year, Country	Screening stage focus	Methods	Participants / Interviews	Data analysis
6. Ekelin et al. (2008), Sweden	Ultrasound screening in second trimester	Interviewed 1 month after diagnosis of a non-viable fetus	n=15 6 couple interviews 3 with women	Grounded Theory
7. Gottfredsdóttir et al. (2009a), Iceland	Nuchal translucency ultrasound screening	Semi-structured interviews at 7-11 weeks and 20-24 weeks	n=20 10 with women 10 with partners who accepted scan	Framework analysis (thematic)
8. Gottfredsdóttir et al. (2009b), Iceland	Nuchal translucency ultrasound screening	Semi-structured interviews at 7-11 weeks and 20-24 weeks	n=20 10 with women 10 with partners who declined scan	Framework analysis (thematic)
9. Ivry and Teman (2008), Israel	Antenatal screening and amniocentesis	Semi-structured interviews with expectant or recent fathers after birth education classes	n=16 men	Analysis method undisclosed
10. Kenen et al. (2000), USA	High-risk maternal serum screening / amniocentesis	Interviews and observations of genetic counselling sessions between 5 months gestation and birth (after amniocentesis)	n=22 5 couple interviews 6 with women. 6 with partners 50 genetic counselling sessions observed	Analysis method undisclosed

Authors, Year, Country	Screening stage focus	Methods	Participants / Interviews	Data analysis
11. Locock and Alexander (2006), England	Antenatal screening 20 normal pregnancies. 20 affected by a disability or chronic condition	Semi-structured interviews during pregnancy or two years post birth/termination	n=47 6 couple interviews 33 with women 2 with partners	Grounded Theory
12. Locock and Kai (2008), England	Screening for haemoglobiniopathies	In-depth narrative interviews within 2 years of screening	n=39 30 with women 9 with partners	Thematic analysis
13. Markens et al. (2003), USA	High-risk maternal serum screening / amniocentesis	Semi-structured interviews after women had decided whether to have amniocentesis	n=277 157 with women 120 with partners Some couple interviews	Grounded Theory
14. Pieters et al. (2011), Netherlands	Detection of sex chromosome aneuploidies	Semi-structured interviews after detection	n=16 8 with women 8 with partners	Grounded Theory
15. Reed (2009a), England	Serum and haemoglobinopathy screening. Normal and high-risk screening results but no affected fetuses shown after prenatal diagnosis	Semi-structured interviews during pregnancy (17 weeks gestation minimum)	n=38 12 couple interviews 10 with women 4 with partners	Grounded Theory
16. Reed (2011), England	As above.	As above.	n=38 12 couple interviews 10 with women 4 with partners	Grounded Theory

Authors, Year, Country	Screening stage focus	Methods	Participants / Interviews	Data analysis
17. Sandelowski (1994), USA	General antenatal ultrasound screening	Interviews, men and women, one per trimester	n=124 62 couple interviews	Grounded Theory
18. Sjögren (1992), Sweden	Amniocentesis or chorionic villus sampling	Semi-structured interviews	n=21 men	Unclear – statistical analysis for interviews
19. Sooben (2010), England	Down syndrome screening and testing	Unstructured interviews 3 months-4 years after birth of child.	n=10 3 couples and 4 women	Phenomenological analysis
20. Wätterbjörk et al. (2012), Sweden	Combined maternal serum screening and ultrasound	Semi-structured interviews conducted before screening tests	n=36 10 with women 6 with partners 10 couples	Qualitative content analysis
21. Williams et al. (2011), England	Antenatal screening in general	Semi-structured email interviews at 16 and 28 weeks and immediately postpartum.	n=8 men	Thematic analysis
22. Williams and Umberson (1999), USA	Ultrasound screening	In-depth interviews in third trimester and 2- 4 months post-birth	n=30 15 with women 15 with their partners	Grounded analysis

Table 2.3 Details of included quantitative studies

Authors, Year, Country	Screening stage focus	Methods	Participants	Data analysis
1. Aite et al. (2011), Italy	Ultrasound screening	Interviews after diagnosis	165 women and 91 partners	Correlations and comparisons
2. Eurenus et al. (1997), Sweden	Ultrasound screening in second trimester	Questionnaires about screening knowledge and psychological experience before and after scan	303 couples	Chi squared test (comparisons between participants)
3. Kemp et al. (1998), England	Ultrasound screening	Questionnaire to assess anxiety after diagnosis of malformation after scan	56 women and 19 partners	Mann Whitney and Wilcoxon tests (comparisons between participants) and correlations (relationships between variables)
4. Kukulcu et al. (2006), Turkey	Amniocentesis	Questionnaire about amniocentesis experiences	85 couples	Descriptive statistics (percentages)
5. Nazaré et al. (2011), Portugal	Amniocentesis	Personal Assessment of Intimacy relationship questionnaire to assess decision-making	112 couples	Chi squared and ANOVA tests (comparisons between participants)
6. Skirton and Barr (2009), England	Antenatal screening in general	Questionnaire about screening knowledge. Time point of administration not stated.	100 women and 11 partners	Descriptive statistics (percentages)
7. Villeneuve et al. (1988), Canada	Ultrasound screening	Observation, interviews, and questionnaire	154 women and 64 partners	Descriptive statistics (percentages)

2.2.3 Study quality

Exclusion of studies based on their quality is an area of contention within the metasynthesis literature. Researchers such as Walsh and Downe (2006) advocate the exclusion of flawed studies to prevent constructing a flawed synthesis. For the current metasynthesis, studies were not excluded based on their quality, because as Sandelowski et al. (1997) argue, studies with poor quality reporting could still contribute useful findings. Moreover, “there are wide ranging variations in conceptions of the good, and in quality criteria” (Sandelowski et al., 1997, p368), meaning there is no gold standard criteria for identifying a high quality qualitative paper, and thus no gold standard criteria for exclusion. Hence, as with Thomas and Hardon (2008), quality was defined by the extent to which the studies answered the research questions, rather than by the quality of reporting.

The qualitative studies were nonetheless appraised rigorously so that any flaws in the articles could be taken into consideration when constructing the synthesis (Dixon-Woods et al., 2007). To appraise the included studies, the Critical Appraisal Skills Programme tool for qualitative research (CASP; Public Health Resource Unit, 2006) was initially used. The CASP was chosen because it has been used extensively in previous research (e.g. Newton et al., 2011; Taylor et al., 2011). Also, points of guidance are provided for each question, which reduces ambiguity in their interpretation (Newton et al., 2011). Nonetheless, the tool has been criticised by Hannes et al. (2010), who argue that it lacks criteria by which to judge the interpretive, theoretical and evaluative validity of studies. Similarly, Dixon-Woods et al. (2007) argue that structured appraisal tools such as the CASP focus more on the procedural aspects of research articles than the research findings and their relevance. Hence to supplement the possible limitations of the CASP, an unstructured approach to appraisal was

taken as well as using the tool. An unstructured approach is described by Dixon-Woods et al. (2007) as requiring “experienced qualitative researchers to use their own expertise and judgement about the quality of the paper” (p.43). Such an approach was deemed appropriate because no single checklist takes account of all the flaws that could occur in different types of qualitative studies (Dixon-Woods et al., 2004; Dixon-Woods et al., 2007). Although the CASP helped draw attention to the possible flaws in each study, using an unstructured approach allowed more creative and freely-flowing arguments about the article’s quality to be formed, without the constraints of a checklist. Appraising the studies without breaking them down into the evaluative points presented on a checklist meant the articles could be read more holistically and potential flaws could be evaluated within the context of the study (Dixon-Woods et al., 2007). An unstructured approach was also taken to appraise quantitative studies for these same reasons, and because like the qualitative studies, each one utilised a slightly different research design; some were cross-sectional, others were longitudinal and one included an observational element.

A common flaw in the articles was that reflexivity was not discussed and the methods used were not always justified (Carroll et al. 2012; Ekelin et al., 2004; Kenen et al., 2000; Locock and Alexander, 2006; Markens et al., 2003; Sandelowski, 1994 and Wätterbjörk et al. 2012). However, as Walsh and Downe (2006) have noted, this lack of information is possibly due to wordage restrictions in journals, rather than oversight by authors. A more theoretical flaw was that Kenen et al. (2000) attempted to make a distinction in their analysis between ‘information-oriented’ men, who wanted screening information, and ‘action-oriented’ men, who wanted to take screening action, such as making decisions, but these distinctions were not supported in the evidence the authors presented. Rather, there was great overlap between

the categories, and the division appeared to be arbitrary. To manage the potential impact of this flaw, the information/action distinction was not included as a finding when constructing the synthesis. Another flaw was that Sjögren (1992) did not state whether she used qualitative analysis for the interview data. She also used Fisher's exact probability test to compare men who underwent amniocentesis and chorionic villus sampling, which was peculiar because the data were qualitative and not quantitative. The overall quality of studies was otherwise good.

2.2.4 Constructing the metasynthesis

For the qualitative studies, findings sections were repeatedly examined, and meanings and patterns were sought out and noted. Salient features of the data were then systematically coded. That is, each segment of data was labelled with a summary of the content or the meaning of what was being discussed. The analysis of the original authors, as well as the current author's secondary analysis of findings, guided this coding. Subsequently, the studies were synthesised using a three-step technique set out by Noblit and Hare (1988). First, the concepts and codes of each study were translated in terms of the concepts and codes of the other studies. In other words, codes within each study were explored in relation to the codes across all the studies. Similar codes were grouped together and given the label 'translated codes'. Second, codes that refuted or contradicted each other were sought out. Finally, a line of argument synthesis was carried out, whereby the similarities and the differences between the studies were integrated into a logical theoretical argument (Downe et al., 2009; Noblit and Hare, 1988). In creating such an argument, an interpretation was made about the phenomenon of men's experiences of screening as a whole, based on the examination of the parts of the phenomenon that were covered in the included articles. Resultant arguments were represented by themes, which were reviewed to ensure they adequately captured the included codes and

the data set as a whole. Quantitative results sections were then read to see whether they contributed to the themes, or presented different findings. All seven echoed what the qualitative findings said, so their results are discussed in the main body of the findings. The qualitative from which codes and themes were developed are summarised in Table 2.4.

To establish trustworthiness of findings the themes were discussed with members of the supervisory team (AM and RW), allowing for different interpretations of the data to be expounded (Lincoln and Guba, 1985). Potential biases when analysing the data were noted in a reflexive diary, to try and control for the influence of these biases over the analysis. To enhance credibility, quotations are presented to illustrate each theme, with the corresponding participant's name from the study of origin

2.3 Findings

From the 22 articles qualitative articles retrieved, the earliest was by Sjögren (1992) and the most recent were by Carroll et al. (2012) and Wätterbjörk et al. (2012). Eight of the studies were conducted in England. Only ten focussed on men's experiences, rather than couples experiences. Of these ten, six included just men as participants, while four included men and women to look at men's involvement and experiences. From the seven quantitative articles, the earliest was by Kemp et al. (1988) and most recent was by Nazaré et al. (2011). Just two were conducted in England, and all studies looked at couples' experiences. Women outnumbered men in all quantitative studies.

Table 2.4: Themes, codes and relevant papers

Themes	Subthemes	Translated codes (discussed in body of text)	Relevant qualitative papers (numbers correspond to Table 2.2)	Relevant quantitative papers (numbers correspond to Table 2.3)
Men's emotional conflicts	Responsibility but not always closeness	Supporting women	2, 11, 13, 15, 21, 22	4, 5, 6, 7
		Emotional distance	9, 17, 22	
		Emotional closeness	4, 5, 21, 22	
	Hidden anxiety and grief	Men and women as anxious	18	1, 2, 3, 4
		Putting aside feelings	6, 11	
		Little emotional support	11	
Men's focus on information	Men's focus on information	Men's technical outlook	2, 7, 11, 12,13, 16, 17	
		Women's emotional focus	11, 12	
		Only midwives can reassure	4	
Men's influence on decision- making	Ignored and out- of-place	Ultimate decisions – women's rights	10, 11, 13, 17, 21	5, 6
		Making decisions together	16, 20	
		Exclusion and relegation of views	5, 9, 11, 16, 21	
	Uninformed acceptance, unrecognised opinions	Unsure what it's for	1	2, 4, 6
		Declining screening	1, 8, 9, 21	
		Unacknowledged opinions	8, 9, 14, 19	
		Unprepared for results	1, 3, 7, 8, 9, 11, 13, 15, 16, 18	

Participants were aged from their early 20s to late 40s, were a mixture of first-time fathers and those who already had children, and were of varying ethnicities, but predominantly white. According to the nine studies where participants' educational statuses were reported, most participants had received secondary school or university education. However there was difficulty in comparing the educational levels of participants across the studies because of the variations in educational systems between countries.

The findings of the metasynthesis are represented by three themes. These are (1) men's emotional conflicts, (2) men's focus on information and (3) men's influence on decision-making. Sub-themes within these are discussed in turn. Truncation of an original quotation by the current authors is denoted by [...]. Additional, supportive quotations from relevant papers are depicted in Appendix 1.1.

2.3.1 Men's emotional conflicts

2.3.1.1 Responsibility, but not always closeness

Men attended screening appointments to support their partners (Browner and Preloren, 1999; Locock and Alexander, 2006; Reed, 2009a; Williams et al., 2011), but also because they felt that the responsibilities of being a good father began during pregnancy. Part of this was a responsibility to ensure the fetus was developing normally (Markens et al., 2003; Reed, 2009a):

"It's both our blood and both parents should be there." (Luis: Markens et al., 2003)

Men felt that checking fetal health and making decisions was the responsibility of the couple and not healthcare professionals;

"It has got nothing to do with anybody else but the two people who are involved with it. Whoever's baby it is, it is their decision and people should respect that no matter

what their decision is.” (M16: Carroll et al., 2012)

Quantitative work has also supported the finding that women want men at screening appointments and seek support from them (Kukulu et al., 2006; Villeneuve et al., 1988) and that couples want to share decision-making (Nazaré et al., 2011; Skirton and Barr, 2007). Nazaré et al. (2011) found that when men felt listened to and valued by their partners, couples were more likely to see decision-making for amniocenteses as shared. Similarly, men’s perception of engagement and communication with partners in decision-making predicted whether couples agreed on the decision whether to undergo amniocentesis.

Despite experiencing the responsibilities of expectant parenthood, men discussed how they did not feel some of the positive emotions toward the fetus, such as bonding and attachment, that they observed women to experience (Ivry and Teman, 2008; Sandelowski, 1994; Williams and Umberson, 1999). Conflicting with this emotional distance was the pressure men experienced to bond with the fetus, particularly during ultrasound scans, stemming from their own and their partners’ hopes that seeing the fetal image would elicit an emotional response. Participants in Ivry and Teman’s study (2008) discussed how such hopes were not always fulfilled:

“I saw the baby on the ultrasound [...] This child seems to be fully composed: all things [organs] are in place, but I still feel disconnected.” (Shaul: Ivry and Teman, 2008)

In contrast, men in the studies by Draper (2002), Ekelin et al. (2004), Williams et al. (2011) and Williams and Umberson, (1999) felt that scans did indeed instigate a process of bonding with the fetus, because seeing the ultrasound image made the presence of the fetus seem less abstract. However, three of these studies dealt with men’s experiences of ultrasound specifically (Draper, 2002; Ekelin et al., 2004; Williams and Umberson, 1999), rather than

antenatal screening or pregnancy in general, making it unclear whether the emotional closeness persisted after the scan, and how this closeness, or lack thereof, could have influenced men's opinions about what screening tests to accept, and what to do if there was elevated risk.

3.1.2 Hidden anxiety and grief

In uncomplicated pregnancies, men felt a pressure to bond with the fetus, but when complications arose and when serious diagnoses were made, they experienced anxiety;

“Of course I felt anxious...this long needle...” (Sjögren, 1992)

In quantitative work, Kemp et al. (1998) also found that men whose fetuses were diagnosed with an anomaly were significantly more anxious than men whose fetuses were normal, and that this anxiety decreased significantly, so that it was similar to men who did not experience anomalies, after a consultation with a paediatric surgeon. Aite et al. (2011) found that 83.5% of men (76/91) experienced the communication of a congenital anomaly diagnosis as traumatic. Eurenus et al. (1997) also found that of 303 men and their partners surveyed just before the 20-week ultrasound scan, similar amounts of women and men were anxious that the fetus would be affected by an anomaly (17% and 13%, respectively). Moreover, fewer men were reassured after the scan (72% of men and 75% of women). With a sample of 85 men and their partners surveyed between having an amniocentesis and receiving results, Kukulu et al. (2006) found women and men were anxious about the potential danger that amniocentesis posed to the fetus (63.5% and 38.8%, respectively). More men (8.2%) than women (4.7%) were worried about the procedure. On the questions about feelings, 65.9% of men felt uncertainty and 12.9% felt fear and curiosity. Moreover, men identified non-effective coping strategies to cope with stresses of amniocentesis, like ‘thinking about feeling trapped’

(42.3%) and ‘not sharing with anybody’ (30.6%). Indeed, men in qualitative studies felt a pressure to set aside their worry and anxiety to support their partners (Ekelin et al., 2008; Locock and Alexander, 2006):

“The first days I was so very... (sigh) it felt like my job was to take care of K. [...] it was difficult to do anything else apart from being there, there wasn’t really any room or time for me to feel down just then, I thought.” (Man 5: Ekelin et al., 2008).

While none of the studies explored how men dealt with these emotional conflicts, or whether men wanted or received emotional support, Locock and Alexander’s (2006) study suggests that because men hid their distress, women did not recognise the impact on them when there were pregnancy complications. Not only did this mean men were less likely to receive reciprocal emotional support from their partners, but also that men’s distress was not taken into account when decisions were made about screening, prenatal diagnosis, and whether to have children in the future.

2.3.2 Men’s focus on information

While women were focussed on the emotional and physical impact of screening, findings from studies by Browner and Preloren (1999), Gottfredsdóttir et al. (2009a p.716), Locock and Alexander (2006), Locock and Kai (2008), Markens et al. (2003), Reed (2009a) and Sandelowski (1994, p.236) suggested that men sought technical and statistical information about screening from healthcare professionals and through their own research. Seeking such information allowed men to guide their partners’ decisions. For example, a man in Reed’s (2009a) study was a doctor who, as Reed wrote, “gathered information on various screening procedures, disseminated information to his partner [...] and encouraged his partner to have a private nuchal fold scan” (p.353). The participant said:

“I mean, I didn’t push her into extra tests. Ultimately it’s her body and her decision. However, I wanted to be involved and take responsibility too . . . Men want assurance

that everything is alright, just like women.” (William: Reed, 2009a).

Information seeking also provided a way for men to cope when complications arose, and enabled them to interact with the midwives with a sense of control and empowerment, as illustrated by a man whose fetus was diagnosed with Patau’s syndrome:

“I’d spent the weekend on the internet, so all these things that he [consultant] was listing off as problems I’m thinking, ‘Yeah, I’ve heard of that. Yeah, I’ve read that one, yeah.’” (AN38: Locock and Alexander, 2006).

Despite having a wealth of information and the means to guide decisions, men’s role in screening remained limited, because women were less interested in information about risk than men (Locock and Alexander, 2006; Locock and Kai, 2008), and instead wanted to make decisions based on their feelings and emotions. Moreover, only midwives could provide the information necessary to guide women’s decisions, i.e. whether the fetus was free of anomalies (Draper, 2002). Indeed, midwives had a duty to accept women’s, and not men’s, final decisions.

2.3.3 Men’s experiences of decision-making

2.3.3.1 Ignored and out-of-place

Men generally perceived that the right to make final decisions about screening belonged to women (Kenen et al., 2000; Locock and Alexander, 2006; Markens et al., 2003; Sjögren, 1992; Williams et al., 2011). Questionnaire results have also shown that ultimately women have more influence than men over final decisions (Nazaré et al., 2011; Skirton and Barr, 2007).

However at the same time, men wanted to be involved in decision-making (Wätterbjörk et al., 2012). They felt that their involvement in making decisions, for example discussing and

evaluating options, was important because they were concerned about the fetus, and also because such involvement would be supportive to women (Reed, 2009a). In spite of this, men in the studies by Ekelin et al. (2004), Ivry and Teman (2008), Locock and Alexander, (2006), Reed, (2011) and Williams et al. (2011) felt ignored by midwives:

“I wanted to be involved but she (midwife) made it blatantly obvious that she wanted me out of the room.” (Bill: Reed, 2011)

Such lack of engagement reinforced the feeling of removedness men felt as a result of their emotional distance to the fetus (Ekelin et al., 2004; Williams et al., 2011). Men additionally felt that their exclusion could lead to women feeling burdened and distressed by the responsibility to make decisions. One case concerning a Turner’s syndrome diagnosis and subsequent termination exemplifies this:

“[wife] still has issues over, you know, the fact that it’s her who’s had to sign these forms and give – give consent and so on. [...] But there ought to be sort of some, some way—I don’t know how—but some way of actually getting the father to be more involved perhaps in that side of the process. Because [wife] carries, you know, the guilt with her a lot about how all this went through. And yet it was our decision jointly, and we, you know, we were agreed on it.” (AN35: Locock and Alexander, 2006).

Men whose opinions about screening differed to their partners’ felt even more excluded from the screening process. In these situations, men felt they had little choice but to relegate their own views about screening options to avoid conflict within their relationship (Williams et al., 2011). These feelings were compounded by the anticipation that their opinions would be disregarded by healthcare professionals anyway:

“I told her it was up to her. I couldn’t say no to the doctor. The doctor would have believed her more than me.” (Cesar: Markens et al., 2003).

The potential implications of the powerlessness experienced by these men were not investigated in any of the studies.

2.3.3.2 Uninformed acceptance, unrecognised opinions

Men and their partners frequently shared strong opinions about screening uptake. For example, some men wanted to decline screening due to the risk of receiving a false-positive—a result that wrongly indicates an anomaly for an unaffected fetus—or because they and their partners would not want to terminate a high-risk pregnancy (Ahman et al., 2011; Ivry and Teman, 2008; Williams et al., 2011). Among these men, some felt that to accept screening would be to discriminate against future children with disabilities, because the aim of screening was perceived as being to identify and abort fetuses with genetic or chromosomal anomalies. Conversely, they as fathers felt they would value such children as much as a children without disabilities:

“I know disability as I have worked with disabled individuals for many years. People tend to say to me: ‘Then you know what it is worth to have a healthy child’. But when you have experience with disabled children and adults you also know what it is worth to have them.” (Man 2: 12: 1: Gottfredsdóttir et al., 2009b).

Other men declined screening because they felt that pregnancy should be about excitement at being a family rather than about medical intervention (Ahman et al., 2011; Williams et al., 2011).

Findings from Gottfredsdóttir et al. (2009b), Ivry and Teman (2008), Pieters et al. (2011) and Sooben (2010) showed that such opinions were not always acknowledged by healthcare staff. For example, when men asked questions about tests, they did not always get straightforward answers (Ahman et al., 2011). Moreover, some men felt that healthcare professionals had some influence over what tests they would take up (Sjögren, 1992). Couples hence felt that they had not made informed choices to undergo screening and consequently they faced a barrage of overwhelming and unwanted information:

“We both felt very angry about being given this information [ultrasound markers],

regardless of our wishes, even though we had made it clear we did not want antenatal testing for Down syndrome.” (Family 4 Father: Sooben, 2010).

Other men did not know what anomalies healthcare professionals were looking for with screening tests, so were surprised and unprepared when an anomaly was detected;

“You understand of course, when they check the heart to see that everything looks fine but you don’t think about the next step, that here can be a ‘marker’ like, for a chromosomal defect. You just think about if all the fingers and toes are there.”

(Participant 17: Ahman et al., 2011)

Questionnaire research has also found that men are often unaware of what screening is for.

For instance, Kukulski et al. (1985) found that 11.8% of men thought amniocentesis was a routine part of pregnancy. Skirton and Barr (2008) found that just 54% of participants could correctly name an antenatal screening test. More specifically, just 24% knew ultrasounds were offered, 16% were aware of Down syndrome screening tests and 3% knew of screening for neural tube defects. None of the participants knew about maternal serum screening. In comparison, Eurenius et al (1997) found that 89% of women and 84% of men knew that screening was used to detect fetal anomalies.

Men were particularly unprepared for receiving information about risk compared to women because they missed some antenatal appointments due to work commitments, meaning information about screening tests was frequently delivered via women (Gottfredsdóttir et al., 2009a p.717; Ivry and Teman, 2008; Locock and Alexander, 2006 p1352; Markens et al., 2003; Reed, 2009a p.353; Reed, 2011);

“I wish I had received the same information as my wife from the beginning.”
(Unnamed: Sjögren, 1992)

The way women delivered such information to men and what information they disseminated was not explored in any of the studies. Men moreover felt that they were not given enough information on what life with a child with a genetic or chromosomal anomaly, such as Down

syndrome, might be like (Ahman et al., 2011; Carroll et al., 2012), meaning that if a high-risk result was returned, or a diagnosis was made, men would be unprepared for the implications of continuing the pregnancy.

2.4 Discussion of metasynthesis

The aim of this metasynthesis was to develop a consensus on what is known about men's experiences of screening and to identify issues requiring further investigation. To achieve this aim, existing qualitative research was rigorously, systematically and comprehensively examined and synthesised. This was the first metasynthesis on this topic and it has achieved richer and deeper understanding of the concepts central to men's experiences. Specifically, three main themes were identified, which were (1) men's emotional conflicts, (2) men's focus on information, and (3) men's influence on decision-making. Along with these new insights, areas requiring further research were identified. The three themes, together with the questions left unanswered, are now discussed, firstly in relation to the relevant quantitative research, and secondly to the wider literature about men's involvement in pregnancy.

2.4.1 Summary of findings and unanswered questions

In summary, the metasynthesis suggest that men's experiences of antenatal screening consisted of a desire to support their partners as well as a responsibility to learn about the health of the developing fetus. As Robertson (2007) argues, for men, instrumentality (i.e. thinking and doing) and emotional expression are interlinked, in that men convey caring emotions by doing something for their family, rather than through discussion of feelings. In this case, finding information and helping women to make decisions about screening was encompassed within the responsibility and support they felt. For men, therefore, their

involvement and provision of information may have been an important way of expressing their care and commitment to their partners and future children. Men furthermore had strong opinions about screening, which they wanted healthcare professionals to recognise.

Although men wanted to be involved in screening, their role in screening was unclear, particularly since screening appointments were seen to focus on women. For example, men attempted to participate in women's decision-making, but felt they were ultimately excluded from decision-making, meaning their attempts to express their care and commitment were curtailed. Moreover, men did not always experience the parental bond they expected to feel, and in complicated pregnancies, they were unable to express their feelings of anxiety and guilt.

Although conclusions cannot be made from these studies alone, there may be adverse outcomes for men who try to get involved in pregnancy via screening if they do not have a significant part to play. These men may experience feelings of redundancy, making their role as a fathers seem ambiguous (Draper and Ives, 2010; Hildingsson and Sjöling, 2011). This ambiguity might be exacerbated if men feel that they should have an emotional bond to the fetus, but do not experience such a bond. Whether men had a more defined role in screening, and what impact it had on men if they felt excluded in the antenatal setting, was explored in the current study.

2.4.2 Limitations and further research

In terms of the studies included, a limitation was that of the eight qualitative studies conducted in England, five administered couple interviews, one focussed on ultrasound

screening, one focussed on women, and one was the pilot study for this research (Williams et al., 2011). These limitation reaffirmed the need for further in-depth with research within England with men.

The use of couple interviews could have caused men and women to feel limited in what they could disclose before their partners, leaving potential for acquiescence, social desirability bias (i.e. the tendency for participants to answer questions in a way they saw as socially acceptable) and insufficient depth in interviews. Avoiding couple interviews was therefore important for the current research. Individual interviews had the potential to delve more deeply into men's experience of screening, particularly their emotional experience, how internal conflict was dealt with, and whether emotions influenced opinions about screening. All of these topics were explored in the current study through in-depth qualitative research with men and women.

A limitation of the studies included in this metasynthesis, and of the metasynthesis itself, is that the views of men who were uninvolved were not sought, as they were not recruited as participants. The findings were thereby subject to self-selection bias: the men who took part were likely to have been more involved in screening than men who did not participate.

Another limitation relating to sample was that working class, unmarried, and/or black and minority ethnic men were under-represented. The under-representation of ethnic minority participants is especially pertinent with regard to screening research because African-Caribbean, Mediterranean and South Asian people are more at-risk of haemoglobinopathies. In fact, just one study in the metasynthesis looked specifically at haemoglobinopathy screening (Locock and Kai, 2008). To avoid this limitation in the current research, a method

of recruiting a wide range of men into the study was needed. As is discussed in the following chapter, the qualitative research in the current research was followed up by a questionnaire phase, so that a wider range of men could be recruited. This methodology is discussed further in the next chapter.

2.5 Chapter summary

A systematic review was conducted of the existing literature about men's experiences of antenatal screening and prenatal diagnosis. Twenty-two qualitative studies and seven questionnaire studies were identified. Across these studies, participants were relatively homogeneous: most were white, well-educated, and married. Findings from the studies were synthesised using Noblit and Hare's (1988) metasynthesis process. The process began with coding the notable features of the findings sections of each qualitative study, grouping together similar codes across the studies, and identifying and explaining any contradictions. Finally, a line-of-argument was created about men's involvement in screening. Through doing this, three themes were constructed, the first of which was entitled 'men's emotional conflicts'. The theme described how men felt a responsibility to the fetus, but not always an emotional closeness. Moreover, if there was a complication in the pregnancy, they felt anxious, but hid their feelings to support their partners. 'Men's focus on information', the second theme, suggested that men researched and disseminated information to women, which was their main role in screening. Nevertheless, their role was still limited because women seemed to make decisions based on how they felt, rather than based on medical information. The final theme was 'men's experiences of decision' making, which again showed that men's role in screening was limited. They felt ignored by healthcare professionals, and men who had opinions about screening felt they were not listened to. Resultantly, these men did not feel like

they were making informed choices. As these findings suggest, the metasynthesis provided a basis for understanding the experiences that had been captured to date and has allowed some idiographic generalisations to be made about men (Donmoyer, 1990; Walsh and Downe, 2005). However, more research was needed to explore the transferability of the three main themes. More importantly, in-depth qualitative research with men alone, rather than couples, was needed to explore their experiences of screening in more depth. Further work was additionally required using a methodology that would allow the experiences of a wider population of men, from diverse backgrounds, to be obtained. To achieve these aims, a mixed methods approach was chosen for the current project, whereby an interview study was followed up by a questionnaire study. This methodology, and the philosophical framework of pragmatism, is discussed in the next chapter.

CHAPTER 3

PHILOSOPHICAL UNDERPINNINGS: PRAGMATISM AND MIXED METHODS METHODOLOGY

3.1 Introduction

The metasynthesis in the previous chapter identified that further research was needed firstly to explore men's experiences of screening in more depth, and secondly to gather the views of a wider and more representative range of men than had been captured to date in the existing research. The most suitable methodology to achieve these two aims was mixed methods methodology, which fits into the philosophical approach of pragmatism. Qualitative interviews were suitable to explore men's experiences in depth, while quantitative questionnaires were appropriate to assess the generalisability of the findings with a wider range of men. The reasons for using mixed methods, controversies that surround the methodology and the tenets of the pragmatic framework are set out in this chapter, and as is common in texts about mixed methods methodologies (e.g. Creswell and Plano-Clark, 2007) the term will be used interchangeably with 'mixed methods'.

3.2 Rationale: the benefits of mixing methods

For exploring men's views in depth, qualitative semi-structured interviews were administered in the first phase of this study. Qualitative interviews were appropriate because men's experiences of screening were under-researched, and an exploratory design was therefore needed to identify what men's experiences were and what avenues needed to be explored. Qualitative research would allow the meaning and nature of screening for participants to be illuminated. As Strauss and Corbin (1998) suggest, qualitative research, involves "getting out into the field and seeing what people are doing and thinking" (p.11), and allows the minutia of

the phenomenon and the accompanying emotions, beliefs, values and experiences to be uncovered. The methods, findings and discussion of the qualitative findings are presented in Chapters 4, 5 and 6, respectively.

The findings of the qualitative phase were used to design the questionnaire in the quantitative phases, meaning the findings about men's experiences, thoughts, beliefs and emotions drove the questionnaire research forward. The questionnaire tested the main theory and the hypotheses that were developed from the qualitative analysis. Quantitative results therefore allowed the qualitative findings to be clarified, developed and expanded upon, and the generalisability to be ascertained. The results and discussion of the questionnaire piloting and administration are presented in Chapters 7, 8 and 9.

Using quantitative methods after qualitative interviews meant a wider range of men, who might have been reluctant to participate in an interview study, could be recruited. Men's reluctance was anticipated because the open discussion of emotions, behaviours and attitudes required in interviews conflicts with the suppression of emotion and vulnerability that comprises the enactment of hegemonic masculine practice (Connell, 2000, p5; Levant, 1998). Although a range of previous studies have successfully recruited men into interview research to discuss fatherhood (e.g. Ives et al., 2008; Robertson, 2007; Williams et al., 2007), men's reluctance may have been particularly likely in the current research because the focus was on a topic that is generally viewed as a woman's domain (Markets et al., 2003). Moreover, their reluctance may have been more likely because the interviewer was a woman, which is a consideration discussed further in Chapter 4, section 4.2.2. Previous research has similarly suggested that it can be difficult to recruit men, particularly those who are from working-class

backgrounds or of minority ethnicities, into research where sensitive topics will be discussed (Butera; 2006, Costigan and Cox, 2001; Oliffe, 2010; Robertson, 2007; Williams, 2007).

Questionnaire research, however, provides a way for men to disclose their emotions in a more anonymous way, without a researcher being present.

The quantitative research also meant that the reliability of the qualitative findings—i.e. whether the same results would occur in a new sample—could be explored. Where there was disagreement between the two sets of findings, avenues for further research exploring these disagreements were exposed. The findings achieved through both methodologies could be compared and contrasted, and integrated into a framework to explain men's experiences of screening, which is presented in Chapter 10. Data interpretation was thereby enriched, making the findings more useful in effectively informing future research and helping to inform policy and practice (Creswell, 2009). Creswell and Plano-Clark (2007) define this overall design, where a qualitative phase leads into a quantitative phase, a sequential exploratory design, as qualitative outcomes inform subsequent quantitative investigation. An exploratory design is particularly useful for previously under-researched areas such as men's involvement in antenatal screening, where there is no existing theoretical framework.

In a review on mixed methods research in family sciences, Plano-Clark et al. (2008) point out previous studies that have successfully implemented a sequential exploratory design with mothers and fathers. Richter (1997) used qualitative data about decision-making around childcare to create an explanatory model, which was then tested using quantitative research with a larger, more representative sample. A later study by Miall and March (2005) conducted qualitative research on adoption and birth fathers, and created a questionnaire based on the

resultant themes. The current study therefore used an established method for research with this population. Despite the potential benefits of mixing methods, philosophical debate continues concerning the legitimacy of mixing qualitative and quantitative methodologies.

3.3 Controversy about mixed methods

Before the controversies about pragmatism are outlined, some definitions of ontology, epistemology, methodology, method and paradigm are necessary. Ontology is defined by Crotty (1998) as “the study of being [...] concerned with ‘what is’, with the nature of existence, [and] with the structure of reality as such” (p.10). In the current study, ontology would be concerned with what men’s experiences really were (Higgs and Titchen, 1998). Crotty (1998) states that epistemology concerns the nature, possibility and scope of knowledge. In the current study, it would be concerned with what knowledge can be gained about men’s experiences and how to ensure that the knowledge is adequate and legitimate. Methodology is defined as the “strategy, plan of action, process or design lying behind the choice and use of particular methods [that are linked to the] desired outcomes” (Crotty, 1998, p.3). It concerns the way knowledge about men’s experiences can be gathered. Examples are questionnaire research, phenomenological research and Grounded Theory. Methods are the specific procedures taken to fulfil the methodology, for example interviews and questionnaires (Creswell and Plano-Clark, 2007).

There are various definitions of paradigms, but a common one is that they are epistemological stances that dictate how questions should be asked and answered (Morgan, 2007). The traditional idea of paradigms is that they “impose order on the practices in social science research through an externally defined, *a priori* system from the philosophy of knowledge”

(p.61). Each paradigm has its own ontological and epistemological stance, and because of this, they are said to be ‘incommensurable’ (Kuhn, 1996), meaning they are incapable of being compared or measured in relation to each other. The combination of interviews and questionnaire research would breach the underlying philosophical principals of each paradigm, if this definition of paradigm were used. Herein lies the controversy with mixed methods research; qualitative and quantitative methods are located within different paradigms— qualitative within the interpretivist or constructivist, and quantitative within the positivist or post-positivist paradigm.

Using paradigms to define research parameters *a priori* can have a constraining effect on research such as the current project, because techniques such as mixed methods are disregarded as being illegitimate, despite the value they could bring to exploring men’s experiences in-depth and with a wide range of men. However, recently, there has been a shift away from the epistemological stance definition of paradigms and a move towards a pragmatic approach (Morgan, 2008), within which mixed methods methodologies are permitted (Creswell and Plano-Clark, 2007; Tashakkor and Teddlie, 2003).

3.4 The pragmatic approach

Pragmatism abandons the traditional perception that ontology and epistemology are foundations upon which social scientific inquiry should be based, because the concepts of ontology and epistemology themselves have been empirically conceptualised (Morgan, 2007). For pragmatists, the existence of so many types of ontologies (such as realism, idealism and dualism) and epistemologies (such as interpretive, constructivist and subjectivist) is evidence that they are ideals rather than objectively true concepts (Scott and Briggs, 2004). Therefore,

in pragmatism, paradigms are not seen as “abstract entities with timeless characteristics” (Morgan, 2007, p.61). Rather, paradigms are seen as ever-changing belief systems. They are ways of doing research, rather than ways of defining the ontology and epistemology underpinning research (Kuhn, 1996; Morgan, 2007). Methodologies are therefore not constrained by ontologies and epistemologies, so qualitative, quantitative or mixed methodologies are permitted because all act as tools for empirical inquiry. The pragmatic approach hence moves away from the theoretical starting point for research. It instead endorses the use of the methodologies that are the most suitable for answering the research questions. The focus is on producing knowledge for problem solving, and whether the knowledge produced is useful for practice (Corbin and Strauss, 2008).

A tenet rejected by pragmatists is that of an Archimedean platform, i.e. an objective or context-free claim to scientific ‘truth’ (Dewey, 1917). Similarly, the ‘spectator theory of knowledge’, which suggests there is a world ready to be discovered by a passive observer, is not accepted. Pragmatists therefore argue that absolute objectivity and certainty cannot be attained in research. Rather, ‘truth’ is what is known at the time—a provisional consensus that is developed about the research topic, which later evidence could show is flawed or wrong (Maxcy, 2003; Scott and Briggs, 2009). The metasynthesis findings from Chapter 2 contribute to this consensus, but further research is required to build up the consensus about men’s experiences of screening in England, and explore contradictions and avenues for further research. Related to the rejection of certainty, pragmatism also postulates that everything that is known is affected by a certain level of subjectivity. Knowledge discovered through empirical inquiry is inextricably linked to the construction of knowledge in the human mind (Bryant, 2009).

Critics of pragmatism may claim that one cannot distinguish beliefs that are useful but true from those that are useful but false, because there is no posited way of knowing absolute truth. Scott and Briggs (2009) argue that it is irrelevant whether something is true or false because if a community believe something to be 'true', this will govern their behaviour regardless of how it compares to an unreachable objective truth. The belief that is held and acted upon by people is more important, and this is what can be found via pragmatic inquiry. A similar criticism is that false or even absurd propositions about men's experiences of screening could be accepted as long as they cohered with the current consensus. However, within the pragmatic framework, knowledge should be fallible and open to judgement via peer evaluation (Kuhn, 1996; Rorty, 1979). By conducting and disseminating research, new knowledge produced can be evaluated.

3.5 Grounded Theory and links to pragmatism

3.5.1 Rationale for choosing Grounded Theory

To conduct the qualitative aspect of this research, Straussian Grounded Theory was chosen over other analytical approaches (Strauss and Corbin, 1998). Grounded Theory aims to identify concepts that affect people every day and was therefore a suitable way to identify the everyday issues that affect men and women pertaining to antenatal screening (Glaser, 2002). With Grounded Theory, the aim is to create a theory that has practical application, in this case to expectant parents who have been offered antenatal screening in the NHS (Corbin and Strauss, 2008). The philosophy behind Grounded Theory comes from pragmatism and symbolic interactionism, a school of thought that assumes that a person does not react to another person's actions, but the meanings they themselves ascribe to the other person's

actions.

Grounded Theory was chosen firstly because it can provide rich data, which closely reflects what participants say. It looks at the differences and similarities between views and experiences, and attempts to explain and test these. Secondly, it aims to build substantive theory (i.e. theory that is specific to the context) that can later be tested, therefore lending itself logically to mixed methods research. The theory, which is grounded in the data, therefore forms a basis for further research to extend current knowledge, allowing substantive theories to become more formal theories, i.e. ones that can be applied to wider contexts. Participants from the qualitative interviews therefore informed a substantive theory, which was further tested by the questionnaire data, meaning the research resulted in the development of a formal theory.

An assumption about the world made by Corbin and Strauss (2008) is that it entails a multitude of factors that interact in complicated and unexpected ways. Mixed methods, since it involve multiple perspectives, is a way to capture as much of this complexity as possible. Strauss and Corbin (1998) moreover suggest that qualitative and quantitative methodologies are simply instruments in developing useful theories, and that one mode does not have primacy over the other. They state that “researchers in human and social sciences are operational pragmatists. The more flexibly scientists work or are allowed to work, the more creative their research is apt to be” (Strauss and Corbin, 1998, p.30). What this means is that using a mixture of different methodologies sensitises one to new aspects of data and allows a researcher to be flexible enough to use the most advantageous way to arrive at a theory.

3.5.2 Types of Grounded Theory

Three major types of Grounded Theory are Straussian, Glaserian and Constructivist. As is discussed in the next section, Straussian Grounded Theory fits into a pragmatic approach, as it aims to solve real world problems. It was first presented in Strauss and Corbin's (1990) book 'The Basics of Qualitative Research', which provided a step-by-step framework for Grounded Theory analysis. Although the authors stated that analytical stages involved in Grounded Theory are not discrete, and that they were broken down arbitrarily for the sake of explanation, Glaser (1992) felt that the flexibility of Grounded Theory had been taken away and replaced with a mechanistic and prescriptive guide (Glaser, 1992; Kelle, 2005). He felt that analysis should be data driven, to the extent that a literature review should not be conducted until after the research, to avoid bringing preconceptions to the analysis. Strauss and Corbin (1998) contrarily suggested that a familiarity with the existing literature could help to increase sensitivity to the data analysed. Since a literature review was necessary to determine the questions that required attention for the current research, Straussian Grounded Theory was used.

Constructivist Grounded Theory (Bryant, 2009; Charmaz, 2000), is similar to Straussian Grounded Theory since both reject the idea that there is a truth to be found, instead accepting that the researcher will to an extent have some impact on the findings that arise. Constructivist Grounded Theory pays particular attention to the multiple standpoints within an interview and the researcher's influence on the data. It refutes the ideas that theories are 'discovered' or that they 'emerge', instead arguing that theories are constructed. Rather than explaining real world phenomena, the constructivist approach focuses more heavily on interpretation and context. This approach was not used because, in the current analysis, the aim was to develop concepts

about men's experiences of screening, abstract them and explore them with further interviewing and questionnaires, rather than to descriptively capture each individual's narrative of their experiences (Glaser, 2002). The detail of what Grounded Theory analysis involved can be found in the following chapter, section 4.6.

3.6 Chapter summary

This chapter has explained the philosophical framework, pragmatism, and the mixed methods methodology that was used for the current study. In pragmatism, the focus is on the best way to answer the research question. The 'epistemological stance' definition of paradigms, which focuses on the ontological and epistemological features, is therefore abandoned (Creswell and Plano-Clark, 2007). Consequently, the approach also abandons the idea of 'incommensurability', i.e. that methodologies that are traditionally located in two different paradigms cannot be compared or integrated due to their differing philosophical underpinnings. The reason for this abandonment is that ontology and epistemology are seen as concepts that have been empirically constructed. Truth, objectivity and certainty are also rejected, because these too are empirically constructed. Within a pragmatic framework, knowledge is judged on its usefulness. Hence a less metaphysical and more practical approach is taken to research. It is legitimate to use the methodology that best answers the research question. For the current study, the most suitable methodology was mixed methods.

As the systematic review in the previous chapter illustrated, a qualitative exploratory study was needed to initially explore men's experiences of screening in more depth and answer the questions left unanswered by the metasynthesis. Quantitative research was needed in addition, to target a wider population of men, to make findings more authentic, representative and

generalisable. The qualitative method is discussed in the next chapter. As will be explained, interviews were offered in various formats; face-to-face, online and telephone, to try and encourage men who may usually feel deterred from participating in face-to-face discussion of potentially emotional topics. Hence, while the aim of the qualitative phase was primarily to explore men's views about screening in depth, there was also an aim from the outset to sample a wide a range of men as possible.

CHAPTER 4: INTERVIEWING MEN AND WOMEN: THE QUALITATIVE RESEARCH METHOD

4.1 Introduction

As outlined in Chapter 3, the first phase of the mixed methods study was an exploratory qualitative study designed to fulfil a general aim of this study, which was to explore men's experiences of screening in depth. The research questions for this phase were;

- (1) What are men's experiences of antenatal genetic screening?
- (2) What are men's views, beliefs and values regarding involvement in screening?
- (3) What enabling and constraining issues exist to men's involvement?

The specific aims for this phase were therefore;

- To understand men's experiences of antenatal screening
- To understand women's views on men's involvement

The objectives were;

- To collect and analyse data about men's experiences of antenatal screening
- To collect and analyse data about women's views on men's involvement in screening
- To discuss the implications of the findings of the study to research, practice and policy.

4.2 Design

As discussed in Chapter 3, a pragmatic mixed methods methodology was used in this research. The remainder of this chapter will focus on the first phase of this methodology,

which was exploratory and used qualitative methods. Exploratory research allows questions to be posed, new insights to be gained, and ideas for future research to be generated—all of which are crucial processes when the topic has previously been under-explored (Robson, 2002). In this exploratory phase, interviews were used, and were offered via telephone, email, instant messenger or face-to-face.

4.2.1 Rationale for using interviews

Cross-sectional interviews were used in this phase, which involved interviewing participants at one time point to get a snapshot of their experiences. Interviews have been described as conversations with purpose and structure, defined and controlled by a researcher (Kvale, 1996). Interviews were chosen as opposed to focus groups, because men might have been reluctant to discuss their views about screening results, genetic conditions, prenatal diagnosis or abortion, among a group of people. A counter-argument is that focus groups could have facilitated discussion, particularly for men who usually feel stigmatised or marginalised because of a particular experience, as bringing together a group of people with a particular experience in common could normalise that experience (Kitzinger, 1994). However, it was anticipated that the men in the study may not have shared a common experience—some would have had normal pregnancies, others would have had high-risk pregnancies, and others may have experienced abortion in the past. Thus one-to-one interviews were deemed most appropriate.

It was anticipated that characteristics about the researcher could influence on participants' experience of the interview and on what they shared. For example, the interviewer's gender was anticipated to have a particular impact on interviews, since the research topic was about

men. The potential gender-related issues that could have arisen in the interviewer-interviewee dynamic were therefore considered, particularly the way discussion about sensitive topics could affect, and be affected by, men's masculine behaviours.

4.2.2 Interviewing men: reflexivity

In an article about reflexivity and gender in healthcare research, Robertson (2006) points out how his own masculine subjectivities influenced various stages of his research project, which focused on men and health promotion. For example, his personal experience of there being “different ways of being a man” (p.309) led the author to see the importance of sampling not only hegemonic men, i.e. those who embody the current most socially accepted form of masculinity, but also subordinated or marginalised men (Connell, 2005), represented in his study by gay or disabled participants. Another concern of Robertson's was data collection. He argued that the way the researcher positions themselves, and the way they are positioned by participants, can lead to the elicitation of different responses across interviews, and therefore different data being collected. Robertson's concerns, observations and reflections were inevitably different to the concerns and reflections that could arise with a woman interviewer. For example, he discusses how, when talking to men, he engaged in discussions about topics such as drinking, thereby positioning himself as a complicit man. He also positioned himself as a subordinated or marginalised man when interviewing gay participants, recording thoughts about feeling a lack of control and fear of not understanding the way gay men might discuss health issues. Nevertheless, what was common between his work and the current project was the integral focus of gender, meaning that an awareness was needed of how participants might perceive the interviewer, and the kinds of gendered reactions they might have to being interviewed.

In another reflective article about interviewing men, but this time from a woman, Pini (2005), built on previous work by Schwalbe and Wolkomir (2003) and argued that researchers must be aware of ‘who is asking whom about what and where?’ when conducting research. The question forces the researcher to be reflexive about how they unconsciously shape the way the research is conducted and the data that is collected (Pini, 2005; Schwalbe and Wolkomir, 2003). She suggested that the social location of the researcher—factors such as their sexuality, race, ethnicity and class (Reinharz and Chase, 2003)—the social location of the researched, the topic of the research, and the interview environment could affect the research as a whole. As Robertson also states, “being a man is something that is predicated on gender relations that are also embedded in social structures” (p.309). The wider social context was therefore an important consideration in the current study.

Asking the question, ‘who is asking whom about what and where?’ drew attention to the need to consider gender-dynamics when conducting interviews. Gender was a particular concern compared to race and class because a woman (‘who is asking’) was interviewing men (‘whom’), for a project specifically about men, regarding antenatal screening, where women’s physical pregnancy and men’s lack thereof make gender differences salient (‘about what’). With regards to the ‘where’, the interviews took place against a societal backdrop where more attention was being paid to gender equality and fathers’ involvement in pregnancy in UK social policy (e.g. Finn and Henwood, 2009; Gender Equality Duty, 2007; Williams, 2008). Men’s involvement in antenatal care was perhaps more relevant when the interviews took place than it would have been some years ago.

To extend Pini's (1995) question, attention was paid in the current study to 'how' the asking is done— "who is asking whom about what, where and how?" For this research, and as discussed in Chapter 3 section 3.2, there was an issue of whether men might perceive there to be something inherently un-masculine about participating in interviews, compared with other ways of being asked questions, such as questionnaires, because of the contrast between emotional inexpression, mind, reason and rationality that characterises masculinity (Robertston, 2006), and the open discussion of sensitive topics in interviews.

While not all men conform to a powerful hegemonic role, for those who do, the interviewer is an active participant in their enactment of this masculinity, since masculinity is crafted to elicit deference and compliance in the 'audience' —in this case, the interviewer. However, in interviews, the crafting of hegemonic masculinity is made complex, because the question arises of whether more power rests with the woman, on account of her asking questions and guiding the interview for her own agenda, or whether more power remains with the man, as is the way in traditional gender hierarchies (Arendall, 1997). Relinquishing control to the interviewer contrasts men's struggle to gain compliance. Thus taking part in interviews risks men's status as autonomous, rational, and in-control masculine men.

Some ways that dominant men might try to reassert their masculinity in the face of these threats have been identified by Schwalbe and Wolkomir (2003). Men could test the interviewer's integrity and knowledge to expose her inferiority. Secondly, men could minimise their input and fail to respond to usual conversational cues, in an attempt to gain some control over the interview, and/or prevent the interviewer from seeing any vulnerabilities or uncertainties in their responses. Schwalbe and Wolkomir (2003) suggest

that masculine displays such as these might give the initial impression that an interview has not gone well, or that insufficient data has been gathered. On the contrary, such masculine displays can be interpreted as data themselves. Nevertheless, to get rich qualitative data, it was necessary to use a research design that would firstly maximise chances of recruiting men and secondly make it more likely that men would willingly and openly discuss the topics being investigated.

To manage some of the issues that could arise from interviewing men, a decision was made early in the research process that interviews would be offered in varying formats—face-to-face, telephone, email and instant messenger. Offering such interviews was a way to respect hegemonic-style masculine behaviours, because it meant men were given some control in choosing how they wanted to be interviewed, and given the option not to discuss emotional matters face-to-face. Offering these interviews, and posing less of a threat to men's masculine practice, was thereby thought to enable and empower men to discuss topics through a medium of their choice. Offering this choice was furthermore hoped to encourage people who would not want to participate in a face-to-face interview, whether it be because of shyness, shame or social isolation, the opportunity to take part (Bjerke, 2010).

4.2.3 Interviewing women

To get an understanding of how women actually felt about having men involved, it was necessary to interview them too. Interviewing women meant their perspective on men's involvement was captured, and a more authentic picture and useful picture was gained of how men's involvement in screening works in day-to-day life, allowing more practical implications to be identified. This fits with the pragmatist perspective that new knowledge

should be useful—that is, have some practical benefit. Women’s views were also useful so comparisons could be made with men’s views, leading to a richer and more nuanced analysis.

As with interviewing men, “who was asking whom about what, where and how?”

(McDowell, 1998; Pini, 2005; Schwalbe and Wolkomir, 2003) was asked to raise awareness of how the interviewer’s position might have impacted on the interviewee and the interview. Again, gender was a prominent concern. Reinharz and Chase (2003) suggest that there are specific issues raised when women are involved in research, stemming from the traditional perception that women are less powerful than men. The authors suggest that disempowered women might therefore have little to say as participants or have little confidence that what they want to say is important. Powerful women in contrast could feel a responsibility to not only represent themselves, but also women as a whole, to compensate for women’s disempowerment in traditional gender dynamics, particularly when discussing a topic that relates specifically to women. Again, these displays of talking less, or of talking about women as a whole rather than about oneself, would be considered data in themselves, because they would constitute part of ‘doing femininity’. Nevertheless, to elicit relevant and rich data, the interview schedule was designed to deal with these potential possibilities. Hence it was designed with appropriate, sensitive probes for participants who gave brief answers, as well as including questions that asked about participants’ personal experiences. More information is provided about the considerations when designing the interview schedule in section 4.2.6 and the final schedule can be found in Appendix 2. For fairness, women were given a choice of interview medium, particularly since some of the women were heavily pregnant or experiencing pregnancy related sickness. The next sections explain the advantages and disadvantages of using interviews of different formats.

4.2.4 Telephone interviews

Telephone interviews have some advantages over face-to-face interviews, and many of these advantages apply to online interviews also. They allow participants anonymity and privacy, leading to less inhibited responses from some participants (Jowett et al., 2011). Not being able to see the researcher may additionally decrease the potential for social desirability bias among participants.

Three disadvantages of telephone interviews are put forth by Novick (2008). These are that there is a (1) loss of non-verbal data (2) loss of contextual data and (3) loss or distortion of verbal data. In response to these are three counter-arguments in favour of the use of disembodied communication. With regards to (1) the loss of non-verbal data, such data is rarely used in qualitative analyses. It is standard practice to record the audio and transcribe an interview, analysing this transcription and hence the participants speech. Thus non-verbal data can be lost in any interview. Moreover, some non-verbal signals such as sighs and laughter are still evident in telephone interviews.

Regarding (2) the loss of contextual data, such as the participant's clothing and residence, even face-to-face interviews can lose such data if they take place in a location outside of the participant's home. Such loss would be more problematic if the research were an ethnographic project where field notes about the environment are required for analysis. For a Grounded Theory study, it is not wholly necessary to see the participant's location. As Novick (2008) cites, Burnard (1994) suggests that contextual data do not necessarily illuminate what the participant says, which is the most important part of the interview. Seeing the participant could also lead the researcher to unconsciously judge them on the basis of looks, clothing,

etcetera and vice versa. Disembodied interviews on the other hand “provide a context in which [participants] can escape the confines of embodied social markers and engage in what many refer to as the meeting of the minds” (Bjerke, 2010, p1719; Markham, 2008).

With regard to (3) the loss or distortion of verbal data, Shuy (2003) argues that it may be more difficult to build rapport with participants over the telephone, since telephone conversation is less natural than face-to-face conversation, eliciting less “small talk, politeness routines [and] joking” (p179). He claims that as a result, telephone interviews can lead to less rich and accurate responses. This criticism could be applied to other forms of disembodied communication too. However, disembodied conversations are becoming more normal and perhaps more natural, and so may elicit fewer problems than Shuy anticipated in 2003, as recent research indicates 77% of all UK households have internet access, and 6 million people accessed the internet from their mobile phone for the first time in 2011 (Carr and Worth, 2001; Novick, 2003). Indeed, participants who chose to be interviewed over the telephone or internet were likely to have been comfortable with conversing this way, and this comfort may have facilitated disclosure of sensitive issues. Moreover, as Bjerke (2010) suggests, the lack of researcher presence—and in email interviews, the length of time participants have to respond to questions—can make discussion of emotional issues more comfortable and easy. Nevertheless, in the current study, extra care was taken in disembodied interviews to initiate rapport through informal chat before the interview began, and maintain rapport by using active listening skills (discussed in section 4.5.3) to show empathy and understanding towards the interviewee.

4.2.5 Online interviews: email and instant messenger

Practical advantages to online interviews are that background noises are not recorded and interviews are self-transcribed (Kazmer and Xie, 2008), reducing the chances of transcription errors or bias (Ayling and Mewse, 2009). A criticism is that there might be fundamental differences between the embodied-self and the disembodied-self that is constructed online (Bjerke, 2010). This online-self can be freer of ethnicity, culture, gender, age et cetera (Dery, 1994, p3). This discrepancy can mean less rich data is collected and less accurate interpretations are made. Other researchers challenge this notion and suggest people are always embodied, even when presenting themselves online (Hardey, 2002; Markham, 2008). In fact, previous research (Hunt and McHale, 2007) including a published pilot study of the current study (Williams et al, 2011) has shown that using email interviews can facilitate communication with men, because those reluctant to enter into emotional discussions face-to-face are able to participate if they are more comfortable with using the internet. Instant messenger interviews can have these same benefits (Kazmer and Xie, 2008; Opdenaker, 2006), with the added bonus of an immediacy lacking in email communication (Fontes and O' Mahoney, 2008).

There are other advantages to conducting disembodied interviews. Since the text of the interview can be reviewed at any time, reflection over previously discussed topics is made easier for the interviewer and interviewees, leading to more thorough and thoughtful exchanges (Bjerke, 2010; Fontes and O' Mahony, 2008). This advantage can compensate to an extent for any meaning that could be lost, though the loss of 'uhms' and 'ahs' and non-verbal data, because it allows the researcher to pay closer attention to the meaning in what participants say. This issue is discussed further in the following section, which focuses

specifically on email interviews.

4.2.5.1 Email interviews

In email interviews, the researcher can pay more attention to what the participant had said, because the need to think about what to say immediately next was reduced (Opdenakker, 2006). A limitation of this factor is that spontaneous responses from participants, such as those received in face-to-face, telephone or instant messenger interviews, may be lost (Fontes and O'Mahoney, 2008; Jowett et al., 2011; Opdenakker, 2006). This limitation is countered by the advantage that the time taken to complete an email interview gives a longer time to build rapport (Hunt and McCale, 2007). Kazmer and Xie (2008) argue however that the asynchronicity of email interviews—that responses are intermittent, rather than back-and-forth as in normal conversation—could interrupt the build-up of rapport. To manage this problem in the current study, active listening skills (discussed in section 4.5.3), translated into text form, were used.

4.2.5.2 Instant Messenger interviews

There are two practical considerations with regard to instant messenger interviews. Firstly, as Mann and Stewart (2002, p. 618) suggest, in online interviewing, “listening needs to be expressed as words, not silence”. Therefore responses like ‘mmm’, and ‘okay’ were used to show attentiveness during the conversation. Secondly, Opdenakker (2006) and Jowett et al. (2011) suggested that having an in-depth interview by instant messenger take longer than face-to-face interviews. For example, one hour of face-to-face interviewing would elicit more words in a transcription than one hour of instant messenger interviewing.

4.2.6 Designing the interview schedule

All interviews were semi-structured. Such interviews are defined by Robson (2002) as including;

“predetermined questions, but the order can be modified based upon the interviewer’s perception of what seems most appropriate. Question wording can be changed and explanations given; particular questions which seem inappropriate with a particular interviewee can be omitted, or additional ones included” (p.270).

Semi-structured interviews were deemed more empowering to men and women than structured interviews, because it meant that participants were able to talk about what was important to them. Moreover, since this was an exploratory study where it was unclear initially what men’s experiences would be like and what additional questions could be asked, a semi-structured approach was most appropriate. Semi-structured interviews are also in keeping with Grounded Theory, since both involve the exploration of new, emergent ideas as the research progresses. An unstructured interview approach, where participants tell their own story before the researcher asks questions about it (Corbin and Strauss, 2008), was not taken because despite the research being exploratory, there were a set of questions that definitely required investigation. An added advantage of having an interview schedule was that similar topics were covered with each participant, and the interview was more easily guided and kept on topic. Using the interview schedule hence helped to reduce bias across the interviews because a similar set of questions was asked of each participant.

To construct the main body of the interview schedule, relevant questions and questions that were left unanswered from the metasynthesis, were brainstormed. General and open ended questions were written that would encompass other questions. Probes were written for each of these questions that acted as a guide for the interviewer to encourage participants to elaborate on their answers.

Overall, sensitivity and empathy were hugely important to the flow of the interview, and to protect the participants' well-being. Accordingly, a careful and sensitive approach was taken when asking questions about prenatal diagnosis and abortion. Participants were not initially asked about these issues outright. Instead, they were asked a question along the lines of "can you tell me more about what would have happened if there was a high-risk result?" or "how much did you discuss beforehand what would happen if there were any problems?". Other participants raised the issue of what would happen if they received a high-risk result themselves.

4.3 Sampling and saturation

4.3.1 Criterion sampling and inclusion criteria

In accordance with Grounded Theory, criterion sampling was initially used to recruit participants. Criterion sampling involved identifying appropriate populations who met the inclusion criteria before any data were collected (Robson, 2002). Inclusion criteria were for participants to be at least 16 years old and to have been offered at least one screening test by the time of interview. Thus all pregnancies were required to be at least 8 weeks' gestation, when screening for haemoglobinopathies is offered. As with previous research (e.g. Draper, 2002; Gottfredsdottir et al., 2009a; Gottfredsdottir et al., 2009b; Reed, 2009; Reed, 2011), first time fathers and men who already had children were included. To maximise the sampling pool, men whose partners were up to 12 months post-partum were also included. Broad inclusion criteria were used because the exploratory nature of the study meant no presumptions were made that any one demographic of men would have more valuable views than another. Women who had been pregnant before and participants who were not in a

relationship additionally formed part of the inclusion criteria, but no such participants were recruited.

The exclusion criteria were listed on the information sheet given to potential participants. It consisted of individuals who had (1) miscarried or terminated the pregnancy, as this was not the original focus of the study, (2) severe learning or cognitive difficulties that would prevent them from providing fully informed consent and (3) limited English proficiently, since the accuracy and trustworthiness of any translation could not be confirmed.

4.3.2 Theoretical sampling and inclusion criteria

Following criterion sampling, theoretical sampling was used, which involved the collection of data from specific participants whose data would help to develop concepts identified in the analysis (Corbin and Strauss, 2008). Theoretical sampling involves sampling a particular population of participants to develop emergent theories (Strauss and Corbin, 1998). As the analysis progressed, a concept that required further exploration emerged, which was whether men with an anomaly would take more responsibility for antenatal screening and testing than those without an anomaly, or whether women would take on the responsibility because they would have the gestational experience of the pregnancy. To maximise opportunities to explore variations between men who had no anomalies and those who did, there was an attempt to recruit a population of men and women who had, or were carriers of, a genetic or chromosomal anomaly. Otherwise, the same inclusion and exclusion criteria were used as for the criterion sampling.

4.3.3 Saturation

Saturation is defined by Corbin and Strauss (2008) as occurring when the main categories have depth and variation. Sampling was ceased once theoretical saturation of the main topics was achieved (Corbin and Strauss, 2008). The number of interviews that will lead to saturation is suggested to be dependent on the interviews themselves, and on the skills of the interviewer, rather than the number of participants (Mason, 2010).

4.4 Recruitment

4.4.1 Population

There were 723,913 live births in England and Wales in 2011, meaning the population of expectant parents from which the current sample was drawn was huge (Office for National Statistics, 2012). Of these births, 25.5% were to women born outside of the UK, with most being born in Poland. The same data is unavailable for men, but most non-UK born men are born in Pakistan. Of the UK (27.3%) and non-UK (32.4%) born mothers, the most common age group was 30-34, just below the age when women are deemed to be “at-risk”. More non-UK born women were married (75%) than UK-born women (45%) at the time of birth.

4.4.2 Recruitment procedure

Rather than recruiting couples into the study, an attempt was made to recruit individual men and women. The reason was that although participants would be assured of the confidentiality of their discussion, they might have worried that their partners could contradict or find out what they had said. Moreover, they might have felt embarrassed or reluctant to discuss sensitive topics if the researcher had spoken to their partners. Interviewing individuals rather than couples was also appropriate because the focus of the research was men and not couples.

However participants whose partners volunteered to take part in the study were accepted. In line with the pragmatic philosophy of the project, it was important to include participants who could contribute something valuable to the study to make the research more useful for capturing what goes on in antenatal screening and for identifying implications to research, practice and policy.

Recruitment began 16th June 2010 and finished 4th August 2011. Various methods of recruitment were used. Initially, a presentation of the research protocol was delivered at the 2010 West Midlands local screening coordinators annual conference. The attendees—screening midwives from West Midlands hospitals—were invited to facilitate recruitment by acting as local collaborators. Five midwives and local screening coordinators stated their interest. After the conference, the West Midlands regional screening coordinator emailed the attendees to once again advertise the research; however no one else made contact.

The South Birmingham Research Ethics Committee (REC) granted approval (Reference 10/H1207/38) and R&D approval was gained from each of the sites. For each site, packs were prepared consisting of an invitation letter briefly explaining what the research was about (Appendix 2.2), an information sheet (Appendix 2.3) with more detailed information, a reply form for people to indicate their preferred time, date and medium for interview (Appendix 2.4), and a freepost envelope in which to return the form. To make it clear to participants that the research was being undertaken by the university, rather than the hospital, the university's logo was used to head each letter in the pack

Fifty packs for men and fifty for women were sent by post to each of the sites. Midwives

handed packs to men and women they saw for antenatal appointments. If they did not see men, midwives gave packs to women to pass on to men, which was one way to access men who did not attend appointments. An additional community midwife in Birmingham sent out 25 packs for men and 25 for women. Furthermore, packs were handed out by the researcher in-person in the antenatal clinic waiting room at Birmingham Women's Hospital.

Additionally, a website was created to advertise the study with an embedded link to an online version of the reply form. The recruitment sites were also sent posters advertising the study, with slips that interested people could take, which had a link to the website.

Recruitment via the NHS was not successful. After sending packs to midwives, just two men sent back reply forms. Approximately a month after midwives received the packs, they were contacted via email or telephone to see if they needed more and to ask how recruitment was going, so that any problems could be addressed. Midwives at three sites failed to respond to follow-up emails and telephone calls. Midwives at another site were met with and said that they had handed out all of their packs. The West Midlands regional screening coordinator was once again contacted with the news of the slow recruitment, but despite her emailing the local screening coordinators, encouraging them to facilitate the study, there was no response.

To compensate for the poor recruitment, university ethical approval was sought and granted (ERN_10-0922) so alternative means of recruitment could be identified. Thirteen children's centres in Birmingham with antenatal classes or similar sessions for expectant parents were contacted. Only one of these children's centres was willing to facilitate the research. Upon visiting the centre, it became apparent that the service users were all new mothers, rather than expectant mothers, and despite there being an in-house father's worker, no expectant or very

recent fathers attended the centre. A visit was arranged to a NCT antenatal class, led by a midwife from another children's centre, and packs were handed out to the group members. Various 'Bumps to babies' groups were identified and one, where the group leader was willing to facilitate, was visited. This visit was a limited success as there were only three pregnant women in the group, one of whom did not speak English.

OSCAR (Organisation for Sickle Cell Anaemia Relief and Thalassaemia) was contacted about the study. The organisation passed on to the details of the study to New Cross Hospital in Wolverhampton, their NHS partner, who did not feel able to take on the study. A haemoglobinopathy researcher was identified to pass on flyers about the study to people within her church. Again, no one was recruited via this method. Finally an advertisement was placed on forums, such as MumsNet and DadsNet, and an email asking for participants was sent to various mailing lists that the researcher was a member of (health psychology and psychology postgraduates). Members of these mailing lists passed on to the emails to people they thought might be interested. Using mailing lists was the most successful method for recruiting participants.

For the theoretical sampling, the clinical genetics unit at an inner-city teaching hospital was contacted. Twenty-five packs for women and twenty-five for men were sent out by a clinical geneticist, who identified suitable participants from their database. The fetal medicine department at the same hospital, and another antenatal department, were contacted about this theoretical sampling, but were unwilling to support the study.

Twenty-eight individuals returned reply forms, but ten did not reply to telephone calls or

emails for an interview to be arranged, meaning the rate of attrition was 35.7%. Most of these had indicated they wanted an email interview on their forms. The participants lost to follow-up were sent one initial email, and a follow-up email and telephone calls a week after. When there was no response, it was assumed that they did not want to take part. It was not deemed ethical to pursue non-responders beyond this point, since participants might have miscarried.

4.5. Data collection

4.5.1 Gaining consent

Participants who sent back a reply form or who emailed the researcher to state they were interested in participating were contacted to arrange a date and time for the interview.

Participants were sent the consent form before the interview began, by email for participants interviewed by telephone or email, in person for the face-to-face interviews, and via the instant messenger file sharing function for the messenger interview. All participants were given the chance to ask questions before the interview started, and were reminded they could stop at any time, continue the interview later, or stop completely. The potential for distress was minimised by reminding participants at the beginning that they could omit any questions.

They were informed that the interviewer was a doctoral researcher with a background in psychology, but no other disclosures were made. Interviews ended with a short debrief and thank you. Participants were emailed the following day with another thank you and a note that if they were experiencing any negative affect as a result of the interview, they should contact the researcher who would identify a source of support for them. A sample consent form is in Appendix 2.5.

4.5.2 Methods of asking questions

Participants interviewed by email were given one opening question, and then two or three questions at a time in response to what they had said. Emails were usually responded to within a day to maintain contact. To manage Hunt and McCale's (2007) warning that later email replies could be less focused or have less information than earlier ones, participants who gave short or unfocussed answers were asked to elaborate on earlier and more relevant points that they had raised or related points from the interview schedule.

The participant interviewed by instant messenger was given an email address and password for an instant messenger account that had been set up especially for the interview, so that he would not become engaged in other instant messenger conversations with people on his personal account while being interviewed. Instant messenger and telephone interviews worked much the same as face-to-face interviews, in that participants were given time to think about and answer each question, and follow up questions were formulated based on what they had said.

4.5.3 Building rapport / minimising distress

Mutual trust and respect are important for rapport-building (Mann and Stewart, 2003). Trust was built by telling the participants that what they said would be kept confidential. In a bid to encourage open discussion about their NHS experiences, participants were also told that the interview was for a University of Birmingham research project rather than an audit of the NHS. They were reassured that any comments made about the NHS would not affect the woman's care. In face-to-face and telephone interviews, mirroring participants' tone of voice and actions such as laughter additionally helped to maintain rapport and motivate the

participants to elaborate on what they were saying (Carkhuff, 1967). In online interviews, mirroring was enacted by using the same words that the participants had used to describe a situation to then ask more questions about that situation. Participants were also listened to attentively, using reassuring language and using active listening, which involves “hearing between the lines” (Mann and Stewart, 2003; Reinharz and Chase, 2003 Miller & Webb, 2011).

4.5.4 Active listening skills

Active listening helped to build rapport. It involved using open ended questions to encourage the interviewee to give lengthy and rich answers. To show participants that they had been listened to, the interviewee’s answers were paraphrased, allowing them to re-examine, expand on, correct and reflect on what they had said. Asking the participant for their thoughts about an issue, for example by starting questions with ‘Why do you think ...?’ was also useful to show that their views and thoughts were of interest. Similarly, drawing a conclusion about what they had said, relaying it back to them and thereby encouraging them to evaluate whether they agreed or not was a useful way to show they had been listened to and to see if the interviewer’s interpretations were accurate. Moreover, openings such as, “It sounds like...” or “can you tell me a little bit more about what you mean by...” were useful to check understanding. Using silence was additionally important to allow participants time to respond and formulate answers. These techniques allowed for good rapport and respect to be maintained throughout the interviews (Louw et al., 2011). All of these techniques helped to keep the interviewee focussed on the subject.

4.6 Grounded Theory analysis

4.6.1 Overview and techniques of analysis

Analysis by Grounded Theory involved three major stages, which were (1) description, (2) coding and (3) developing and testing theory. These stages were iterative, in that there was movement back and forth between them. The analysis began after each interview was finished, and involved writing a short description about the participant and their story.

Description formed the basis for forthcoming abstractions and analysis (Strauss and Corbin, 1998). The analysis continued during transcription, during which ideas about what was being said were noted.

When analysing the transcripts, analysis was microscopic, in that a line-by-line analysis was carried out and close attention was paid to the kinds of words participants used. Furthermore, questions were constantly asked of the data, such as ‘what is the respondent saying?’ and ‘how are they saying it?’ Another technique used to facilitate analysis was to look at each situation in each interview, and identify the conditions that led to that situation and the consequences of the situation.

Constant comparisons were made from the findings at each stage to those at subsequent stages. For example, theoretical comparisons were made, which involved taking an incident from the raw data and comparing it to an incident from theory or from the literature. Another comparative technique, ‘flip-flopping’, involved looking at a concept and trying to understand it by looking at its opposite. For example, the analysis of a concept such as ‘trusting the experts’ was facilitated by delineating what made it different to ‘not trusting the experts’. Systematic comparisons were also made with other concepts. Systematic comparisons were

broken down into close-in comparisons, where two similar concepts were compared to each other, such as ‘expecting first child’ and ‘expecting second child’, and far-out comparisons where two very distinct concepts were compared, such as ‘expecting first child’ and ‘moving house’. These techniques helped with coding.

4.6.2 Coding and memos

There were three iterative aspects of coding, which were (1) open coding, (2) axial coding and (3) selective coding. When transcripts were read, the process of open coding began. Open coding involved writing on the transcripts and labelling meaningful sections of data in page margins. In particular, coding involved looking for concepts— “the building blocks of theory”—within the data (Strauss and Corbin, 1998, p.101). Open coding also included coding for processes. Strauss and Corbin describe processes as being the evolving and dynamic actions and interactions between the participant, their surroundings and other people that occur over time and in varying locations. Coding for processes meant that the participants’ views and behaviours were contextualised and the analysis was given depth and meaning. Having a focus on processes was an advantage of Grounded Theory, since pregnancy was essentially a nine-month process, during which men would be interacting with healthcare professionals and family members, gathering new information and experiences.

Memos—preliminary analytical notes—were made throughout the analysis to link codes together and guide later analyses. Memos acted as reflections on the analysis and helped to identify inconsistencies and holes in the developing arguments (Strauss and Corbin, 1998).

Three kinds of memos were made. The first memos were code notes, which were initial thoughts about codes. For example, one code that emerged from initial analyses was how

men's employment status impacted on their involvement in screening. An example of such a memo is given in Figure 4.1.

Figure 4.1: Example of code note

Participant 1

Code: Role in family/employment status and screening

Line 50 - Participant was made redundant, which might mean his role in the family has changed. The properties of unemployment are 'time' (dimension: has more time), 'money' (dimension: has less money), location (not at work), and 'activities' (dimension: more time with family than with colleagues). So there was more opportunity to be with wife such as antenatal screening. Lack of income meant he was not filling the traditional role of breadwinner. So this may have thrust him into the more egalitarian role of being involved in screening

The second kinds of memos were theoretical notes, where the codes were linked to initial ideas about the analysis, emerging theory and theoretical sampling. The third types of memo were operational notes, which were reminders about procedural aspects of the research, such as what questions should be asked of the next participants. When open coding was finished for the first participant, the codes and memos were listed on a Microsoft Word document under the heading 'Participant 1'. The process was then repeated for each participant.

The next stage of coding, axial coding, involved relating the concepts together to start forming categories (Corbin and Strauss, 2008). Categories were organised according to their properties (characteristics that gave the category meaning, such as 'conceptualisation of the pregnancy') and dimensions (the range of variations in that property, such as 'real' or 'abstract') (Strauss and Corbin, 1998). To organise the axial codes, another Word document was created, where instead of headings of 'Participant 1' and 'Participant 2' etcetera, codes that had come up for various participants were used as headings. An example is shown in Figure 4.2. The bold titles are the axial codes. Each of the bullet points under the bold heading corresponded to code notes made in open coding.

Figure 4.2: Shortened example of initial axial coding

1) A father and a spouse

- Closeness (in thoughts and feelings) with partner
- Involvement as a way to support partner
- Reasons for attending: obligation/shared expectation/opposite would mean 'abandoning her'.
- Consider existing family
 - Role as father and role as father-to-be: prioritising current family
 - Reasons for attending: "family unit".

2) A power struggle

- Lack of engagement – not always a problem
 - Men feeling helpless
 - Dad/Man in the background
 - Men aren't priority- woman as patient.
 - Happy to be passive
- Engagement is valued
 - Two extremes – being ignored or being overly involved
 - Value of direct engagement
 - Engagement during scan – informational and emotional
- Resisting marginalisation
 - Husband as third party
 - Same time men weren't that happy (but were understanding) about lack of engagement

After axial coding, theories and arguments were developed further. If any gaps or weaknesses in emergent concepts were identified, the raw data were revisited to see if these gaps could be filled in. If they could not, then questions were added to the interview schedule to explore and develop the concepts further.

The final stage of coding, selective coding, involved the integration and refinement of the categories. In practical terms, selective coding was conducted via writing and rewriting the analysis. Writing was therefore an integral part of the analysis and helped to shape, refine and test ideas. As Strauss and Corbin (1998) suggest, writing helps to refine theory, clarify

thoughts and highlight breaks in logic. It was at the writing stage where there was total immersion in the data and when each step of the analysis appeared less discrete and more fluid and unconscious.

4.6.3 The central category

A central category was finally developed, which was the underlying variable that explained all the findings about men's experiences of antenatal genetic screening. The central category does not necessarily have to explain the entirety of the findings; some researchers decide to focus the central category on one specific aspect of the findings (Corbin and Strauss, 2008). In the current research, the central category informed the theory that was then tested in the quantitative aspect of the research.

4.6.4 Abductive reasoning

In Grounded Theory, the process of creating new codes and moving from codes to concepts to categories to theories involves an “intellectual jump”, which is achieved via abductive reasoning. Abductive reasoning is the process of constructing hypotheses concerning the relationship between a set of features through “an intellectual act [or] a mental leap” (Reichert, 2007, p.220), i.e. based on intuition, or theoretical conjectures. It involves justifying the hypothesis once it has been developed through re-checking data or conducting more interviews, to find evidence to verify the hypothesis. Thus the antecedents for the hypothesis are found after it has been generated and after the consequences of the hypothesis have been identified. Abductive reasoning fits with the pragmatic approach, because of its practical nature: hypotheses are constructed to explain unexpected observations, which can then be tested with further sampling and analyses. This makes the unexplained issues

manageable (Charmaz, 2006; Reichertz, 2009).

Since abductive reasoning involves finding the premises for the conclusions after the conclusions have been identified, it contrasts deductive reasoning, where a direct relationship between the premises and conclusion exists, i.e. if the premises are true then the conclusion must be true. What's more, it contrasts inductive reasoning, where conclusions are drawn about objects or incidents that have not been examined based on premises that have.

Deductive and inductive reasoning do not necessarily produce new knowledge; established knowledge is simply generalised or extended.

4.6.5 The influence of the researcher

Although the theories developed from this analysis were grounded in the data, they were also abstractions from the data, developed through increased conceptualisation and reduction of the data. Thus there was an interaction between the researcher's ideas and interpretations, and the data itself.

In Straussian Grounded Theory, the researcher is permitted to have some preconceptions, which is one way that it differs to Glaserian Grounded Theory. Corbin and Strauss (2008) accept that maintaining objectivity is almost impossible in qualitative research. This view falls in line with a pragmatist viewpoint—the researcher does not have a spectator view of the phenomenon and her understanding of it cannot be untangled from her personal construction of it (Scott and Briggs, 2009). Acknowledging the researcher's influence goes further to illustrate how 'reality' and knowledge are socially located; analysis does not take place in a social vacuum and to suggest that knowledge 'emerges' is to neglect this issue.

To remain aware of the researcher's influence, Corbin and Stauss (2008) suggest that the researcher's own experience should be recognised and queried rather than accepted, so that any theories that are developed from Grounded Theory analysis are made as valid as possible (Reichert, 2009; Strauss and Corbin, 1998). Theories should be checked against current data so that they remain empirically grounded and qualitatively valid. This was a particular issue in the current study since a metasynthesis of the literature had already been conducted.

Having some familiarity with literature can nonetheless help identify important research questions, make comparisons, and increase theoretical sensitivity, i.e. the insight to seek meaning in, understand, and select pertinent aspects of data for theory building. When using abductive reasoning, as in the current study, preconceptions can form the basis upon which future innovative insights develop. Categories and theories can even be compared to the existing literature, to elucidate what the properties and dimensions of emergent concepts were, and whether these properties and dimensions are unique to the current research or common in other research. The metasynthesis findings thereby facilitated analysis, particularly the constant comparative stage, because the findings of the metasynthesis could be compared with the findings in the new data. Concepts that contradicted or corroborated the metasynthesis were sought out, as were concepts that were not found in the metasynthesis at all.

4.7 Trustworthiness of findings

Lincoln and Guba (1985) defined trustworthiness as the extent to which the findings of qualitative research are worth paying attention to and worth taking into account. Although the

researcher inevitably has some influence over what findings emerge, trustworthiness can to an extent be established through taking measures to minimise bias. These measures are discussed below in relation to credibility, transferability, dependability and confirmability.

4.7.1 Credibility

Assessing credibility involves asking whether the participants' views, in the context in which they were collected, were represented as accurately as possible by the researcher. To ensure that credibility was established in the current study, there was prolonged engagement with the research. This engagement meant a good representation of participants' voices was achieved through spending time conducting and analysing interviews. There was also persistent observation which involved paying close attention to characteristics of the findings.

Prolonged engagement provided scope, while persistent observation provided depth to the analysis (Onwuegbuzie and Leech, 2007).

Discussing the research with peers via formal presentations was another way to maintain credibility (Lincoln and Guba, 1985). Peer evaluation was discussed in Chapter 3, section 3.4 in relation to pragmatism. It is a way to ascertain the usefulness of findings. Responding to peers' thoughts and questions ensured that biases were exposed and emergent analyses were explicit and well-thought out. In addition, negative case analysis strengthened credibility, which involved seeking refutations to emergent theories, to ensure they encapsulated all of the concepts in the data. Analysing men's views with those of women also helped to add credibility because it meant men's reports were not relied upon to assess how their involvement affected women (Onwuegbuzie and Leech, 2007).

There is some debate in the literature as to whether member checking, whereby findings and

analyses are checked with participants, is valuable. Glaser (2002) suggested Grounded Theory “is applicable to the participants as an explanation of the preponderance of their on-going behaviour [...] which they may not be aware of conceptually, if at all. [Grounded Theory] is not their voice: it is a generated abstraction from their doings and their meanings that are taken as data for the conceptual generation” (Glaser, 2002, p.5). McConnell-Henry et al. (2011) suggest that participants who are checking transcripts could try to second-guess the researcher and put more emphasis on aspects of the study that they think the researcher considers most important or relevant. Moreover, it could be that the participants have changed their thoughts or beliefs in the time between their interview and member checking, so wish to change what was said, which is at odds with the research being a snapshot of one particular time-point (McConnell-Henry et al., 2011). Furthermore, participants might feel pressured to agree with the researcher, thus accepting an analysis they themselves do not agree with (Lincoln and Guba, 1985).

4.7.2 Transferability

Transferability is about whether enough detail is given in a research study to allow others to evaluate whether the findings might be applicable to them (Onwuegbuzie and Leech, 2007). Rich and thick description and analyses have been provided in the next chapter to make transferability clear (Onwuegbuzie and Leech, 2007).

4.7.3 Dependability

Dependability asks whether the findings would be replicated, taking into account natural change in a phenomenon across participants, contexts and time, if the research was conducted again, either with the same participants in the same context, or with similar participants in a

similar context. Tobin and Begley (2004) argue that dependability relies on a clear audit trail, which would allow other researchers to access the decisions behind all aspects of the research so that the findings might be replicated. They also suggest that reflexivity—the identification of how the position of the researcher might have impacted the research and findings—is critical to understanding why decisions were made. By explaining and justifying all the decisions made in this part of the research, this chapter has acted as reflexive audit trail.

4.7.4 Confirmability

Confirmability asks how neutral the analysis has been—whether the conclusions drawn have some grounding in the data and whether the findings might have been influenced by researcher bias (Lincoln and Guba, 1985). The clear audit trail presented in this chapter is one way that confirmability can be established (Tobin and Begley, 2004). A reflexive diary was kept where the researcher’s motivations, perspectives, interests and thoughts about the analysis were noted, so that there was a record of potential biases. Analysis was checked against this diary to see whether it was being influenced by the biases (Lincoln and Guba, 1985). Differing interpretations of the data and findings were discussed with project supervisors to uncover further potential biases. However it is appreciated that since all three interpretations came from academics, some biases in the way the data were interpreted may have remained. Thus it cannot be assumed that the analysis is the objective and single ‘truth’, only that it is an interpretation of the truth. This idea fits with the rejection of certainty in the pragmatist framework.

4.8 Chapter summary

This chapter has provided detail of the research method and design. The cross-sectional

interview design was used to capture a snapshot of men's experiences of antenatal screening. Interviews were used over focus groups because the men recruited into the study would not necessarily have had similar experiences; some would have had a high-risk pregnancy, others a low-risk and others would not know. These differences would make interviews more suitable, so attention could be paid to each individual's personal experience. Some considerations when interviewing men were how to allow them to feel empowered during the interviews, and how to encourage discussion of emotive or sensitive topics. Men were therefore given a choice of interview method: face-to-face, telephone, email, or instant messenger. Each of these methods has advantages and disadvantages, but there is very little evidence to suggest that any one method is best. Regarding recruitment, men and women were eligible as long as they were 16 years old or above and at 8 weeks gestation or more. Recruitment via NHS antenatal units was rather unsuccessful; just two participants were recruited this way. Recruitment was therefore widened to include children's centres and online mailing lists and forums. Willing individuals were asked to state which interview method they wanted. During the interviews, active listening skills, such as paraphrasing and using silences, were employed to maintain rapport. The transcribed interview data were analysed using Grounded Theory (Corbin and Strauss, 2008), an iterative approach that involved description, coding and the construction of categories. Three types of coding were open, axial and selective. To analyse developing theories more closely, techniques such as memo writing and constant comparisons were used. During analysis, abductive reasoning was employed, which involved constructing hypotheses based on 'hunches', and then going back to the data to find evidence for the hypotheses. The influence of the researcher was therefore recognised in Grounded Theory, but any developing theories were checked to ensure they were indeed grounded in the data. A central category was finally developed which brought together the

other categories. Trustworthiness of the developing analysis was checked through various means such as peer evaluation, keeping an audit trail and a reflexive diary. The findings from this qualitative phase are presented in the next chapter.

CHAPTER 5: FINDINGS FROM GROUNDED THEORY ANALYSIS

5.1 Introduction

In the previous chapter, the method of recruiting the participants into the study was presented, along with description of how the interviews with these participants were analysed and made trustworthy. This chapter presents the findings from the Grounded Theory analysis. Although some of the findings within the categories have support in existing research, the central category and the grounded theory that have been constructed make a novel contribution to the field of fatherhood and antenatal screening research. Detail on participants, the categories, the central category and the novel grounded theory follow.

5.1.1 The participants

5.1.1.1 Demographic details

Details of participants are presented in Table 5.1. All names were changed. Seventeen interviews were conducted—there was a joint interview with one couple (Karl and Polly) at their request. Bryan and Melissa, and Joshua and Samantha, were also couples, but were interviewed separately. All participants were White British, except Rachna who was British Bangladeshi. As with Reed’s study (2009a), participants’ socioeconomic status scores in Table 5.1 were calculated using the National Statistical Socio-Economic Classification (NS-SEC) three tier framework, which takes into account their occupational role, size of their organisation/company, and whether they supervise anyone. Their score indicates a (1) lower, (2) medium, or (3) higher socioeconomic status. Three participants omitted questions, so a score could not be calculated. Participants were mainly married, except Iain, Bryan and Melissa. ‘Partner’ is used ubiquitously to encompass wives, husbands and cohabiting partners.

Table 5.1: Population sample characteristics

Pseudo-nym	Age	Interview method	Recruited from	Other children	Socio-economic status	Education	Gestation (weeks) and screening so far	Additional information
Andy	34	Instant messenger	Antenatal unit	3-year old son	High	Degree	<1 week postnatal All screening offered and taken up	Wife had experienced blighted ovum and dilation and cutterage in previous pregnancy
Bryan	30	Telephone	Mailing list	n/a	High	Degree	22 Nuchal fold screening refused but couple unsure whether serum screening was given or not	
Melissa	29	Telephone	Mailing list	n/a	High	Degree	22 As above	As above
Chris	36	Telephone	Mailing list	2-year old son	High	PhD	9 Haemoglobinopathy screening taken up. Remaining tests yet to come.	
Daniel	29	Telephone	Mailing list	1-year old son	High	Degree	12 Interviewed before and after nuchal fold scan	Refused Down syndrome scan in previous pregnancy
Eric	32	Telephone	Mailing list	n/a	High	PhD	22 postnatal All screening offered and taken	

							up	
Olivia	28	Telephone	Mailing list	n/a	High	Degree	16 First trimester screening offered and taken up	
Natalie	29	Telephone	Mailing list	n/a	High	Degree	28 All screening offered and taken up	
Frank	40	Telephone	Mailing list	n/a	High	Degree	34 All screening offered and taken up	Wife diagnosed with ovarian cyst in current pregnancy
Geoff	28	Telephone	MumsNet	n/a	Unknown	Unknown	18 All screening offered and taken up	
Harry	39	Telephone	Antenatal unit	3-year old son	High	Degree	21 All screening offered and taken up	High-risk screen for Down syndrome. Amniocentesis confirmed no Down syndrome diagnosis.
Iain	42	Email	MumsNet	2-year old son	Unknown	Unknown	34 postnatal All screening offered and taken up	First child was still-born

Rachna	34	Telephone	Bumps2 Babies	n/a	High	Degree	31 All screening offered and taken up	Carrier of Haemoglobin E, but husband was tested and was not a carrier.
Luke	42	Phone	NCT Class	n/a	Unknown	Unknown	39 All screening offered and taken up	Two previous miscarriages
Joshua	39	Phone	Mailing list	n/a	High	Degree	20 First trimester screening offered and taken up	Wife Samantha infertile, used egg donor and IVF. Pregnant with twins, not genetically related to wife
Samantha	39	Email	Mailing list	n/a	High	Clinical doctorate	20 First trimester screening offered and taken up	As above
Karl	35	Face-to-face	Clinical genetics unit	n/a	High	Degree	34 postnatal All screening offered and taken up	Wife had three miscarriages. Chromosomal translocation diagnosed via blood test. Conceived naturally. Chorionic villus sampling showed unaffected pregnancy
Polly	37	Face-to-face	Clinical genetics unit	n/a	High	Diploma	34 postnatal All screening offered and taken up	As above - blood test showed reproductive abilities were normal and husband's translocation was cause of miscarriages

5.1.1.2 Participants' risk statuses

Two participants had a high-risk screening result. Rachna was identified as a carrier of a haemoglobinopathy (Haemoglobin E) but her husband was not a carrier. Harry's wife had a high-risk Down syndrome screen, but an amniocentesis showed the fetus was unaffected. All other participants had low-risk screening results. However, some faced other risks in their pregnancy, which are listed in Table 5.1.

5.1.2 The five categories

Categories are described by Corbin and Strauss (2008) as being higher-order concepts that bring together and explain a group of similar lower-order concepts. The categories here came together to answer the research questions, which were (1) 'what are men's experiences of antenatal genetic screening?' (2) 'what are men's views, beliefs and values regarding involvement in screening?' and (3) 'what facilitators and barriers exist to men's involvement?'

The concepts derived from the analysis were arranged into five categories, which were (1) juggling roles, (2) (de)constructing paternal identity and child-schema, (3) the elusive nature of genes, (4) simple information and support, and (5) a clash of perspectives.

Although the five categories were interlinked, each category explained a different part of the phenomenon in question, coming together to illustrate a fuller picture of men's experiences of screening and to some extent, women's experiences of men's

involvement. To manage the amount of information in each category, they are broken down into subcategories. The five categories and their subcategories are presented in Figure 5.1.

An unexpected finding was the extent to which screening could not be disentangled from men's experience of the pregnancy as a whole. That is, men often spoke about the pregnancy in general and related their screening experiences to the wider context of their pregnancy. Men were given the time and space to discuss their pregnancy experiences, as this was felt to empower and enable them. Analysing the talk of the pregnancy, rather than talk of screening alone, also avoided reductionism, because the wider pregnancy had an impact on men's screening experiences. Similarly, screening experiences from previous pregnancies had an impact on screening experiences in subsequent pregnancies. As Corbin and Strauss (2008) suggest, experiences cannot be separated from the larger events that these experiences occur in. Therefore to understand particular experiences, the social, political, gender-related, informational and technological framework within which the experiences occur form crucial parts of analysis.

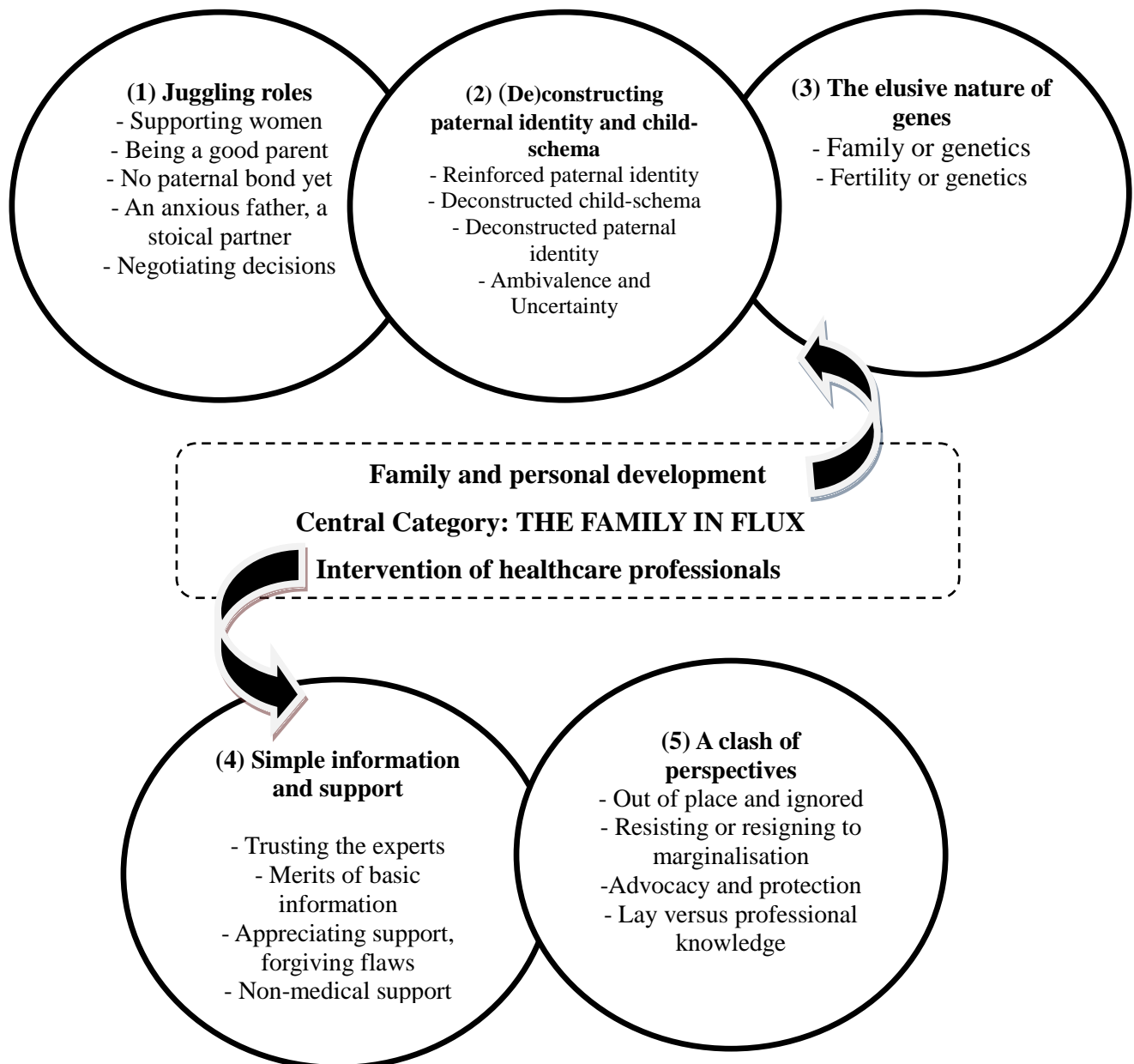
The first three categories above look at men's experience of screening as contextualised within their wider experience of pregnancy. The final two categories explain how men's experiences were shaped by the medical setting in which screening took place.

5.1.3 Notation

Within each category, quotations are presented that illustrate each point. Where [...] is

shown, part of the quotation has been truncated. The symbol '=' is shown for Karl and Polly's interview to denote when the couple spoke at the same time. After each quotation is an initial to indicate whether the interview was conducted by telephone [T], email [E], instant messenger [IM] or face-to-face [F]. Differences or similarities in quotations derived from different interview mediums are thereby made clearer.

Figure 5.1. Five categories and subcategories



The chapter ends with an explanation of the central category, ‘the family in flux’, which summarises “what the research is all about” (p.104, Corbin and Strauss, 2008). The central category brings together the other five categories presented and summarises the grounded theory that emerged from the data.

5.2 Category 1: Juggling roles

For this category, the five subcategories were (5.2.1) supporting women, (5.2.2) being a good parent, (5.2.3) no paternal bond yet, (5.2.4) an anxious father, a stoical partner and (5.2.5) negotiating decisions. This category illustrates that men felt they should be involved in screening, because it was helpful to their partners, but also because they felt a responsibility to ensure the fetus was safe. This reflects how they considered themselves as parents to the child even before he or she was born. Moreover, men conceptualised their future child, which is referred to in the current findings as a child-schema—a schema being a framework that helps to organise knowledge (Piaget, 1928; Sandelowski et al., 1994). The child-schema is explained with reference to the framework developed by Sandelowski et al. (1994). In their study, they found that expectant parents conceptualised the ‘child’ in various ways. Three conceptualisations were the child-in-head, child-in-womb, and child-in-arms. The child-in-head was the baby the participants imagined and hoped for. The child-in-womb was the fetus growing in the womb. The child-in-arms was the baby that would be born, who they would continue to get to know. These were not distinct constructions but different ways of

thinking about the same ‘being’. Since men had begun to construct this schema of the child, and had begun to develop a prenatal paternal identity, they had to juggle two roles that sometimes conflicted: one of a good partner and another of a good father. A note for clarification is that prenatal paternal identity specifically refers to men’s thoughts of themselves as a father to the future child, rather than any paternal identity they had as a result of having other children. As will be discussed, however, having other children could impact on this identity.

5.2. 1 Supporting women

Men wanted to be involved in screening out of love for and commitment to their partners. Embarking on screening together was a way for men to support women;

SD “How do you feel like you being there impacted [wife]’s experience of the scans?

Andy “She would have coped on her own but it’s maybe easier to get nervous if you’re on your own” [IM]

Daniel “Uhm, I don’t think I would ever consider not being there. It’s something that I feel I ought to be a big part of. It’s not something that I’d leave her to do on her own and I think she fully expects me to be there with her when she goes for the scan.” [T]

Daniel’s use of the word “ought” indicates how he felt that his attendance was an obligation of being a good husband. By using words such as “ever” and “fully”, he expressed how he completely endorsed this obligation and expectation, and rejected the alternative option of not attending, which was constructed by Daniel as having connotations of neglect or active disregard (“*leave her to do [it]*”). The importance of providing support was further emphasised by Geoff;

Geoff “I’m kind of old-fashioned, I kind of think, you know, it’s my first child, I need to support my wife, go with her to different things, cus this is our baby, this isn’t just, I know a lot of the responsibility falls on her when she’s on maternity leave and I’m not around so I think I need to be there as much as possible, support her in everything we do so yeah, it’s very important for me to be at all the scans and to be there wherever I can”. [T]

Geoff’s use of “need to go” has a similar function to Daniel’s “ought to be”, which again suggests that supporting women in screening was seen as an obligation. As Ivry and Teman (2008) suggest, screening provided couples with an opportunity to show an “ultimate index of commitment to each other and to the pregnancy” (p368). Screening was a couple-venture, rather than an activity undertaken by just women.

In his above quotation, Geoff’s metaphor “old-fashioned” could suggest that he had an old-fashioned view that men ought to protect women, and that rather than his wife attending appointments alone, he should accompany and support her. However at the same time, his willingness to participate in screening, which is traditionally considered a woman’s domain (e.g. Markens et al., 2003), reflects a contemporary construction of fatherhood or masculinity. What Geoff says thereby elucidates the blurred lines and potential conflicts in the changing gender roles for men and women, which are highlighted when couples attend screening together. For men there is a progression towards being more involved in pregnancy and childcare (e.g. Williams, 2008), while for women there is a progression towards autonomy and independence in the reproductive arena (e.g. Dudgeon and Inhorn, 2009). As Rapp (2000) suggests, if men see pregnancy as a woman’s issue, they are admonished of their responsibility to be involved. If they are involved, it is through a voluntary rather than cultural obligation.

Rather than seeing their involvement in screening as something that could encroach on women's autonomy, men felt that by attending screening appointments and supporting women, they were to an extent making up for the extra 'work' involved for women in pregnancy or new parenthood. This extra work was seen to include the physical aspects of the pregnancy, and the longer periods off work taking care of the newborn. Geoff went on to say;

Geoff "We were also on holiday, so it would've been a really shitty thing for me to do to stay home and watch the football!" [T]

By contrasting watching sports and not engaging with healthcare—a stereotypical activity of a complicit or hegemonic man (Connell, 2005; Robertson, 2007)—with the option of supporting his wife and finding out about fetal health, Geoff drew attention to what he saw as the 'correct', latter, option. He thereby rejected a notion of masculinity that was based on detachment from the pregnancy and screening. In Han's (2009) study about men's role in pregnancy, a participant similarly rejected the stereotypical passive role for men, complaining that "the world expects men to be smoking a cigar [while women are giving birth]" (p.312). Han suggests that these kinds of uninvolved roles are seen by men as "unenlightened and unevolved" (p.313). However, what Geoff's comment additionally suggests is that he felt little choice but to attend screening appointments so as not to introduce conflict in his relationship, meaning the need to support, but also to avoid conflict, drove his attendance at antenatal screening appointments. Indeed, Miller (2008) found that one reason why men were more involved in pregnancy was to maintain satisfaction in their relationships with their partners. The possibility that men attended just because their partners wanted them to was raised by Rachna, when she discussed how her husband would always offer to

attend screening appointments, but she remained unsure of whether he really wanted to attend or not. Notably, in addition, she described that her husband would have to weigh-up whether the appointment would be feasible within the constraints of his job, highlighting how even if men did want to attend screening, they have may been unable to;

Rachna - “The first one [ultrasound scan] he wanted to come ‘cus it’s the first child. The second one [ultrasound scan], I think he wanted to be there as well, it was just that getting out of work was difficult, and I think he wanted to prioritise it in his own head whether to take a day off, but I think it was probably, he always asks, ‘do you want me to come?’, so I don’t know if that means he’d be happy not to, but I say yes. “ [T]

Nevertheless, Rachna later went on to speculate that her husband might have wanted to attend because he was committed to her and to having children, which instilled a responsibility to be involved;

Rachna - “I think it was to do with us waiting a long time before having children. We’ve been together a long time. He’d wanted children a while, I dunno if that’s the reason. Maybe if it’d been earlier in our relationship, he wouldn’t have been that bothered.” [T]

This finding leads into the next subcategory, where men’s responsibility to the fetus is discussed in more depth.

5.2.2 Being a good parent

While the findings of the metasynthesis in Chapter 2 indicated that men did not have a specific role in screening, the current findings indicated that attending screening, and being involved in seeking information and making decisions, provided men with an early chance to enact fatherly duties. One such duty was to ensure the fetus was not at risk of genetic or chromosomal anomalies. Thus men were following what they thought

of as normative rules for fatherhood: to be involved and to check on their future child. Men's assumption of such responsibilities reflects how they had begun to develop a prenatal paternal identity;

Daniel "It's part of my family, it's part of, erm, my relationship with my wife and it's our future baby, so, you know, it's all things that are very important to me and very important to us as a couple." [T]

Chris and Andy reiterated the idea that they were developing a prenatal paternal identity, by explicitly referring to themselves as parents, or referring to their participation in screening as parenting. For example, Chris talked about his wife's first pregnancy, and how he felt a responsibility to attend screening because they had decided to have the child;

Chris "It was our decision to have a child, it's what we wanted to do, and we were lucky enough to be able to have a child, and so, er, it was my choice, so, I would therefore expect to go in to find out everything that goes along with that so I could be as good a parent as possible during that phase and every other phase." [T]

Andy called himself a parent when talking about his most recent screening experiences;

Andy "Parenting is full of worries, but that particular fear [of there being an anomaly] was ended after the first scan" [IM]

It is of note that men used the word parent and not father, making it a genderless responsibility, i.e. one that was not unique to women, or men, but to both. Miller (2011) suggests that using this term highlights the similarities in men's and women's roles. Men, like women, wanted to attend screening to ensure the fetus was developing normally.

If it were the case that men attended screening appointments just to support women, it

would be expected that men would attend other antenatal appointments so that they could support women at those times as well. However, this was not the case;

SD: “Okay, so why for you personally again, why do you want to be at the 20-week scan rather than the other just general appointments?”

Geoff “Well (laughs) you get to see more at the 20-week scan I suppose, cus I’ve never, you get to see sort of develop, the other ones are really much more erm making sure the blood pressure’s okay and that kind of thing, you know.” [T]

Bryan “When she has her regular bloods, blood pressure and wee sample, whatever the official name is for that, I will now stop going cus the last experiences has been a complete and utter waste of time.” [T]

Karl “I went to the first one [...] The next one was breast feeding and things, thought there was no point.” [F]

These quotations suggest that men felt a responsibility and commitment to the child that was separate to their feelings towards their partners. Screening was rewarding for men, because it gave them reassurance and satisfaction that the child would be born without any anomalies. Appointments that were not for screening, such as those where maternal, but not fetal, health was the focus, were not as compelling for men. Rachna also described how her husband attended some, but not all appointments.

Rachna “Erm, he offered with the others, like the glucose tolerance test, but cus I drive myself, I went myself, so he can save that day off for another time.” [T]

Her husband’s attendance at the ultrasound scans, but not the glucose tolerance test, suggests that he was more inclined to attend screening appointments where he could see the fetal image, and that Rachna was more likely to encourage his involvement in these appointments. Appointments for ultrasound scans were of particular importance to men because seeing the fetal image on the screen was a way for them to have a sensory

experience of the fetus through a medium that did not rely completely on women. The 12-week scan was the first opportunity for men to confirm the pregnancy and to an extent, get involved;

SD: “Can you tell me what the scans have been like for you?”

Luke “Amazing. It’s probably better for me than for my wife cus I’m looking at a monitor the whole time and I’m seeing everything as it goes on. Yeah. It’s just seeing a whole new world isn’t it, you’re just there, it’s just amazing [T]

Frank “Those were my chances to take a look inside and go ‘wow, there’s actually a baby there’, and you know I can put my hand on wife’s tummy sometimes and feel the baby move but, it’s a slightly abstract thing [...] whereas seeing the baby on the screen, seeing the baby moving around on the screen is, yeah it’s a bit different, it’s just a way better way to connect.” [T]

Women also spoke of the impact the scan had on men;

Rachna “I think it brought to life, cus everything up until that point was not very visible. I do think it made a difference. It caused a change in him. I think he realised, ‘yeah it’s real’, taking responsibility [...] I think it’s quite a hard thing to imagine, you can see something growing, you can feel it moving but you don’t know what it is, but I think seeing that again brought it to life and it looked more like a baby”. [T]

For men, screening was a turning point (Marsiglio and Hutchinson, 2004)—an experience that caused them to reflect on their identities and start making practical changes. Consequently, turning points cause a change in men’s self-concept, which is defined by Oyserman et al. (2012) as a collection of identities that come together to form a picture of “what comes to mind when one thinks of oneself, one’s theory of one’s personality and what one believes is true of oneself” (p.69). Being involved in screening helped to integrate a fatherly identity into their self-concept, firstly because being at screening gave them a chance to enact responsibilities associated with this prenatal paternal identity, and secondly because seeing the fetal image made the pregnancy seem more real. Screening hence reinforced the paternal responsibilities they had begun to

develop.

5.2.3 No paternal bond yet

As is discussed throughout this chapter, screening spurred on a paternal identity in men. As will be discussed in the next category, this burgeoning identity encouraged men to make practical preparations for the child's birth. In contrast, screening did not help to prepare men emotionally for having a child, mainly because men did not consistently feel closeness or feel bonded to the fetus during pregnancy. Mitchell and Georges (1997) described fetal bonds as consisting of positive emotions, and an attachment and a commitment to the fetus. The researchers suggest that bonding can take place via ultrasound scans, where parents and midwives narrate what the fetus appears to be doing, for example, "waving". Scans are used in this way even though they are serving a purpose of checking for anomalies. While the men in the current study felt committed and responsible for the fetus, whether they felt a bond or attachment was disputable, because the closeness men experienced when viewing ultrasound scans was fleeting. For example, Bryan suggests that it was only during the scan when he was able to imagine the fetus in utero, and consequently conceive of the pregnancy as real, whereas prior to and after the scan, the pregnancy felt abstract;

Bryan "The first scan is when 'oh there is actually a baby there' and I suspect the next scan will have exactly the same effect now it's clearly a bigger baby" [T]

His use of "will have" suggests that the notion of there being a fetus had dissipated, but that the 20-week fetal anomaly scan would make its presence 'real' to him once again. For Joshua, because fetal movements were not palpable, the sense of realness elicited

during the 12-week ultrasound scan diminished;

Joshua “When you’re at the scan, you can see them, they’re there, when you go away, that slightly becomes more distant.” [F]

Rachna similarly described how her husband’s feelings changed before, during and after the ultrasound scan. Before the scan, Rachna tried to involve her husband in the pregnancy by explaining the changes that were taking place in her body. During the scan, her husband seemed to feel a sense of joy or wonder towards the fetus.

Conversely, after the scan, Rachna felt that it was once again up to her to actively involve her husband in the pregnancy again;

Rachna “I do feel like there’s a disconnection, or that, you know, unless I talk a lot about what I’m feeling or what I’m doing, unless I make that connection, he’s quite distanced from it. [During the scan] he saw it with his own eyes; I think that made it real. But then I still think I have to make that connection, because he may not realise or think about what’s happening. Afterwards [after the scan] he can carry on as normal, but things aren’t normal, I’m conscious of that. I do say, ‘I’m feeling more tired, I can’t get out of bed quickly, this is why I think this is happening’, and I try and talk about what’s happening week by week.” [T]

For men who had experienced complications in the current pregnancy or previous pregnancies, the lack of emotional connection was self-imposed because of the fear and uncertainty about what could happen;

Luke “I’m more excited about when the baby’s born. I haven’t got an attachment yet because, I’m scared to, in case there are problems. We have had two miscarriages in the past, so that would be, you know, my reasoning for being a bit colder, it’s fear more than anything” [T]

Joshua’s emotional distance was partially self-imposed because of the couples’ long and complicated experience of conceiving, but also because for Joshua, the pregnancy still felt abstract, despite being able to see the fetal images on the ultrasound machine;

Joshua “I’d heard some people try and bond with the babies before they’re born and mothers reading stories to the babies and fathers reading, and I was thinking that’s like modern bullshit (laughs) I dunno, being there at the scan and seeing heartbeats and stuff like that makes you feel it’s very real and erm, I mean there’s a lot of things going on. That whole thing about hedging your bets and being careful and stuff, so you’ve got to do that [...] I dunno if the way I feel is because I’m emotionally distant, or people are trying to tell you ‘you’ve got to bond with the baby when it’s still in the womb’. And I’m, like, I’ve no doubt that as soon as they’re born I will be holding them and very, very close to them and all this, but right now, uhh I’m not sure how close to them I feel. Again, it’s a bit of a modern thing because you can see pictures on an ultrasound but that’s quite modern.” [T]

Seeing the scan made the pregnancy seen “real” for Joshua, as it did for other men, but it did not elicit in him a bond or attachment. He touches upon another point that is raised by Mitchell and Georges (1998) about how ultrasound scans create a ‘cyborg fetus’—a “cognitive and sensual apprehension of the fetus as electronically mediated by a variety of technologies” (p 106). The cyborg definition contrasts some participants’ way of thinking about the image, for example, Harry said it gave him a chance to “see this little person”. Joshua’s words hint that he faced pressure to feel such a bond (“people are trying to tell you, ‘you’ve got to bond’”), despite the potential difficulty that might be experienced in forming an emotive connection with a product of technology.

Chris did not feel a bond either, but felt that his wife did. While screening made him anxious, Chris saw his wife’s reaction as being more positive:

Chris “I was probably kind of anxious about the health of the child, not for any particular reason but cus I’m anxious so my main thing was to know what the risks of all the different things were and to kind of be assured that it’s got two arms and two legs [...]”

And what about wife does she feel similar to you, anxious about things?

Chris “Er no I think she, you know, probably er, more like a bonding thing for her, you know , [...], much more emotionally attached to the little grainy image

you get than I was.”

SD: And why do you think she was more emotionally attached to the image?

Chris “I don’t know either you know cus it’s a maternal thing or because it’s physically growing inside her. Erm, might have er kind of made it real, it became real for me when the baby was born she kind of had that had that earlier I don’t know.” [T]

His use of the phrase “little grainy image”, with its properties of being lacking in quality and size—as well calling it an “image” rather than a ‘baby’—again emphasises that for some men, the image of the fetus and the fetus itself were not necessarily reconciled. For Chris, the scan was not about bonding with the ‘baby’, but about health and risk. In contrast, his reference to “maternal thing” indicates that he perceived there might be a more instinctive relationship between women and fetuses, forged as a result of their physical connection. Men like Chris felt that they needed to see and have physical contact with the baby for a bond to develop, and for the reality of fatherhood to sink in;

Luke “It’s still very surreal, I’m walking around like until we’ve got the baby in our arms, it won’t seem fully real. But yeah she’s obviously living and breathing it so she, she loves the erm, the baby in her belly. She loves it; she loves like, the feeling of the baby there, so.” [T]

Luke and Chris’ reluctance to bond contrasts previous research by Williams and Umberson (1999), Sandelowski (1994) and Draper (2003), where men saw ultrasound screening as a chance to meet and bond with the unborn baby. In the current research, some men also felt unexcited about the pregnancy. As fathers-to-be, these men felt that they should be pleased or excited, meaning there was a discrepancy between what they thought they should feel, and what they actually felt;

Geoff “People that I told straight away about it [the pregnancy], basically my

parents, and they were over the moon. I felt quite guilty that they were and I wasn't more ecstatic" [T]

Daniel "Yeah, uhm, I think, that's quite a difficult one cus I think, the first time round it was new everything was very exciting and kinda, I feel a bit like some of that excitement [about the ultrasound scan] has gone because i know what's gonna happen, and sometimes I feel a little bit guilty for that." [T]

The internal conflict men experienced between what they thought they ought to feel and what they actually felt fits with Pleck's gender role strain paradigm (1995). This theoretical framework suggests that for men, stereotypical norms about gendered behaviours are internalised and come together to act as a script for life, influencing the way men act. For example, the 'boys don't cry' stereotype will be internalised and become a norm for being masculine. Psychological strain (Pleck, 1995) can occur when men do not internalise and display masculine norms. The strain can manifest as lowered self-esteem, negative judgements about oneself and anticipation of negative judgement from others, as a result of not being masculine enough. Geoff, felt that the norm for being a good father was to feel excited, but was unexcited about the pregnancy in general. He recognised the potential damage discrepancy strain could cause to partnering and fathering (Brooks and Silverstein, 1995), but was able to dispel the potential for these consequences, by talking to his wife:

Geoff "If you don't let it out it's just gonna sit there festering, and if you need to be supporting your wife and if you're feeling, you know, feeling animosity towards to baby that's gonna start going towards your wife at some point, it's not something you'd want." [T]

Through seeking advice and support online, Geoff found that other expectant fathers on internet forums were experiencing a similar internal conflict. As Reed (2012) found, the

internet may be a safe space for men to get information about so-called ‘women’s issues’ in private, such that their public image of masculinity is not placed under threat;

Geoff “You get blokes trying to be as bloody blokey as possible you know about certain things, but seems to be like childbirth is just not necessarily one things that blokes are particularly blokey about, they’re quite happy to sort of discuss their feelings about.” [T]

Men’s internal conflicts are explored further in the next subcategory.

5.2.4 An anxious father, a stoical partner.

Men reported feeling worry and anxiety about screening and their developing fetuses;

Eric “Even if you kind of believe that you’ve got very low-risk of having problems, when you kind of see someone doing the measurements there and then, it does make you feel that little bit anxious.” [T]

Olivia also described how her husband was anxious;

Olivia “my husband’s a bit older than me and although there’s no evidence for any risk for older fathers you know increasing the risk of any problems he was still particularly keen erm to rule out anything. I think he’s, he would be sort of particularly nervous about having a child with a disability.” [T]

Olivia felt that her husband’s age (which was 50 at the time of interview) was a concern to him, firstly because it could—although Olivia knew of no evidence to suggest it—lead to fetal anomalies, and secondly because the increased responsibility of looking after a child with Down syndrome could be more difficult if he was older. In fact, there is some evidence to suggest the fathers’ age is linked to miscarriage and stillbirth (e.g. Astolfi et al., 2004), along with conditions that can be detected later in the child’s life, such as autism (e.g. Shelton et al., 2010). As is discussed later, Olivia had “banned [her]self from Google” because the information she was finding made her anxious. It may be that her husband was worried because he knew about the increased risks, but did

not share this information with her, so as not to make her anxious. Natalie discussed how her husband was more anxious than her too;

Natalie “He was thinking about it a little bit more than me in terms of like it actually being a test for something negative, a problem, whereas I was just like ‘yay, we get to see the baby!’ and ‘it’ll all be fine’, [...]and I guess cus as a bloke you don’t really get as much information, and like he did come to the booking in appointment but the midwife didn’t, like, cus I was saying, like, ‘should he come to all the midwife appointments?’ and she was like, ‘no, there’s pretty much no point’ [...]. One could choose not to tell one’s partner, and they wouldn’t know.” [T]

Natalie speculated that men might feel more anxious because they are less informed about screening. Men might consequently feel less in control over events, and feel helpless at being able to ensure the fetus was unaffected by anomalies and their partner was healthy. While Natalie’s midwife may not have seen a ‘point’ to men’s attendance, men’s attendance could be valuable if indeed receiving information would decrease their anxiety.

Even men who went to appointments, and received information first-hand, experienced apprehension and anxiety. These men felt they needed to hide their feelings in order to provide support to their partners, whose anxieties were considered more important. These findings echo Ivory and Teman’s observational study, (2008 p.377) where participants in Israel acted out “gender stereotypes about feminine irrationality and emotionality, versus masculine rationality and self-control”. Daniel described this self-control;

Daniel “I could kind of see the kind of fear on my wife’s face while they were having a look [...] she’s kind of looking at me like ‘oh my god, what’s wrong?’ [...]I think that’s the kind of apprehensive bit because if it takes a bit longer than

you expect, then you think, ‘What’s going on? What do they know that I don’t?’ and that kind of thing and that’s quite nerve-wracking. [...] I just held my wife’s hands and tried to reassure her a bit, not that I knew anything about what was going on (laughs).” [T]

Rachna also suspected that her husband may have been anxious after she was tested positive as a carrier of haemoglobin E, although he did not show it;

Rachna “Before we got the test results back, we were really worried. Um but it kind of heightened our anxiety”

SD “Was your husband the same?”

Rachna “Erm, he didn’t really show much. He didn’t say much, erm, and I dunno, maybe I’m more of a thinker than him, or show that I’m thinking more than him, so he, he may have been worried but I don’t think he showed it, he just said ‘yeah, hopefully it’ll be okay, whatever will be will be, trying to keep a positive outlook.” [T]

By taking on a masculine role of being protective and stoical, men could prioritise their partners’ needs, as explained by Iain, whose first child was still-born:

Iain “She [partner] had to cope with her fears that her body might betray her again - not that it necessarily did the first time, but that is how she perceived it. I saw part of my role as to be offering optimistic support.” [E]

Iain suggests that the fear his partner experienced was a gendered reaction. To her, she was to blame for their daughter’s still-birth. She apparently felt a lack of control over what her body did then, and what her body might do in future. His presentation of his partners’ feelings as gendered implies that Iain did not experience the same fears.

However, there are hints that he too was experiencing and managing distress. Namely, his use of “I saw” and “role” suggest that there was an objective and stoical part that he felt needed to play in the situation. As Gough (1997) suggests, the psychological/sociological ‘role’ is an objective and normative concept, and making

reference to it adds authority to what might otherwise be understood as a personal opinion. Both “I saw” and “role” indicate that his optimism and supportiveness were attitudes that he actively needed to enact in his interactions with his partner, rather than attitudes he actually experienced. Iain’s situation is an example of how men had to manage these conflicting positions of anxious father and stoical partner during screening and in the pregnancy more widely.

This process of controlling anxiety and distress is again in line with Pleck’s gender role strain paradigm (1995), which posits that dysfunction strain can occur when men internalise masculine norms, such as emotional inexpression (i.e. “boys don’t cry”) that are inherently psychologically dysfunctional. The difficulties that can result from this strain include risky behaviours like increased alcohol consumption and relationship problems, for example “inadequate emotional partnering, and non-nurturing fathering” (Brooks and Silverstein, 1995; Levant, 1998, p262). Indeed, Iain went on to talk about some of these risky behaviours when discussing the consequences of trying to stay strong for his partner;

Iain “My partner was very depressed after the stillbirth. In effect I became her carer. [...] The way I got through it, was to drink, and try and stay as strong and positive as I could manage. Some time later, I did go to the doctor to try and address the issues, but unfortunately the change from open ended talking therapies to CBT and outcome focussed talking therapy was less than useful. And certainly not on a par with self medicated sleep deprivation and red wine.”
[E]

Luke, whose wife had two previous miscarriages, was also vulnerable to dysfunction strain, feeling it necessary to hide his anxieties about fetal health.

Luke “I know that she’s anxious which makes me anxious but I don’t want to show it too much. You know, if I don’t have strength, then she’s, she will sense that and she’ll be even more nervous. If I’m confident she’ll be more confident.” [T]

Luke, like Iain, mentioned strength, suggesting that showing distress or ‘weakness’ would be considered—by themselves or by others—as a failure to support and protect their partners. As well as experiencing internal conflict between managing his anxiety and supporting his wife, Luke felt helpless at wanting to, but being unable to protect his wife and fetus from complications in the pregnancy:

SD “What is it, what makes you feel anxious in particular?”
 Luke “The, the fears, fears of things not being right, you know, anything that would be considered not normal. You know, any health issues with the child [...]. I imagine normal fears for a bloke. All these things, as a man there’s nothing you can do about, you can’t change anything, you can’t make it easier for your wife, you can’t make things right, so it is difficult. I you know, it’s one thing being a man, that’s one thing, you can’t control that, dunno if control’s the right word, but you can’t help, so, so that’s where the anxiety is”. [T]

His use of words such as “all...nothing...anything” emphasise the persistent and unavoidable nature of this helplessness. By mentioning his status as “a man”, Luke drew attention to the differences between men and women. He alluded to how he felt like an outsider, or even a spectator to the pregnancy. Being an outsider meant he was only able to observe rather than intervene on the pregnancy and its course. Using “as a man” also highlighted that he and not his wife was experiencing this helplessness, which was perhaps generalisable to all men in his opinion. Indeed, by normalising his fears at the beginning of his response, (“I imagine normal fears for a bloke”), Luke revealed that these anxieties fit with his perception of what pregnancy should be like for men. Like other men, Luke dealt with his feelings of helplessness and consequential feelings of anxiety in an avoidant way, by masking these feelings. There were positive

consequences of this masking, because it meant his wife felt reassured, so he perceived the avoidance as justified and meaningful. Contrastingly, the short-term impact on Luke was that he was unable to get reciprocal support from his wife for the distress he experienced.

What Luke and Iain said about hiding their feelings contrasts with what Geoff said in the previous subcategory, that men seemed “happy to discuss their feelings” on the subject of pregnancy. The reason for this contrast may be that Luke’s wife had miscarriages in the past, and Iain’s daughter was still-born. Thus in pregnancies where there had been loss in the past and where women experienced psychological and physical distress, men were less likely to show their own anxiety and distress, so they could attend to the demands of the ‘good partner’ role.

Similarly, Harry felt he needed to hide his feelings during his wife’s first pregnancy, but in a different way to Luke and Iain. His wife hated being pregnant, so Harry had to hide his excitement;

Harry “She didn’t like talking about it, she didn’t like saying the word pregnancy or baby or fetus or that, it was really, really tough on her and she wasn’t happy about it certainly for the first, well for the whole of the pregnancy and probably for the first six months, she struggled, and of course I was over the moon and delighted, being a typical bloke [...] I kept in check a lot of how I was feeling because obviously, because wife felt so strongly negative about the whole thing and was not happy about it, erm, I couldn’t overtly be seen to be really, really happy.” [T]

Harry’s wife’s distress at being pregnant meant he could not be open with his excitement. He excused her behaviour (“It was really, really tough on her”) but at the same time, describes how her psychological reaction to pregnancy, and the lack of

communication between the two, had a negative impact on his pregnancy experience. He felt denied of his perceived right to feel openly excited, and to fulfil the role of “first-time dad”. For example, he saw feeling “over the moon” to be a “typical” reaction, but this was a feeling he was not permitted to show. He reiterated his view that such joy was a typical reaction with his use of “of course”, and in the below quotation, the phrase “like a first time dad should be”;

Harry “I just had to kind of play things down a bit and I don’t know, be a bit more matter of fact and not bouncing around like er, you know, a first time dad should be, so yeah, that, I dunno, I felt a little aggrieved about that because what should be a really, really special, really, really happy occurrence didn’t feel that way. Erm yeah, you didn’t feel you could be that fantastically happy about it.” [T]

His use of “you didn’t feel you could be” suggests that he felt constrained, and although aggrieved, he had little choice but to act within the appropriate boundaries of the situation.

Seeing the ultrasound scan however was his chance to have a personal experience of the fetus;

SD “Do you remember with [son] the first ultrasound scan and the effect it had on you?”

Harry “Um, just went ‘wow, oh my god’, blown away, completely and utterly. It’s just like, that is fantastic, that is just amazing. [...] She was very much of the ‘oh my god I’ve got an alien growing inside me’. Wasn’t happy and I think she found it harder because she fought it a lot of the way. There was – she wasn’t in denial about it but she - it wasn’t that she didn’t accept it, it was just, it was happening but she, and she was resisting it.” [T]

Although he did not disclose his feelings during the first pregnancy, Harry discussed his feelings with his wife in the second pregnancy, and felt more able to show his excitement;

Harry “She knows what’s happening and she understands so she can deal with it far better. She’s still not happy about the whole having to give birth thing, all of that, but, again when we get home we see [son], you see the end product, you see what it’s all about and what it’s for, and I think that kind of, we didn’t have that last time, there was none of that, just look at what a beautiful child you could potentially have at the end of all this.”[T]

This subcategory has presented evidence that men put their partners’ needs first in difficult times of the pregnancy. In contrast, when it came to making screening related decisions that could affect their fetus, men were less likely to restrain their own feelings and opinions, even if they conflicted with those of women. Men’s desire to be a good father could sometimes outweigh the obligation they felt of being a good partner. This issue is discussed further in the next subcategory.

5.2.5 Negotiating decisions

All men in the study reported discussing screening with their partners to some extent. For most men, there was no contradiction between what was in the best interest of their child and the best interest of their partner. Also, what men wanted to do was what their partner wanted to do;

Geoff “We know what we’d do [...] I dunno by accident or design, but yes we seem to be, we seem to have a very similar idea when it comes to that kind of thing.” [T]

Eric “I think we both agreed, we weren’t, I suppose one thing that could happen between couples is that one would just, wouldn’t even consider abortion an option. We weren’t neither of us was in that position.” [T]

When asked to speculate on what would happen should disagreements arise about screening, men felt that women would have a right to make any final decisions;

Harry “She is the one who is gonna go through the pregnancy she’s the one carrying the baby and it’s her body, and at the end of the day, I think the final decision of things rest with her [...] I’m responsible 50% for the genetic, 50% for it actually being there, without me it wouldn’t exist, so I have a right to a say about [screening decisions], to express my opinion, but I probably don’t have the casting vote on it because it’s not me that has to do it.” [T]

Harry was the only participant to legitimise his participation in making screening decisions based on his genetic stake in the fetus. This may have been because of his medical occupation and his professional scientific background. While his genetic stake legitimised his involvement in decision-making, his wife’s physical experience of the pregnancy meant that her views were seen to take precedence. What was important was that his opinions were considered. Daniel predicted that disagreements would lead to conflict;

Daniel “I know we probably kind of discuss it, argue about it and ultimately she’d get her way because that tends to be the way things go. [...] I think I can tell her my views, I can tell her how I feel about the matters but ultimately it’s her decision and I’d like her to consider my opinion when she makes that decision, but at the end of the day only she can decide.” [T]

In the two situations described below where there were disagreements in reality, couples discussed their options together and came to a mutual agreement. For example, Bryan talked about how he and Melissa had declined the nuchal translucency scan;

Bryan: “[Melissa] made a decision...even if it did come up positive then, we wouldn’t want to do the second test anyway, and even if the second test came back positive, she wouldn’t abort anyway... My personal view would have been to have the Down’s test [...] like any compromises, how strongly each one of you feels about the other view, and she felt a lot more strongly than I did about my view. [E]

From Bryan’s perspective, his partner’s physical experience of being pregnant was not

the reason why she made the final decision. Rather, the key issue was that she felt “more strongly” than him. By accepting the views of the person who felt more strongly, the couple avoided conflict. Men who felt more strongly than women could make final decisions too. Iain felt that their baby should be delivered by induction, to avoid the risk of a second stillbirth. An induction was seen to be in the best interests of his child. Iain’s partner was more reluctant to have an induction. Although this issue was about the birthing method rather than screening, it was an important example of how couples negotiated decisions and how healthcare professionals could involve men, mediate group discussions and help the couple arrive at a decision;

Iain “I was certainly more in favour than my partner, but if she had been adamant about it then I would have respected her decision [...] My concern was that the children should be born safely and that my partner should have autonomy over her body. With regard to the induction my partners concern—leaving aside the issue of female pride that she could carry a baby to full term—was that there were still a couple of developmental stages that might not be complete, and the aforementioned risk factors involved in induction. In the end it was a matter of time pressing on and the common sense explanation of the registrar that swung our decision.” [E]

Iain had to weigh up his concerns he had as a partner with those he had as a father. He felt more strongly about having an induction than his partner, but respected his partners concerns, her reasons for being hesitant (“female pride”) and that her body would be affected by any decisions made. Indeed, his mention of “if she had been adamant” highlights that if she felt more strongly, then he would have conceded.

5.2.6 Summary

Men conceived of themselves as fathers and began to develop a prenatal paternal identity during pregnancy, and this identity motivated men to be involved in screening.

Prenatal paternal identity elicited feelings of responsibility, anxieties and the need for reassurance, which in turn propelled men to be involved in screening, so their anxiety could be allayed. The problem here was that men were not always reassured by screening. Men continued to feel anxious or distressed, but were unsure of how to deal with or express these emotions. Moreover, men felt that women's emotional experience of screening differed to theirs, seeing them as experiencing a bond or attachment to the fetus. The resultant contrast in inwardly experienced and outwardly expressed emotions could manifest in potentially destructive ways. The emotional aspects of being involved in screening were therefore complex .

Men's anxiety and the complexity of their emotional experience during screening was heightened by the dilemmas they experienced at times; they wanted what was best for the fetus but felt that women should have the final say in any decisions made. Although men often kept their distress hidden, they were open with discussing decisions to resolve these dilemmas. They participated in decision-making because it was for the benefit of the fetus. The next category explains men's prenatal paternal identity and child-schema, and the factors that could reinforce or challenge its development, in more detail.

5.3 Category 2: (De)constructed paternal identity and child-schema

The four entailing subcategories of this category were (5.3.1) reinforced prenatal paternal identity, (5.3.2) deconstructed child-schema, (5.3.3) deconstructed prenatal paternal identity, and (5.3.4) ambivalence and uncertainty. The category provides a particularly original and novel contribution to the body of research about men's

experiences of screening—these findings were not observed in the metasynthesis. The findings in this category highlight how the information provided by screening either confirmed, disconfirmed or altered men’s ideas of prenatal paternal identity and the child-schema. These confirmed, disconfirmed, or distorted conceptualisations had to then be used to guide subsequent behaviours and dictated how some men felt about their available options. The findings here are currently under review in the *Journal of Family Issues*, following a revise and resubmit response.

5.3.1 Reinforced prenatal paternal identity

Screening was more than just a process to check for fetal anomalies. It also caused the reality of the pregnancy to sink-in, and men to make changes to their lives. Although as was discussed in 5.2.3, some men did not feel an emotional closeness to the fetus, and were not emotionally prepared for fatherhood through screening, they did start making practical preparations. For example, one outcome of screening was that men started to think about the amount of responsibility a child would bring, and thought about how they would manage to raise and nurture the child;

Bryan “Apprehension is how I’d describe it, but I’m only apprehensive of the responsibilities that are ahead of me, I’m not apprehensive of or ability to cope, if that makes sense.” [T]

Harry “[After seeing the ultrasound image] you just, you just suddenly go, ‘oh my god’ and yeah, it’s amazing, it’s wonderful, but also you kind of go, ‘oh, ah. I’m responsible for this, right, and there’s a certain amount of dawning on you, you have this life, this, this baby in a few months time and you’re completely and utterly responsible for teaching it to walk, to eat, to speak, to do everything, and that’s like a proverbial baseball bat across the back of the head, it’s just a, right, wake up, but it puts everything else in perspective.” [T]

Thus men’s prenatal paternal identity was reinforced when the results of screening

identified a low-risk, because the worries about fetal health were dissipated. Screening was hence pivotal in making prenatal paternal identity more vivid. Encouraged by the feeling of impending responsibility, men began telling other people about the pregnancy;

Eric “We scanned in the photo ...somehow put it online, but yeah it was actually what [wife] used to break the news to people that we were pregnant, we handed them the photo and go ‘look!’” [T]

Geoff: “So yes, it’s, that’s, that also I think it was also a sense of relief as well cus we could, we’d always targeted the 12 weeks as the point where we would then tell other people. So we had sort of not just the high of seeing the baby in the scan, but also the high of the, okay we don’t have to keep this secret anymore, we’d tell people, you know and er, so I was very happy, very relieved.” [T]

They also began to make practical changes to their environment in preparation for the child’s birth, such as, improving their living conditions. For example, Daniel discussed the impact of screening in his wife’s first pregnancy and how it encouraged him to take on more financial responsibility through becoming the “sole earner”:

Daniel “I think it got a bit more frightening, it put a bit more pressure on cus I was in the process of moving house at the time and it was quite important to me that we got into a better house, didn’t want to have a baby in my old house because it wasn’t really suitable. Erm, it put a bit of added pressure on and the pressure that I’m going to be the sole earner, erm.” [T]

Geoff similarly remarked;

Geoff “It was more sort of okay, now start looking at, looking into the things we need to get, start pricing things.” [T]

As mentioned in Chapter 2, section 2,4,1, Robertson (2007) argues that men show they care in an instrumental way, i.e. by ‘doing’ rather than discussing. In these cases, women were carrying the child physically, but men were participating in the pregnancy

in these practical ways, perhaps as a way to show they were committed to their partners and the pregnancy. Their practical involvement extended to lifestyle changes. For example, Frank made changes to how he spent his free time, taking on more fatherly responsibilities of redecorating;

Frank “I think my sort of priorities have changed cus erm, erm, in all sorts of ways, [...]I’m a tri-athlete and so suddenly you’re feeling less inclined to go training and more inclined to get a paintbrush out or you know do stuff like that.” [T]

Furthermore, men began thinking about what kind of father they wanted to be, and used their own fathers as a model for how they wanted to be (Finn and Henwood, 2009);

Geoff “I’ve come from a family where my dad was always very involved in me, my wife, her father was always involved in her, so we come from good, strong homes and I know that sort of the joy and the happiness that my dad got out of raising kids”

Further examples of men thinking about the kinds of fathers they wanted to be came from Joshua and Luke. Joshua discussed sharing a much-loved hobby of his, hiking, with his twins;

Joshua “Most of the outdoor stuff that I do I imagine I’ll carry on doing it [...] I’ll be able to get them on my back and do stuff and go walking, I dunno how old they’ll be but I’m sure, if you can be creative and erm, make the effort, you can do some quite fun stuff with kids, that’s what I think.” [T]

Luke talked about the kind of relationship he would have with the child;

Luke “How to parent a child, I think of that all the time. What, what I would do if the child was cheeky, or petulant, or, you know I think of that sort of thing.” [T]

As Luke’s quotation indicated, creating a child-schema was a way for these men to prepare for prospective fatherhood. Through this child-schema, men imagined what

their baby, and life with that baby, would be like. Some men imagined resemblances between themselves and the children, as discussed by Natalie;

Natalie “(laughs) [husband]’s going a bit bald [...] he was saying what I’m gonna do is shave my head before the baby’s born and then it’ll come out and it’ll be like I can walk round with a mini-me cus we’ll look the same, so he, you know, definitely this is like our baby and it’s gonna look like us.” [T]

These resemblances were not explicitly discussed in genetic terms. Participants did not think about what their genetic link to the child would mean, or how it would feel to have genetic offspring. Rather, from what men said, it appeared that discussing resemblances with their partners was a fun way to picture the future and work out what the baby would inherit from each of them;

Geoff “I mean cus there are, there are, it does make you wonder cus obviously the baby’s gonna get all its traits from you or your, the mother so you kind of thinking, you start, thought, I wonder what it’ll look, you know, hope it gets this from my wife, I hope it gets this from me... I mean I hope to God it’s not the worst bits of both of us, otherwise it’ll be a nightmare!”. [T]

Frank “I say it in a sort of abstract way that you know joking about, oh it’s gonna have, the baby will have hair like this, erm, it, neither of us are very tall so we joke about the baby being short and stuff like that.” [T]

Through the developing a prenatal paternal identity and child-schema, men forged a link between themselves and the fetus, based on what they anticipated the relationship would be like with the child once it was born. Couples took part in constructing this child-schema together, and some sang or talked to the fetus together;

Iain “I found pregnancy to be rather exciting, and quite a happy time. Especially when the baby starts moving and you can feel it kicking. We both felt it important to engage with the baby by talking and singing to the bump etc.”

As discussed in the next subcategory, the changes to men’s identities and men’s child-schemata were threatened when men received high-risk information following

screening.

5.3.2 Deconstructed child-schema

Although some men went into screening with some anxiety, none were expecting to receive a high-risk result. Thus if an anomaly was detected, men experienced a crisis about the child-schema, as it became disrupted and distorted. The child-schema became shattered into a child-in-womb —the at-risk fetus, and a child-in-head—the baby they had been imagining (Sandelowski et al., 1994). Rather than these being different ways to think about the same being, the ‘head’ and ‘womb’ child became two, almost distinct entities. Men were made to consider whether they still wanted to be a father to the child-in-womb, now that it no longer matched the child-in-head. Such considerations were mainly conveyed by Harry.

Harry’s initial feelings about his wife’s second pregnancy were based on the assumption that the child-in-womb and the child-in-head were one and the same, that is, that the imagined child would be born. Prior to screening, Harry “felt like [he]’d won the lottery again... [and was] absolutely delighted” about the pregnancy. He also said;

Harry “We always discussed that [son], we wanted him to have a sibling, again, put our professional heads and said well, you know, single child syndrome...when we’re gone he’ll be on his own [...]he isn’t really gonna have cousins and we’d thought well actually two children would be quite nice.” [T]

Hence Harry and his wife considered their three-year old son’s position in their family dynamic, now and in the future, and speculated about how the introduction of another child might impact positively on the dynamic. What challenged these premeditations was that Harry and his wife received a high-risk result on Down syndrome screening. They were subsequently offered an amniocentesis and decided they would terminate the

pregnancy if a diagnosis was made. Harry discussed his reasons for this decision;

Harry “With the lifestyle and everything we’ve got, [...] just with the set up we’ve got, a Down’s child was not something that would fit into our lifestyle.” [T]

As with his views about the pregnancy, the couples’ reason for wanting a termination was to do with their son—a sibling with additional needs was deemed to pose a threat to their son’s quality of life, because he could eventually become a carer to their child.

These considerations were reinforced through the advice they received from a family friend, who was a long-term carer of her own brother;

Harry “The responsibility for having to look after a sibling is immense. The decision you make is, you might be able to cope with it and deal with, you’re also, when you’re gone, putting that then onto son and there is an effect, there’s gonna be an effect on how he has his life, what decisions he makes in his life and you’re making a commitment for him...that wouldn’t be fair.” [T]

Women in Rapp’s (2000) study also discussed how an affected fetus would mean their existing children would have to take over care once they had died, which added to their decision to undergo an amniocentesis and termination. Like these women, Harry thought the birth of a child with Down syndrome could be potentially detrimental, meaning his expectations, feelings and ideas towards the child were re-evaluated. Thus a distinction was made between the wanted child-in-head and the potentially unwanted child-in-womb. These changes in conceptualisations had an impact on how the men felt about the pregnancy and about screening, changing excitement to anxiety and trepidation. The emotional side of participating in screening was thus complex and contradictory. As illustrated by Harry, while the couple waited for their amniocentesis results, the excitement and joy they felt towards the child they thought they had was put aside, and a more pragmatic stance was taken towards decision-making, whereby the

costs and benefits of the available options were evaluated.

These findings may not be unique to men, but could occur with women too—this conclusion cannot be drawn from this study alone. However one woman, Olivia, suggested that her child-schema was to an extent based on a physical link which was less vulnerable to change via information received through screening. For example, Olivia and her husband had initially decided that they would terminate the pregnancy if a diagnosis of a genetic anomaly were made. Although her screening results were all normal, Olivia felt that if she had received a high-risk screening result, termination would be less acceptable because she had experienced a physical link to the fetus and seen its image on the ultrasound screen;

Olivia “I know that he [my husband] was particularly sort of nervous about having a baby that had a disability and I am too, but I don’t know how I would have felt, erm, you know, having that discussion before, cus we had these discussions before we got pregnant erm and at the time I was sort of, erm, in agreement with him, erm but once you’re pregnant things feel a bit different...you’ve already seen a picture of your baby on the scan you might feel differently.” [T]

Olivia appeared to be more emotionally close to the fetus than men in the study. This gendered difference was illustrated by Daniel when talking about his previous child. His image of the child-in-head was threatened by the 20-week scan, not because it revealed a genetic anomaly, but because it revealed that the fetus was male. This revelation was a “shock” for him and his wife, who had “convinced themselves it was a girl”;

Daniel “I think she was worried that I wouldn’t be able to, that I wouldn’t be as keen on that baby or I wouldn’t be able to love it like I would have done if it had been a girl and that kind of thing. And I was a little apprehensive at first, not quite sure how I felt.” [T]

Again, this caused his child-schema to become disrupted and separated into a child-in-head and a child-in-womb, meaning the expectations and positive emotions that were developing had to be shifted. It was only once his child was born that Daniel was reassured that he would enjoy having a son;

Daniel “now I look at him and think what did I ever want a girl for? He’s so much fun.” [T]

Here, Daniel suggested that preconceptions about what having a boy or girl might have been like could be disproved once the child was born. Daniel’s experience of the first pregnancy therefore impacted on how he felt about the fetus in the second pregnancy, in that he had fewer expectations and assumptions within his child-schema.

For his partner’s first pregnancy, which ended in stillbirth, Iain had constructed ideas within his child-schema through fetal movements as well as seeing ultrasound images. The child-schema both served as a way to remember his daughter, as well as a source of grief. He had a rich memory of her but never had chance to meet her;

Iain “One of the most frustrating things about stillbirth is that you have a child, you have memories of the child, you have interacted with the child - for instance she would always kick and bump about when Chelsea scored on MoTD [Match of the Day]- never another team - and especially so when Drogba scored. So we assumed that she was a Chelsea fan.” [E]

As Williams et al. (2001) suggests, when a pregnancy is lost, couples construct the fetus as a person, in turn constructing themselves as parents to the fetus, to help them cope with the loss. In this case, the child-in-womb (the kicking fetus) and child-in-head (the Chelsea fan) combined so that they could have memories of the child they had.

5.3.3 Deconstructed prenatal paternal identity

As well as re-evaluating their expectations about the child-schema, men who faced medical complications in the pregnancy experienced a crisis about paternal identity. They were made to re-evaluate and deconstruct their idea of prenatal paternal identity, and the ways of being a father. Disruptions to prenatal paternal identity again meant participants were dealing with conflicting ideas and feelings about prospective parenthood, and resultantly complicated emotions, while at the same time trying to make decisions about whether to take up prenatal diagnosis.

Harry and Karl, who faced anomalies in their current pregnancy, were forced to see paternity not as a coherent concept, but a fragmented one with social and genetic components (Ives, 2008; Sheldon, 2005). This idea was portrayed by Harry when he discussed the option of adopting away a child if it were born with Down syndrome;

Harry “Part of the options we were told about were the after the amnio, if we had got a Down’s [diagnosis], was go through the pregnancy and have the child adopted and we both kind of went, ‘can’t do that’. If we bring a child into the world, and it’s our child, it lives with us cus it’s part of our family, it’s us, it’s physically part of us.” [T]

Here, Harry made a distinction between the child-in-womb and the child who would be born. The pregnancy, and therefore the child-in-womb, would be terminated if a Down syndrome diagnosis were made. In contrast, the birth of a child, regardless of whether it had Down syndrome, would bring with it the responsibility to then raise and nurture that child, because it was “physically part” of the couple.

Harry’s view that termination, but not adopting away, was an acceptable option leads to the question of why termination was permissible, but adoption not, even though the

fetus would also be “physically part” of the couple. The bottom line for Harry was that he had a responsibility to prioritise his son. If a termination of the current pregnancy would prevent his son’s quality of life from being diminished, then it would naturally be seen as the favourable option. However the point still remains that if the child had been born with Down syndrome, then that child would not have been adopted away and Harry’s son’s quality of life might have been diminished as a result. The findings therefore suggest that during pregnancy, Harry’s genetic link to the fetus was abstract. The genetic link would be made real once the child was born, which in turn would strengthen the social and emotional responsibilities towards the child. Indeed, Marsiglio and Hutchinson (2004) suggest that men have a desire to pass on their genetic material to a child, since they do not have a physical experience of pregnancy, they are somewhat reliant on the social relationship to feel they have fulfilled their role as a procreator. Social fathers are defined by Marsiglio and Hutchinson (2004) as providing an “enduring relationship with his child” (p.24). For Harry, these social responsibilities, which would be spurred on by genetic fatherhood, would outweigh the potential negative impact the child could have on their family dynamic.

Like Harry, participation in screening led Karl to consider the different ways of being a father. Due to his chromosomal translocation, he and his wife Polly had experienced three miscarriages, each when the pregnancy was around 12-weeks’ gestation. Despite the difficulties they faced with conceiving naturally, and the distress recurrent miscarriages caused to them as a couple, using a sperm donor or adopting a child were not acceptable options. For Karl, being a genetic father was a necessary precursor to

being a social father. While for Harry the thought of being a genetic father but not a social father was synonymous with shirking fatherly responsibilities, for Karl, the idea of being a social father but not a genetic father was threatening to his masculinity;

Karl “Let’s not even touch that [using a sperm donor] yet...It’s quite a sensitive point actually I think, it goes back to a macho aspect, from a males point of view, it’s kinda like (gasp) let’s not even talk about that, ahh that’s too much...and adoption was probably in the same vein actually.”[F]

As the previous subcategory indicated, for men who did not face complications in their pregnancies, thoughts about the genetic component of fatherhood were more superficial: men talked about how their child might resemble them. As illustrated in this subcategory, when the genetic component was threatened, men were forced to consider its importance and meaning. These men shared an all-or-nothing view, in that they would not be fathers at all, or they would be both genetic and social fathers. Hence while screening caused these men to deconstruct the ways of being a father, they did not redefine their idea of what fatherhood entailed.

5.3.4 Ambivalence and uncertainty.

For men whose fetuses were at risk, diagnostic testing could provide partial reassurance that the fetus was unaffected by anomalies. Nevertheless, the threat they had faced did some lasting damage for these participants, who continued to feel anxious throughout their pregnancies. For example, Karl’s chromosomal translocation meant that fetuses who inherited the anomaly would be miscarried at around 12 weeks’ gestation. Even when his wife’s fourth pregnancy did not end in miscarriage at 12 weeks’, Karl felt anxious and uncertain about fetal health;

Karl “I think, then even when we were pregnant, when we got passed the 12-

week scan, and everything was incredible, um we were still terrified, again cus then we still didn't really understand the full extent of what the translocation could mean for her, for [our daughter], or what it meant to the pregnancy or, you know, effects further in the pregnancy that may cause an issue [...] Everything we did was, it, interestingly it probably made our lives much more short-term. It, It wasn't we'd never planned for the future, but it probably meant, that we our, we weren't talking about the future at all very much then." [F]

Karl's situation, and the multiple ways of conceptualising the 'child' caused his ambivalence. He felt "incredible" about having a child, but also "terrified" that the child they felt excitement about may not actually exist. His situation additionally highlights how the disordering of the child-schema and prenatal paternal identity could affect decision-making —Karl took a practical stance, focusing on short term goals, and putting excitement on hold, at a time when other men may start to plan for the future. His use of "we" suggests that these feelings were not specific to him alone, but to him and Polly as a couple.

Ambivalence was exacerbated by the potential inaccuracy of non-invasive screening and the subsequent uncertainty about whether the knowledge provided by screening was trustworthy. Karl also said;

Karl "you trust medicine as far as they know as well, and there was always this horrible chance that she might come out without any legs, or worse, you know, sort of thing, I guess an organ issue for her". [F]

The extent to which these confused emotions lead to confused decision-making is illustrated by the couples' choice to undergo prenatal diagnosis (chorionic villus sampling), even though they were told they would either have an unaffected baby or no baby at all;

Karl "we volunteered for [chorionic villus sampling] cus we were still quite

concerned, we didn't realise it was yet, it was another risk. We wanted to make sure she was gonna be okay.”

They underwent the test so that if the fetus was affected by a chromosomal anomaly, the pregnancy could be terminated. However the test would not have been useful because if an anomaly were detected, the fetus would spontaneously miscarry the time of the test anyway, as it is administered at around 10 to 13 weeks gestation (NHS, 2012). Moreover, the test posed a risk of miscarriage, meaning an unaffected pregnancy could have been lost through its administration.

These findings suggest that the process of screening had the potential to not only complicate the men's child-schema during pregnancy, but also any excitement and bondedness that men and women hoped would develop once the child was born. Pregnancy was therefore a time for constant redefinition of what being a father meant and what having a child would be like. As a result, in comparison to men who received low-risk results, it seemed especially difficult for men who faced anomalies to prepare—in emotional or practical terms—for the birth of the child. A 'wait-and-see' attitude was therefore taken. The impact of genetic screening on the notion of family and bonding is explored in more depth in the next category.

5.3.5 Summary

This category has illustrated how important conceptualisations of prenatal paternal identity and child-schemata were in some men's preparation for the birth of a new child. Projecting future identities and creating a child-schema were crucial in giving men an

idea of what fathering the child would entail. Men made decisions about screening, such as whether to attend appointments and seek information, with these conceptualisations in mind. These constructs appeared to be an important aspect of involvement in screening for men featured in this category, encouraging their attendance, their involvement in information-seeking and decision-making. In most cases, screening could give men the reassurance that their child-schema was accurate and thus the practical preparations they were making were warranted. If there were anomalies, the child schema and prenatal paternal identity became disordered, introducing confusion, distress and anxiety, possibly jeopardising their adaptation to fatherhood (or second or third-time fatherhood). Even when prenatal diagnosis confirmed that the fetus was not at-risk, once men had faced this disruption, it could be difficult for men to be reassured by screening and testing. In turn it could be difficult to make decisions during pregnancy because of the complex and contradictory emotions experienced. The men featured in this category felt they would only be reassured and emotionally prepared to be a father to the child once it was born.

The category has also provided a closer look at what prenatal paternal identity and child-schema consisted of for men. In particular, it has shown that these were usually coherent constructs. But for men whose ability to be a father was threatened, the genetic component suddenly stood out as an important part of prenatal paternal identity. The meaning of genetic relationships is explored next.

5.4 Category 3: The elusive nature of genes

This category comprised of two subcategories, which are (5.4.1) family or genetics and (5.4.2) fertility or genetics. The category represents participants' conflicting perceptions of genes. Participants did not see genes in a medical way, or as the focus of antenatal screening. Rather, as Venville et al. (2005) also found, participants perceived genes as underpinning "emotional connections and social bonds" (p629). By encompassing genes inherited from both partners, the child-schema represented a bond between the couple and their commitment and love for each other. These non-medical conceptualisations of genes meant that when genetic or chromosomal anomalies occurred, they were not always understood. In this section, the views of a few participants—Samantha, Joshua, Karl and Polly—are featured more heavily, since it was mainly men and women who faced high-risk or complicated pregnancies who had to consider the medical and familial meaning of genes. Since this category involves exploration of what genes meant to participants, the focus is less on the screening procedure and more on the wider context in which screening took place: the couples' relationship. These thoughts about genes were not unique to men—women's confusions about genes are explored too.

5.4.1 Family or genetics

Thinking about antenatal screening caused participants to reflect more widely on the pregnancy. There was variation in the level of importance participants placed on having a genetically related child. In the previous category, men placed importance on being a genetic and social father if their ability to have a child was threatened. Other

participants talked about how having a genetic child together would be, as Taylor (2005) suggests, symbolic of a permanent relationship between them;

Geoff “It is nice to think that we’re creating something which is basically from both of us.” [T]

Natalie was particularly vocal about the importance of such a tie, and felt that once the baby was born, the visibility of inherited traits would bring the child and father together.

Natalie “That link, the fact that like, physically they will have traits, things that resemble you and just like in the personality and, there will be things that they’ve clearly directly inherited from you and, and that bond is really important, that link is really important.” [T]

Natalie used heredity, bond and link synonymously. In her eyes, the very fact that traits would be passed on would create a bond between the father and the child. Samantha talked about the importance of her partner’s genetic link to the fetus too. Like Natalie, Samantha discussed how she anticipated this genetic link would elicit a father-child bond between Joshua and their twins. This link was important from her perspective, even though she had used an egg donor and so would not be genetically related to the twins herself;

Samantha “[Joshua] would certainly not have been so keen on adoption/fostering and this was also a huge part of my decision. I was concerned about his attachment/commitment/interest in children from other families being brought in, whereas felt he would react well to our own baby. [...] The question why I think Josh would have reacted to child genetically his or not is a tricky one. I’ll be speculating entirely but I’ll try. Josh is very good with young children. I think Josh would more easily attach to children that he was genetically connected to - partly because of knowledge of their link to him, partly because I think their characteristics would further enable this attachment.” [E]

Thus while these women accepted that men might not have a bond with the child-in-

womb, they anticipated that visible similarities would cause a bond to develop once the child was born. Unlike Natalie, for Samantha, the visible manifestation of genetic relatedness (i.e. being related to someone genetically) was the basis for a bond and not the bond itself. In other words, the genetic link would be an important precursor to a deeper social and emotional bond with the child when it was born. This was another reason why using a sperm donor was an unacceptable option for Polly, even if it meant she would avoid another miscarriage due to the chromosomal translocation Karl had. For her, having a child that was genetically related to herself and her partner would be a symbol of their love and their relationship;

Polly: “we did talk about this sometimes, that we want children because we want to be together, and we want to have a family=

=K: yep

=P: because we love each other, and actually if that then means that we end up not being together that kind of has defeated [the purpose], you know?” [F]

Samantha’s husband Joshua had more complex and contradictory views regarding what a genetic relationship meant. The reason was firstly because he was forming a “blood tie” (Taylor, 2005, p.189) with an egg donor—a woman he considered an acquaintance, and secondly because his children and wife would not be genetically related. With regard to this second point, his views about the antenatal and postnatal/early childcare periods were slightly different. During the antenatal period, Joshua found it relatively easy to perceive Samantha as the mother of the twins because of her burgeoning gestational relationship with them. As Joshua said, “the babies are inside her and she’s nourishing them, and she’s changing physically”. In contrast, Joshua was uncertain about the impact it could have once the children were born that his unborn twins were genetically related to him, but not his wife. On one hand, he felt that a genetic

relationship was unimportant, and would not define their family. It was the “beliefs” and “ideas” that the children would be exposed to that would define who the mother would be;

Joshua “I mean it’s interesting that it’ll be my genes and [egg donor’s] genes, but Samantha will be the mother you know [...] Samantha will have quite an important influence on mothering you know, she’s got strong beliefs, ideas and ideas about upbringing, which are probably very different from [egg donor]’s.” [T]

Within this reasoning, Samantha’s lack of genetic relationship was unproblematic. On the other hand, he felt it could be strange for him once the children were born that they were related to the egg donor. Joshua said, it would be “like an experiment”, and anticipated that resemblances between the children and their genetic mother could cause him to feel some complex emotions;

Joshua “I don’t honestly know how I’ll feel when they’re born and what they’ll look like and how they’ll behave and that stuff [...] I imagine if they had some strong traits that were like [egg donor]’s, that will invoke some feelings, but I don’t know what those will be.” [T]

What Joshua suggests is that the genetic link would only have an impact once the children were born and the link was made visible. In this way, his situation is somewhat similar to Harry’s, presented in section 5.3.4. For Harry, a pregnancy with a genetically related child would be terminated if the fetus was affected by Down syndrome, but the birth of the same genetically related child would instigate a responsibility to care for that child. For Joshua, the birth of children not related to his wife was anticipated to instigate some unknown emotion. In both cases, the genetic link was more easily overlooked, and thoughts about it were based on speculation during pregnancy. When

the child is born, and the genetic link becomes visible, the genetic link would take on meaning, and elicit emotions.

Joshua went on to talk more about the genetic and social and emotional bases of relationships, the way they might interact, and which—if either— would be more important. Using examples from elsewhere in his life, he tried to understand his own feelings about genetic relatedness or lack thereof. For example, he discussed a previous relationship with a woman who had a son aged 11 and the kind of relationship he had with this boy;

Joshua “It was difficult actually, I mean it still, I feel like I still had some responsibilities to him, I still looked after him in some respects, but there was never that bonding. It may be that if you adopted a baby then having a young baby who, who’s, who’s depended on you would create bonds, you know, I’m pretty sure that that would come about [...] especially if there was that dependence. [...]” [T]

In this example, Joshua discussed how an absence of genetic relatedness might have impeded his ability to bond with his ex-partner’s son. He then cited an alternative explanation for why this bond did not develop, which was the lack of dependency and the consequential lack of early social interactions with the child. Meeting the child earlier could have led to a bond, which would add to Joshua’s argument that a deep social or emotional bond does not necessarily require a genetic basis.

There was second example where Joshua speculated that genetic relatedness could be important for bonding, but he again suggested an alternative explanation for why a bond might develop between people;

Joshua “Up until very, very recently, I hadn’t seen my uncle since I was like 5 or something. I felt this, and you know recently we got back in touch and met up

and it was so nice, it was so good to see him, and it felt really important, and it felt really meaningful. And my cousin, I hadn't actually seen my first cousin, hadn't actually seen, seen him [...] so I think genetics are important, or family, but I don't know if that's genetics or family, it's kind of, yeah, it's kind of bit of a, I feel like it's a complicated topic there. I think it could be important, I dunno if there's an instinctive drive there, even like in terms of smell, or, you know, things going on that you're not even, that you're only sub-consciously aware of, but then as I said before course there's lots of fathers out there who are looking after kids who are not theirs sort of thing, who probably feel strongly, strong love for them." [T]

The distinction between genetics and family firstly suggests that from his perspective, being genetically related to someone would not necessarily make them your family, nor would it lead to loving that person or feeling a bond to them. Secondly, it suggests that "family" is defined by more than just genetic relatedness—for example, a shared history. Joshua tried to understand genetic relatedness using other situations in his life and his past because there were few norms regarding his situation. This issue was emphasised in the below quotation;

Joshua "I don't think we've evolved to understand how to deal with these things [egg donation] emotionally, erm, and I, I think it does leave difficult, kind of, questions in your mind [...] I don't know how you're kind of meant to feel." [T]

The task of working out "how to feel" imposes a difficult responsibility on men, if they are without any norms or personal experiences regarding the situation or emotional and informational support.

It is not clear whether Joshua would have the same sceptical attitude towards the meaning of a genetic relationship if it was his genetic relationship under threat. Views about men and women's lack of genetic relationship might be different since women

have a gestational relationship, which to an extent defines them as a mother regardless of whether they are the genetic mother or not. Indeed, Joshua and Samantha espoused opposing views; while Joshua speculated that having a genetic link might be unimportant, she felt that a genetic link was necessary for Joshua to develop a social or emotional bond to his twins.

The confused and conflicting feelings some participants had about genes were amplified when there was a potential genetic risk. A contributor to the confusion is the information lay people are exposed to. BBC television programmes such as ‘Who do you think you are?’, where celebrities trace their family histories, and the rise of online businesses where users can map their own genealogy such as ‘Genes Reunited’ have brought genetics and genetic relatedness into the spotlight for lay people. Lawler (2008) suggests that the rise of genealogy and ancestry as a hobby, or as entertainment for television viewers, enforces an idea that “we are the outcome of inherited material”, causing genes to be linked to social identities (p.31). There is also wide spread coverage of genetics in a medical, rather than genealogical, sense. Popular newspapers, such as The Guardian have sections dedicated to ‘genetics’ in their online edition. Although his study was conducted in Australia and is possibly outdated, Peterson (2001) found that when some newspapers report health and medical stories about genetics, they ignore non-genetic factors and multifactorial interactions for genetic conditions, perpetuating the over-simplified and flawed OGOD (one gene, one disease) assumption, which Conrad (2002) noted is common when genetics research is presented in print media. This kind of information has raised the awareness of genetics, while at the same time

creating uncertainty about which traits might be inherited genetically and which might not. For example, Joshua said:

Joshua “Maybe I don’t understand genetic stuff anyway I think we get led to believe that genes are everything, and, and, but maybe they’re not as important.” [T]

Here, Joshua critiqued what he saw as genetic determinism—the idea that genes lead to outcomes that are unavoidable and unchangeable (Lawler, 2008). However, Joshua’s use of the word “maybe” suggests he felt uncertain about how much is determined by genetics, and how much is not. Uncertainty about what impact genes could have on children’s behaviour caused Karl and Polly to see adoption as an unacceptable option, as illustrated by Polly when discussing a friend’s opinion of genetic relatedness, inheritance and adoption;

Polly “A very drunk friend one night was telling me, one night [...] she went ‘with adoption be very careful cus you can get these children, you know and you just don’t know what’s in their DNA and you just don’t know what they’re gonna end up like, drug addicts, or dadada”, and I remember just coming away thinking “I’m gonna slit my wrists!” just terrible, cus she just made me feel so awful.” [F]

Although Polly may not have agreed with her friend’s ideas, her relaying of the story makes clear the influences and lay opinions that surrounded her and Karl while they faced problems conceiving.

5.4.2 Fertility or genetics

For Karl and Polly, the uncertainty and confusion about what impact a chromosomal translocation could have was most intrusive when the problem was first identified, particularly since neither participant had considered the reasons for their three

miscarriages could be genetic in origin. Rather, they thought it was due to a fertility problem in Polly's body;

Karl "I immediately assumed that there was absolutely nothing wrong with me at all, and it really was down to stress, or I didn't think anything else it could have been, as Polly described I guess, wrongly think of fertility, outside of things like sperm count, but you think of fertility being a woman's realm I guess more than anything else. Um so no, discovering that was a huge shock to me, and to my family actually as well, my mum, and you know and my parents, who again none of us really understood the process" [F]

The diagnosis of a chromosomal translocation caused the couple fear and anxiety, because they did not know what it meant or what the implications could be. Being referred to a genetic counsellor amplified this fear, firstly because they associated genetic anomalies with early death, and secondly because they interpreted the term 'counsellor' as a counselling psychologist—i.e. somebody that would help them cope with some bad news;

=Karl "When we first heard we were going to see a genetic counsellor, we immediately assume, we didn't think I was going to make it through the day, and erm"=

=Polly "we kind of though Karl's' is suddenly going to find out that he's got something horrific that we'd never known about"

=Karl "(laughs) absolutely, my legs are gonna fall off="

=Polly "is he gonna die like when he's 40 or 50 or something, erm, but also counselling, you kind think, 'oh is this because we're never gonna get to have children'"=

=Karl "It'd more bereavement, or we're never gonna have, it's more a situation where you're never gonna have a child [...] so (the clinical geneticist) did clarify things quite a lot. I think we were still confused though, in terms of, it's outside I guess, what you're used to dealing with. And so much of it, to me, it didn't anyway make a lot of sense." [F]

Another result of Karl and Polly's inexperience with genetics was a tendency to continue to incorrectly refer to the problems they were experiencing in terms of fertility;

Polly "Another kind of fertility thing, and I think, what I just found a bit strange

cus you know, we're taxpayers, you know, you do everything that's right, and it's not that we've got, it's not that I've not caused this because I've done loads of drugs, smoked, eaten badly, I'm obese,—you know, I haven't caused myself to have this—or I've never exercised, whatever, it's just you know, I'm, my husband and I, together, we just have this problem, and it's something that we've got to sort of get to the bottom of, but it sort of, you just feel a bit like with fertility, it's just like, well actually no, you've just gotta go away and sort it out yourself [...] when you've got a fertility issue=
Karl "it's a secondary health issue" [F]

A potential reason why the couple referred to the translocation as a 'fertility issue' can be extrapolated from research by Walter et al. (2004) and Santos and Bizzo (2005).

These authors make suggestions for how lay people understand genetic anomalies and suggest that when fewer family members are affected by an anomaly, affected individuals have a less clear understanding of the problem. Santos and Bizzo (2005) argue that this inexperience and unfamiliarity permits individuals to develop their own potentially inaccurate explanations for the causes of the problem. Such individuals tend to develop a syncretic understanding of the issue. That is, they combine information gained from scientific sources (in this case, the clinical geneticists) with their own lay perceptions, influenced by non-medical sources and past experiences.

As Venville et al (2005) found, "the strong focus on relationships as opposed to the structural and functional aspects of the gene mean that [...] understandings of kinship and inheritance [are emphasised and] and understandings of genetics [are deemphasised]" (p.629)—kinship being a way of forming relationships that excludes some and includes others (Lawler, 2008). Indeed, genes and chromosomes, because they were seen in a genealogical sense, as the traits that bring together family members, were not seen as the culprit for miscarriages and difficulty in conceiving. Such problems were

more readily seen as fertility problems. The problems were therefore transformed from one that originated in Karl's body to one that took place in Polly's. Parsons and Atkinson (1992), as quoted by Santos and Bizzo (2005), similarly found that women translated information about genetic risk into "recipes for reproductive action" (p454). Polly's quote, "my husband and I, together, we just have this problem and it's something that we've got to sort of get to the bottom of", is an example of such a recipe, and of how she took on responsibility for successful child-bearing. Karl and Polly's syncretic understanding highlights the difficulty from their geneticist's point of view of ensuring that the information had been understood correctly. It throws into question whether they were able to provide informed consent for genetic screening and diagnostic tests if they had this limited understanding. There were two major implications of their lack of understanding: first, as described in section 5.3.5, both were worried that their child might be born with a disability, even though they were advised that if the fetus inherited the translocation, Polly would miscarry at around 12-weeks. Second, Polly spent time considering reproductive options that would not have been suitable for them, such as egg donation;

Polly "one thing that I did have in my mind and I know I sort of probably never shared it with you [to Karl] because I thought that's just another option, is um, a girl I know had sadly had god knows how many failed IVF treatments, and she then went to Spain and she had egg donation [...] and she's not got beautiful twins" [F]

It is notable that although the couple talked about fertility, they never referred to their miscarriages as being caused by a problem with Karl's fertility. It was always either Polly's fertility, or Karl's translocation. When the couple did think about the issue as being to do with chromosomes, it could have one of two effects on Karl's sense of

masculinity. In one way, the translocation posed a threat to his masculinity, because it meant he may not be able to have children. At the same time, the diagnosis also protected his masculinity, as it meant his sperm count was normal. A low sperm count was considered more emasculating than a chromosomal translocation;

Karl “Looking back now I think I told quite a few people that I had a genetic translocation and this was the problem [...] ridiculously from a boy’s point of view, I think the idea of it having an impotency type of issue and people maybe expecting that was the issue why we weren’t having babies (laughs), and then my way of playing it back, well actually it’s nothing to do with that, it’s not erm, it’s not a sperm count issue, it’s just, I’ve got this genetic translocation and I think so, as if that would make things better.” [F]

In the below quotation, Karl additionally suggests the translocation was not “his fault”, which indicates it was seen as beyond any control. At the same time, Karl said he was “stopping Polly from having what she really wanted”, which indicates that to an extent, he felt responsible for the outcomes of the translocation, and somewhat guilty and to blame for it. This guilt is illustrated further in the following quotation;

Karl “So, yes it was a grey cloud over me, it did hang with me all the time and I think that’s probably why I found myself talking to people about it a lot. Erm once I discovered what it was and, and, and trying to, persuade everybody else I’m absolutely fine; there’s nothing wrong with me. Erm, er so it was two sided, one from my own point of view and then two because I felt I really I was stopping Polly having what she really wanted. Erm once we realised it wasn’t my fault completely that that, that was a step towards us feeling better about it but it was always with us, it was always with us.” [F]

This guilt and responsibility led Karl to experience and enact ‘genetic responsibility’, which is to inform family members that they might be at risk (Weiner, 2011). Karl informed his sister and mother;

Karl “[the clinical geneticist] allowed me not only to kind of clarify it for myself but actually she gave us the tools, I guess, to help um my family as well around me, blood family who may have been suffering the same. Um so at least we could explain the concept of what happened [...]there was my shock as well but

also my mum's who was distraught, absolutely distraught Polly "Karl's mother was really affected by it. She kept blaming herself and of course she then found out she was a carrier, so then even worse, and also Karl's sister had lost a baby at 22 weeks"=

=Karl "she did, yes"

=Polly "and Karl's didn't know whether Karl's sister had it, so Karl's mum was thinking, my one's son's having miscarriages, my other daughter's baby's died, it's all my fault, and that was really quite hard on you I think"

Karl "Yeah, no, I think it added a huge amount of stress to um, it added um, it did add a huge amount of stress to the situation"

[...] my sister wasn't a carrier at all, so she has no, it's not a problem at all. So yeah, so my sister's not a carrier, so that took some pressure off my mum, if nothing else."[F]

The consequence of telling his family was that Karl's mother also felt to blame. For her, the sense of guilt and responsibility stemmed from Karl's inheritance of the chromosomal translocation from her. What this finding suggests is that whether from a fertility or a genetics perspective, the women in the situation felt responsible when child-bearing was problematic.

5.4.3 Summary

Participants in this section used speculation and personal experience, and to a more limited extent, medical information, to make sense of genes and genetic relatedness.

The passing on of genes to a child was important, particularly to women in this section, because the union of paternal and maternal genes represented the couples' love for each other. Moreover, the paternal-child genetic link was hoped to elicit a strong social and emotional relationship between the man and his child once it was born. In Joshua's case, however, the meaning of genetic relatedness was uncertain, perhaps because he knew that his wife, Samantha, would have a fulfilling relationship with his twins despite not being genetically related to them. In most cases emphasising the genetic basis was a

way to emphasise how women, men and the child would form a family, and therefore that men's involvement in reproductive decision-making, as a family member, was important. While the family-based definition of genes was positive because it drew couples together, there was a downside if it made the medical-based definition more difficult to understand and interpret. Furthermore, genetic diagnoses were difficult to cope with because other family members were also at risk.

5.5 Category 4. Simple information and support

The fourth category was constructed from four subcategories, which were (5.5.1) trusting the experts, (5.5.2) merits of basic information, (5.5.3) appreciating support, forgiving flaws and (5.5.4) non-medical support. Overall, this category reflects how screening was perceived as a necessary part of pregnancy, but for most men who did not experience anomalies, it was not one that required much attention.

5.5.1 Trusting the experts

Since screening tests were offered as part of routine antenatal care, participants saw them as a normalised part of pregnancy. The decision whether to participate in screening therefore warranted little attention. Most men went “along with the program” (Frank) trusting midwives, who were seen as experts, to provide them with the screening that was in the best interests of the fetus. In contrast to the metasynthesis in Chapter 2, men did not feel that they had been under-informed. Rather they trusted the experts to the extent that they did not see it necessary to be fully aware of what screening was offered and what anomalies, aside from Down syndrome, were screened for;

Eric “we weren’t really aware what the, the things that were being tested for, apart from Down’s syndrome which I think’s something, because I guess it’s more common than some of the other ones.” [T]

SD “So what erm, what do you know about the kinds of screening tests that have been offered during the pregnancy so far?”

Frank “Erm (laughs) I know some, the I mean the big one that is, that we were offered was the erm, er, screening for Down’s syndrome, so we had some information about that before we went for the erm, the scan, and the blood test.” [T]

These findings highlight that increased normalisation of screening may increase uptake.

Since it is offered routinely, there may be less deliberation about whether to accept it and the risks it might pose. Like the current findings, Reed (2012) found that men were less likely than women to read about pregnancy and screening, relying on women to read and disseminate information. In the current study, men felt that because screening tests were routinely offered by the NHS, the tests would be beneficial. They therefore did not discuss, or even consider, declining screening, meaning few participants discussed the potential outcomes of screening and what they would do if a high-risk was shown;

Chris “No, no, haven’t discussed it [screening] at all, I just think we’d just assumed (laughs) we’d have the scan and we’d just go along to them, we wouldn’t even, but no, it’s not, I haven’t even articulated that we might not bother or something, no, no we’ll definitely do them. We haven’t discussed it because there’d be no need to discuss it.” [T]

Chris talked about how he and his wife would not terminate an affected fetus, and as a result, there was no need to discuss screening tests;

Chris “Yeah we’ve discussed what to do prior to having the scans with the first child and you know, decided that, you know if it had Down’s syndrome we’d carry on wouldn’t you know terminate the pregnancy or anything like that.” [T]

Frank also said that he and his wife had not discussed screening;

Frank “I think we assumed that that [the nuchal translucency scan] was, that was fine, the, it was done as part of the, erm, 12-week scan, it was no-brainer, they were offering it so that’s fine” [T]

Even those who had discussed screening came to the same conclusion. That is, they were happy to accept the screening offered;

Luke “We did [discuss] and we said whatever tests you need to do, please do.”

[T]

Some men had however discussed the possibility of there being an anomaly. These men accepted screening to be ready for any eventual outcome.

Geoff “If something went wrong etcetera like that, we already, we discussed that at length, it’s quite a morbid conversation but we’ve discussed that and we know what we’d do so.” [T]

Another reason why these men accepted screening without discussion was because they hoped and assumed results would be low-risk and they would not need to make decisions about further diagnostic testing. Men avoided talking about these possibilities;

Eric “you almost don’t want to say it, like, what if there’s no heartbeat or something, [...] so no we didn’t really talk about it.” [T]

Frank “We didn’t really erm talk about, erm, er, you know what we would do if, erm, if, if, it was high-risk and whether we would go for further tests, erm. I guess we were trying to avoid thinking about it too much” [T]

SD “To what extent did you and [wife] discuss what you would do if anything had been detected in the scans, such as a high-risk of a genetic condition?”

Andy “We didn’t really but she’d probably have had a termination if it was possible. No point really discussing these things in theory. You’d have to hear the medical advice.” [IM]

These men had no reason to assume anything other than the ‘norm’ for their pregnancy, since they had no “big family history of any particular medical condition or anything”,

(Eric) or “any sort of history of any genetic illnesses or problems” (Frank). Seeking information about screening was unimportant particularly since no risk was posed to the fetus though doing the screening;

Eric “There’s not much, it’s not invasive so it’s not like there’s a risk to having the screening done, not, not a reasonable one, so I guess I didn’t feel like there was any harm in doing the, the screening test” [T]

However, one risk of screening is the potential of a false-negative or false-positive result, and this was only mentioned by Bryan;

Bryan “My understanding is that the first test that isn’t intrusive on the baby is, not the success rate—yeah the success rate—the accuracy of the test is really quite low, so if that comes back positive you then have to make the decision on whether you do a, the next test which I think is blood from the umbilical cord or something, whatever it is, which is then risk the baby.” [T]

Many men, therefore, accepted screening without thinking about high-risk results. The assumption that pregnancy would be low-risk was rooted in a viewpoint that pregnancy was a familial event rather than a medical event (Draper, 2003; Lundgren and Wahlberg, 1999). In other words, until something in the pregnancy went wrong, men were more focused on the idea of the forthcoming baby and the changes it would bring for their relationship or family, rather than on the aspects of the pregnancy that required medical intervention. Eric explicitly discussed this as an aversion to medicalisation;

Eric “Now I could have just gone online and probably found out much more about it and it’s sort of what I usually do if it was to do with my own health, I would have definitely done that [...] because we’re not, we weren’t, not huge fans of sort of, erm, you know medical intervention being sort of overly medicalised that were just kind of going along with it, you know, we kind of just assume that it’d all be okay.” [T]

Like Eric, Geoff was not eager to receive detailed medical information about screening,

since this information could have a detrimental impact on his overall pregnancy experience;

Geoff “I think certain situations too much information is a bad thing. You know, if they had have said ‘oh, oh well we can offer you the tests that test for this, this, this, this and this’ I think you, you could end up panicking people.” [T]

Women corroborated this viewpoint. For example, Olivia trusted in the NHS tests as being sufficient and suitable, and so did not feel that she had to find out lots of information about screening. In fact, looking for this information was a deleterious process since it caused her to feel anxious rather than empowered;

Olivia “I guess you just you know what screenings available because your midwife gives you the, the information as to what what’s available [...] as I’m concerned if they’d tell us something that was particularly important it would be offered on the NHS [...] but I banned myself from Google after sort of week 5 of being pregnant because I was getting anxious about lots of things and Googling stuff and I think that’s dangerous cus you often end up just on blogs or sites with un reputable information. I have checked the NHS website, erm, for, erm the stuff that’s offered erm like I said through the NHS and I’ve got one book which is pretty much the only thing I’m allowing myself to read other than the material given to me by my midwife.

Another reason why men trusted the routine care package was that they were inexperienced with regard to pregnancy, and somewhat confused by medical information. They hence relied on healthcare professionals to guide them through the medical aspects of the pregnancy, like screening. As with research with women (e.g. Tsianakas et al., 2012), this finding suggests that men did not make informed choices, but this did not bother them;

Eric “We were rather confused at the beginning. The way it was give, the way all the sort of screening tests were presented to us by the midwife wasn’t very clear. [...] I don’t know cus usually I would go and look up these things. I suppose I sort of thought it’s not whether I know about it or not.” [T]

Geoff “I think there will, they sort of, I’m gonna, I trust her [the midwife’s] judgement more than, (laughs) more than my own at the moment so if they [the midwives] think we need to know, they would tell us. I’m confident in that.” [T]

As Green (1999) argues, feeling in control is not necessarily achieved through making decisions. Contrarily, Green suggests that pregnant women—and in this case, expectant fathers—can gain a sense of control from knowing that the ‘experts’ are in charge of the medical aspects of pregnancy care. Evidence that midwives were seen as the ‘guides’ through screening comes from Daniel, whose situation was slightly different to the other men’s that have been outlined in this section. In their first pregnancy, the midwife presented the nuchal translucency scan as an important decision that required thought and discussion, rather than passive acceptance, and as a result, Daniel and his wife did not accept the test in their first pregnancy;

Daniel “There was quite a lot of, rather before we agreed to that, they asked us to think quite seriously whether we wanted it and to discuss it with each other and uhm, I think, I’m not entirely sure why they were putting such an emphasis on why would we want it, and I know for some people that’ll make the difference whether they continue with the pregnancy but that wasn’t an issue for us, I think.” [T]

Daniel was the only participant who reported being explicitly told that the decision to accept nuchal translucency screening warranted serious consideration. His experience sharply contrasts Frank’s description of the screening test being a “no-brainer” (Frank),

Although generalised conclusions cannot be made from this case alone, this finding suggests that midwives can have influence over whether couples see the decision of whether to accept screening as important and consequently whether they accept or decline tests. As Reed (2012) points out, current NHS policy is that there should be

consistency in how choice and consent is presented with regards to screening. Daniel's example suggests there may be inconsistency in how the risks of screening are presented, and that there may be consequences of this to decision-making. Indeed, decision-making models, such as the risk as feelings hypothesis, suggest that the way a possible outcome is described to an individual can impact on the option they choose (Louwenstein et al., 2001). Not only did the midwife's presentation of the nuchal translucency scan affect its uptake during the first pregnancy, but the second as well.

Daniel said;

Daniel "I don't think we're particularly bothered about having the nuchal fold test done this time, only cus it didn't work last time, they didn't manage it and it wasn't really a concern to us." [T]

Daniel was interviewed a second time, shortly after their 12 week antenatal appointment, where he reported that the midwives had actually done the nuchal translucency screening;

Daniel "Yeah, they, they haven't done it before at [X hospital] because we had our last baby at [Y hospital], so they're training to do it, and erm, they asked us if it was okay for them to attempt it and we said yes. They did it and it was fine." [T]

As Daniel said, the midwives "asked" if they could do the nuchal translucency scan during the appointment, meaning he and his wife may not have had time to discuss the decision and make an informed choice. Again, the couple were guided into a decision—this time, towards accepting the test. Although men did not actively participate in decisions about whether to go for screening, they valued receiving confirmation that the fetus was unaffected by anomalies, as is discussed further in the next subcategory.

5.5.2 Merits of basic information

Men were not concerned with receiving detailed information about what genetic conditions were being screened for and what their risk-scores were. Instead they appreciated basic markers of health, such as seeing fetal movements on the ultrasound screen, hearing the heartbeat via the echocardiography, and getting confirmation that the fetus was at a low-risk;

Andy “As far as I knew [the scans] were to check the fetus for growth and make sure the spinal column etc isn’t too thick etc not much explanation given mainly just a ‘that all looks fine’ which is normally all you need if you're not a medic” [IM]

Daniel “I was happy with the information, they told us that the baby was fine, pointed out where various parts of the baby were and told us that it’s got a good strong heartbeat” [T]

Hearing the heartbeat was important for men in Reed’s study (2012) also. Reed likened it to men feeling the fetus kick for the first time—it was a chance for men to have a sensory experience of the fetus. Men were less inclined to receive information about risk. Eric was the only participant to mention a risk score;

Eric “I think it was something like, so the one that I’d never heard or something like 1 in 27000 risk of having this condition and we also thought that given that we’d never heard of it before, it’s probably not one to worry about.” [T]

Changes in probabilities of risk, as long as they were within the pre-defined ‘low-risk’ range, did not have an impact on men’s reassurance or anxiety. Thus if a pregnancy is classed as low-risk, the actual probability score was of little relevance.

Men speculated that if complications did arise in the current pregnancy, they would certainly want additional information;

Eric “I would probably choose that moment to go and off and read about it

[screening results]”. [T]

Chris “At that point you know I might have an awful lot of questions about what we do and how do we, what is there for the child and what will happen.” [T]

These quotations suggest that men would want to know what the results would mean, what action could be taken, what support could be provided for the child and what the next set of decisions would be. Indeed, men who were faced with potential health threats for the current pregnancy were eager for more information and guidance. For example, in Frank’s case, an ovarian cyst was discovered during a routine pregnancy scan, for which the couple were referred to a consultant. This discovery caused some worries about how the pregnancy might be affected;

Frank “With the consultant we had to probe a bit and ask a lot of questions to get the information.[...] she did her best to sort of include me although the, the room she was scanning in it was slightly more difficult to do that just because of the position of the equipment and I didn’t think at some point, she had an assistant, someone working with her, and I did think at one point her assistant sort of pulled the curtain across and blocked my view of the screen, which, well actually I’d like to see, see the scan.” [T]

In contrast with men low-risk pregnancies and those who had complications in the current pregnancies, men who had experienced complications and bereavements in previous pregnancies, such as Andy and Iain, were especially appreciative of the more basic markers of health that the screening tests, particularly ultrasound scans, could provide;

Andy “As soon as we saw the heartbeat the 09 experience was irrelevant to this pregnancy” [IM]

Iain “Subsequent pregnancies were rather fraught...all I really wanted to see was that the heart was beating - obviously the measurements are important, and it is nice to see the percentile stuff, but so long as the heart was beating then I was happy” [E]

Past experiences caused these men to feel a lack of control over protecting the fetus. Men knew that the screening could give them some reassurance, but also that it would not guarantee the birth of a child, or a child that was unaffected by an anomaly. These men appeared to rely on screening less for reassurance, and were keener to wait until the child was born to see whether it was genetically healthy. Such men were somewhat satisfied with receiving basic information, because they placed less emphasis on their ideas about the fetus, and therefore their child-schema, having learnt how easily it could be discredited with unexpected information. Andy, as a result, was not keen to have a detailed experience of screening, for example, receiving narration of what the fetus was doing on the ultrasound screen;

Andy “Clever technology but you can’t see that much [...] I was happy to wait until I saw her in the flesh for the rest of my life rather than watch a DVD of a scan. Having a child means you have to prioritise your emotional commitment and work out what really matters. We already have a child so we have limited time to dwell on stuff like that [antenatal screening] or worry unduly about things like the D and C [dilation and cutterage following the early pregnancy loss].” [IM]

For these men, experience and knowledge of the fetus during pregnancy was temporary, tentative and technology-mediated (Katz-Rothman, 1994; Mitchell and Georges, 1997). This point is emphasised through Andy’s use of words relating to the birth of his child, which were directly juxtaposed to those relating to the pregnancy experience—for example “in the flesh” versus “technology”, and “rest of my life” versus “watch a DVD”, suggesting that men like Andy were waiting for the birth of the child to start feeling an emotional closeness, a finding that links back to the ‘no paternal bond yet’ subcategory of this chapter (section 5.2.3), and the ‘responsibility, but not always

closeness' subcategory of the metasynthesis Chapter 2 (section 2.3.1.1). For Andy, hedging his emotional commitment to the fetus, and waiting until the baby was born was not a problem, because as he suggested, he wanted to prioritise his son until his new child was born.

A refutation to the general pattern of only wanting simple confirmation came from Chris, whose wife was pregnant with their second child. In the below quotation, he reflected on his experiences when his wife was pregnant for the first time, where there was no sign of anomaly. Nonetheless, Chris was anxious and sought information himself to allay his anxieties. Like some men in Reed's (2012) study, Chris used the internet to find information about screening, rather than relying on leaflets provided by the NHS—perhaps because these leaflets seem to be aimed at women. The internet might be particularly appealing to some men because it allows them to get some 'hard facts' about pregnancy, which appeal to the masculine tendency to want technical and practical information (Reed, 2012);

Chris "I was more proactive, sort of to the nature of your question implies everyone else should be telling me things, whereas my approach was that I should be finding them out. So yeah you know Google is an amazing thing and er, I think that's how I looked up most of it. [...] The most important thing for me was to discover if the baby was healthy. Erm I know it's kind of nice to look at the picture and see if it's a boy or a girl and er, and that was nice but I was probably kind of anxious about the health of the child, not for any particular reason but cus I'm anxious, so my main thing was to know what the risks of all the different things were and to kind of be assured that it's got two arms and two legs." [T]

This anxious personality trait contrasted Geoff's description of his own "positive outlook". While being anxious and having a positive outlook are certainly not mutually

exclusive, these men's differing portrayals of their own personalities is an illustrative example of how even routine procedures caused anxiety in some men, thus eliciting a need for more informational or emotional support. Chris later mentioned that for his second child, he felt less anxious "because having seen it once it's not the complete[ly] unknown situation" indicating that his anxious reactions to screening may have stemmed from a lack of understanding, knowledge and control.

Men perceived that in situations where there were potential complications, there was a balance to be maintained by healthcare professionals between attending to the medical and the familial aspects of the pregnancy. Some healthcare professionals were perceived to be better at maintaining this balance than others. Men's views on midwives who managed to maintain such a balance are discussed in the next subcategory.

5.5.3 Appreciating support, forgiving the flaws

Men were most satisfied with their screening experiences if they felt midwives took a couple-centred approach to screening, recognising them as the father to the fetus, talking to them and addressing their concerns. For example, Harry talked about his experience of the nuchal translucency scan;

Harry "They were very reassuring [...] clear and you know supportive and just saying you know, you know, from their experience it looks absolutely fine and normal, so don't worry, there's not a problem." [T]

SD "What was your experience of the blood screening tests like?"

Andy "Pleasant. The nurse was very pleasant and chatty and there was no stress. She just said briefly what they testing [...] we were] both treated with respect."
[IM]

Frank was similarly pleased with how he was included in the nuchal translucency scan, which contrasted his exclusion when his wife's cyst was discovered;

Frank "She made sure that you know we could both see the screen, so erm, even though she was, you know she had a job to do in terms of sort of making measurements and stuff, she made sure that we could see what was going on, [...] she seemed very sort of empathetic to what we were going through. She, was obviously addressing questions and so on to both of us." [T]

Frank's use of the phrase "even though" suggests that to an extent, being shown the screen and being included in screening was a privilege—an extra duty the midwife fulfilled in addition to carrying out her main "job" of checking the fetus. She made the experience personal for the couple, and as found in previous research, started turning the 'thing' into a 'baby' (Sandelowski et al., 1994). Geoff similarly discussed how the midwife made the scan personal for him by explaining the image of the fetus;

Geoff "She was showing us different things and you could actually see an awful lot more than I'd ever managed to see before, what I was seeing before on other people's photos and on movies and stuff like that, so it was a very, very positive experience." [T]

Feeling that midwives were engaging them was valued particularly when the pregnancy was complicated and when parents felt stressed or distressed. For example, Harry discussed one particular midwife that treated them with kindness and respect following a high-risk Down syndrome screen;

Harry "The midwife came out to see us, so even on a weekend, she was, she came out and talked us through absolutely everything and our feelings about the whole thing, so there was just, we were allowed to, you didn't feel pushed or guided to do something one way or another [...]. And if there was anything we were unsure of she explained it and as much time as we needed and she'd have said you know, talk it through [...] So, absolutely and totally and utterly caring. Couldn't ask for more." [T]

Harry's use of "us" and "we" emphasises that the midwife came out to visit, and talk to, both him and his wife. Like Frank, he uses the word "even" (on a weekend), which again serves to suggest that from his perspective, the midwife went above and beyond her standard duties. It is of note that this particular midwife encouraged the couple to talk through the potential options together. These midwives fostered the prenatal paternal identity that men were developing, and enabled their involvement. For men like Iain, being treated as an equal was especially important. Recognising his status and investment as the father meant to an extent, he was given the chance to legitimately grieve on the day his daughter was stillborn rather than support his partner only;

Iain "It does have to be pointed out that the midwife who delivered [daughter] was excellent. And it was a great comfort that we were given an hour alone with her body to say our hellos and goodbyes." [E]

As is explained in the next category, Harry and Iain encountered midwives who excluded them, but in general, most men excused the drawbacks of NHS healthcare delivery, such as long waiting times. They were empathic to the stresses they perceived the midwives' jobs to entail, and so as long as they were treated with respect and given the information they wanted about their fetus, they were satisfied. Another reason that men accepted the faults in their antenatal experiences was that most men were having their first child, so could not compare what a 'standard' antenatal experience should be like. If they assumed their experience was normal, they were accepting of it. For example, Geoff discussed his experiences of having a trainee midwife conduct the nuchal translucency scan;

Geoff "I'm not someone that's gonna you know, demand that we have absolutely professional people, on these things people are learn, they don't learn while they're doing things like that then, when are they, when are they ever gonna do

it, so I have no issues on that. My concerns I think came from the fact that we'd never been through before. Had I, you know, if I'd gone for the second one I had exactly the same scenario, I wouldn't be concerned in the slightest. I think it was more my own worries and issues that were coming out there, I didn't have any issue with them at all." [T]

Geoff attributed his concerns about the trainee midwife to his own inexperience of pregnancy. Andy similarly attributed their negative antenatal experiences to his own mistakes, suggesting as the man he had some practical responsibilities like finding the right department in the hospital. Andy saw organisational issues in the hospital, rather than individual midwives' attitudes, as an additional problem;

Andy "The first time we went to the [hospital] it was chaotic with short staff and hundreds of mothers"

SD "Mmm"

Andy "We were there for 5 hours and told to wait in the wrong place. We were there for 90 mins before I asked and we were sent through to the scan room."

SD "Five hours! Wow"

Andy "But I think that was just a bad day for them and none of the staff were rude despite the nos. The 90 mins was partly my fault. After that I knew to double check we were in the right place if we waited somewhere more than 30 mins." [IM]

By taking on such responsibilities and trying to rectify problems, Andy was able to fulfil a protector role over his partner and child, albeit to a small extent. These findings echo Reed's (2012) study, where women felt somewhat frustrated at long waits in antenatal units, but sympathetic to midwives' busy workloads. Chris additionally excused a negative aspect of his antenatal experiences—that he felt excluded from the screening appointments;

Chris "I think this is simply because they don't have enough time to take the time to get to know me [...they] communicate info to the best of their abilities, erm, and there kind of wasn't time to, to, to include me, and all the kind of mental energy to start worrying about me as well." [T]

Chris' exclusion is discussed further in the next category. From the quotation here, it can be concluded that the pressure faced by NHS midwives made this exclusion more understandable and acceptable. His use of the phrase "best of their abilities" suggests that rather than his exclusion being down to midwives being unprofessional or unwelcoming of men, they were simply attending to the priorities—the woman and the fetus—within the constraints of their job. Similarly, by saying "enough time" Chris suggests that had there been more time, midwives may have engaged with him more. Thus the lack of resources was perceived to be the problem, rather than the midwives' attitudes. Hence these men assumed they were treated the same as every other couple.

Harry excused his exclusion to an extent, because his wife's pregnancy was confirmed at a late gestation, hence there was a process of 'catch-up' with antenatal care. However, as evidenced in what he says, this was not a completely acceptable excuse for his exclusion;

Harry "There was probably more emphasis on trying to catch up and getting us back up to speed on where we should be than on possibly caring for us through it and because again their focus was on all of that, it was mainly focused on wife and I think that had a bearing on the fact that I was sidelined. Which is yeah, fair enough, I wasn't the priority, you know, wife was, but it's still difficult to accept sometimes (laughs), you do feel a little bit like 'oi! Am I invisible?' (laughs)." [T]

His dissatisfaction at the excuse of "playing catch-up" is signified in the way Harry couched "I wasn't the priority, [wife] was" between "yeah, fair enough" and "but". By doing so, he constructed the excuse as an aside—something that was not the central focus of his argument. What was the central focus from his perspective was that he, as

the father, was not included. The use of the metaphor and rhetorical question of whether he was “invisible” emphasises that he wanted to be acknowledged and the sense of powerlessness he experienced. Again, this exclusion is discussed further in the next category.

5.5.4 Non-medical support

While midwives were important to the men because they were able to confirm that the pregnancy was unaffected by anomaly, most men indicated that they received social support, information and advice on pregnancy and screening from friends and family. Reed (2012) found this to be the case with women, because lay support was less frightening and technical than medical information. For Harry, the support of a family friend was especially critical after he and his wife received their high-risk screening. This friend’s advice was considered to hold weight because she was a long-term carer for her brother, who had a serious debilitating chronic illness;

Harry “We have a great respect for [her] [...] she knows what she was talking about, and that happened to coincide with what the thoughts that [wife] and I had had, so it was kind of affirmation from a respected elder and that’s, okay, that was, again helped us come to the decision of which we’ve maintained that, those feeling and thoughts throughout it.” [T]

The finding that men had these support networks and alternative sources of information and guidance helps to explain why men were satisfied with receiving basic medical information about screening. For example, Geoff said that because he received lay information, he did not feel the need to read the medical literature about screening provided by the NHS;

Geoff “There’s always a tonne of people ready to, you know, pass information to you [...] It’s all people wanna talk about so you get a bit sick of having to

listen and then having to go home and read about it as well, kind of thing, it's one or the other." [T]

Lay social support was particularly important because as discussed in section 5.3.1, screening results that suggested a low-risk acted as confirmation that the pregnancy was real and forced men's attention towards the way their lives would change once the baby was born. The support they received from family members, particularly parents, helped to allay any anxieties about how they would cope. Non-medical supporters were empathic towards their feelings and worries;

Daniel "I'm a Samaritan so I get plenty of support on that side of things, there are a lot of people there who I can talk to about things that worry me, so I probably tend not to talk about the deep, sort of stuff with people at work, when I can talk about it at the Samaritans." [T]

Chris "[At NCT classes] you share the experience and you go ahhh, they're going through the same thing and you know er therefore you feel a bit better about it yourself and er everyone's having a difficult time or whatever and er you don't necessarily feel that erm, that that's erm, that's er, er a problem, that's just the way it is. So it's support I suppose." [T]

Social support from parents was particularly important because they were seen as models of how to become a successful parent;

Daniel " [...my mum] was really excited and really keen and that helped, that reassured me and made me feel it, it wasn't all quite as terrifying as sometimes it felt. She said you know, it's fine, we've managed it, we've done okay, and it'll all be alright and we'll help you, you don't have to worry about things like this. I think there were times when, erm, during the pregnancy where I did sort of sit back and think, 'oh my god, what have I done?'" [T]

Geoff "I mean after I think initially we had a sort of financial concern that you know, 'god, can we actually afford to do this'. But talking to you know different parents, they just tell you to shut up, you know, you, you earn you know much more than we ever earned, you've already got much more than we've ever gotten and we managed to raise all these kids so you're not gonna have any problems at all. [T]

Social support from family and friends was important for men, particularly because they felt they had to hide their feelings to support their partners, and because they were less likely to receive support from healthcare professionals than women. The relationship between men and midwives is discussed further in the next category.

5.5.5 Summary

Screening was seen as a normalised part of pregnancy and for this reason, men in this category trusted that undergoing screening was in their best interests. As explained in category 3, 'The elusive nature of genes', participants did not think about screening in terms of genetics or risk. Nor did they desire much information about screening, preferring instead to let midwives, who were deemed the experts, check the fetus. Handing over the responsibility to these experts was firstly a way of feeling in control and secondly a way of enacting a protective aspect of prenatal paternal identity; men knew that the fetus was under the best care. Men therefore valued midwives and the reassurance they could provide, particularly since in category 1, 'Juggling roles', men revealed themselves to feel anxious about screening. However, men who had experienced anomalies in the past refrained from pinning any hopes on screening. The reason was that these men were particularly aware of the limits of screening information. They felt that their conceptualisation of prenatal paternal identity and child-schemata were tentative until the child was born. Whether men had experienced anomalies or not, they sought support and guidance from lay people, so their worries

about screening, pregnancy and fatherhood, could be eased. Such support was sought from participants' friends and families.

5.6 Category 5: A clash of perspectives

The final category was constructed from four subcategories, which were (5.6.1) out of place and ignored, (5.6.2) resisting or resigning to marginalisation, (5.6.3) advocacy and protection, and (5.6.4) lay versus professional knowledge. Overall, the category clarifies that although men felt like they had a responsibility and a right to be involved in screening, and their involvement was important, their role was downplayed and deprioritised in the antenatal unit and hospital environment. As a result men, and at times women, felt disempowered in antenatal appointments. This disempowerment was to an extent caused by the perception that healthcare professionals were guarding their status as knowledge-bearers and imposing their views—that men are unimportant in pregnancy—on the couple

5.3.1 Out of place and ignored

Generally, men were happy that women were the focus of screening appointments (e.g. Geoff “I’m just happy to take a back seat and answer anything else.”). Nonetheless, other men felt uncomfortable and out-of-place in antenatal units. For example, Daniel said;

“[I was] a bit of a spare part, not really serving any purpose other than reassuring my wife and kind of sitting, waiting to be told something.”.

Here, Daniel constructed himself as a passive participant in the antenatal setting. Hence,

despite these men's perceptions that involvement was an obligation and responsibility of being a good father, they felt their role was relegated to that of 'supporter-to-women' once in the antenatal unit. One reason that men felt out-of-place was that they felt completely ignored by midwives;

Bryan "And yeah after the wait, erm, Mel has the bloods, the lady didn't introduce herself to me, which got my back up. We then went into erm, the room, Mel had to introduce me to the lady. She wasn't talking to me which I found extraordinarily frustrating" [T]

Chris "The focus was on [wife] and [wife] is the most important person in the operation as far as I'm concerned, but I went along and I was ignored to the extent where I kind of, she held the door open for, for my wife and I was kind of coming through till it closed, the door closed, ah, ah I was like, 'hello, I'm coming!', the, the door kind of literally closed in my, in my face." [T]

In the scenario Chris described, he assumed that he and his wife would be acknowledged, welcomed and included equally in their screening test—hence why he went to accompany his wife through the door to the screening room. In contrast to his assumptions, he was met with being ignored and physically separated from his wife and fetus. Chris also noted the conflicting actions the midwife took for him and his wife, i.e. holding the door open for her, but not for him. His active voicing of what he said in the situation—saying hello to the midwife, and trying to show her that he was "coming" into the screening room too—was a way for him to add some legitimacy to his account, and highlighted that he tried to make his presence known, but was ignored nonetheless. Of course, it might have been the case that the midwife simply did not realise that Chris was going into the consultation room too. However he went on to say that he continued to feel excluded throughout the appointment;

Chris "Well I kind of sat in the corner and had to kind of you know make sure I had a good look at the [ultrasound] monitor as well sort of thing. Er but I you know I didn't expect anything terribly, anything much else." [T]

SD “And was that kind of, did you want something else out of that scan to was it your choice to be in the background?”

Chris “Ah, it would’ve been nice if I er had been kind of included a bit more in the whole thing. Erm, if I had wanted to not be involved at all, you know like if if I didn’t particularly want to have a child, then I would have kind of very easily left out of the whole thing I think.” [T]

These men perceived a conflict between the way they were treated within the medical environment and what they perceived to be the fathers’ role in the social or familial environment. In other words, they felt that if there was to be equality between mothers and fathers in society, then there should equality—or at least equity—in how women and men were treated during pregnancy. Equitable treatment would mean that men were included by midwives relative to the role they would have in the pregnancy. Men’s role might not include the physical experience of pregnancy, but it did include a social and emotional role of supporting the women, preparing practically for fatherhood, and eventually helping to raise the child, which in their eyes should have qualified them to be acknowledged, spoken to and welcomed in screening tests, one of the earliest set of parental duties;

Iain “It does strike me that as the expectations of a father's role develop and change than some allowance for this should be made.” [E]

The way Iain used the psychological/sociological concept of “role”, which is an objective and normative concept, adds some authority to what might otherwise be understood as a personal opinion (Gough, 1997). In this case, Iain used it to emphasise the responsibilities that he would acquire to care for and raise his children once they were born, which in his perspective legitimised his right to be included in the pregnancy. Bryan reiterated Iain’s point;

Bryan “If you’re making decisions about the baby— the couple’s baby—it should be a joint decision. In fact I would go on to say if it’s not the man’s decision, why is it that through the rest of society when the child is born, the man is expected to do his share in the traditional male and female, erm, relationship.”

This contrast between the medical setting and “the rest of society” suggests that these men felt a sense of powerlessness in the antenatal setting, in that decisions were being made about their futures without acknowledgement or respect to their opinions or presence. Daniel expressed somewhat stronger opinions, and felt that it was unfair that men’s opinions were not considered in pregnancy decisions;

Daniel “I certainly get that feeling with pregnancy in general. It’s very much focused on the woman rather than the man. I’ve sort of had this debate with people before about pregnancy, cus it seems in some ways quite unfair that a woman is free to make whatever decisions she likes about pregnancy, and even if the man is opposed to some of those, she still has a right to do what she wants.” [T]

Bryan went on to discuss how men’s exclusion in the healthcare setting might be to blame for men’s disconnection from pregnancy and childcare in general, and perhaps one trigger to men becoming uninvolved in raising their children;

Bryan “I came out of that meeting and said to Melissa it’s no wonder why fathers are disconnected from the process, cus fundamentally, she’s carrying the child and it is her body and all of that sort of stuff but it’s our baby, and we’re pregnant, not she’s pregnant. I know the biological facts are different. Erm, so it’s no wonder that fathers start feeling a bit left out.” [T]

Not only did being marginalised conflict with men’s intentions to be involved in the pregnancy and child-rearing once the child was born, but it also constrained the amount of support they could give to women, as Iain explained;

Iain “With the second and third pregnancies I just accepted that I wasn’t welcome, and made a point of not asking questions. Indeed with the third

pregnancy my partner went to a number of the scans on her own - partly because children are not allowed in the screening room, and I stayed at home to look after [son], but also because she was annoyed by the attitude of the staff towards me.” [E]

Indeed, some participants discussed how the woman-centred approach that is taken in antenatal care delivery might actually be detrimental to women if it is translated as a ‘man-exclusion’ approach, particularly if women want their partners involved. As discussed in Chapter 1 (section 1.4.2), women often want support from their partners, and have them involved in screening decisions. This finding emerged in the current study, and men’s exclusion therefore caused women’s antenatal experience to be more negative. For example, Melissa talked about how Bryan’s exclusion made her antenatal screening experiences uncomfortable;

Melissa “I felt a little bit bad for Bryan because the first thing that happened when we got there was the midwife introduced herself to me and even though Bryan was standing right next to me, she didn’t even make eye contact, so it was immediately, kind of, setting up that I was the important one and he didn’t really matter, which it just it felt a little bit awkward.” [T]

Again, there was some inequality, where the midwife welcomed Melissa but not Bryan to the antenatal environment. Like in Chris’ example, the couple expected that they would both be involved, hence them both attending together. Bryan speculated that he and Melissa were perhaps treated differently to other couples because they were unmarried, perhaps indicating that it is unmarried men who are particularly disenfranchised and at-risk of becoming uninvolved in the pregnancy in general, and eventually childcare;

Bryan “Well I don’t know if the fact that we’re unmarried makes a difference.”

[T]

Melissa corroborated these thoughts:

Melissa “Um well I think we’d been a little but conscious of it um that that this might happen anyway because [partner] and I aren’t married and that was a it’s a relatively deliberate choice on our part that we didn’t feel that we needed to get married. He’s mentioned a few times that he’s felt a bit...like...self-conscious or, I don’t know, put aside and thinking maybe it’s because we’re not married.” [T]

If marital status did indeed have a bearing on how included he was, being the father of the fetus alone had not qualified him for recognition in the antenatal unit, from Bryan’s perspective. As Dudgeon and Inhorn (2004) suggest, “men are only tangentially involved in the mother-fetus health package” (p1387), meaning research and practice may take marital status as an indicator of what a relationship is like, negating any qualitative investigation of men and women’s relationship. Indeed, Melissa was not asked some of the most basic questions about her relationship;

Melissa “One thing that struck me actually in that first one, I saw flash up on the screen, ‘have you ever, er, been domestically abused?’ and she just ticked no automatically without asking me. It’s kind of, made me feel a bit like, oh, how does she know? I haven’t, erm, but I thought it was little bit of a judgement. I dunno I guess cus I live in a suburban area and cus I’m white and I look relatively well to do I suppose, that she would assume that was my position. It seemed like if it was an important question, maybe she should have asked it.” [T]

An argument against involving men in screening is that there would be less opportunity for midwives to ask women about sensitive issues such as domestic abuse. The argument is made somewhat redundant if Melissa’s experience is more common, and questions do not get asked in consultations anyway. In fact, Bryan’s absence might have made it more difficult to gauge whether he was abusive, because there was no chance to interact with him, and in later screening appointments, interactions with him were so limited. Although firm conclusions cannot be made from this case alone, the failure to

engage men can be detrimental to men and women.

5.6.2 Resisting or resigning to marginalisation

An implication of being marginalised was that men found it more difficult to approach midwives, even if there were serious health concerns about the fetus. Iain described how his partner found it more difficult to approach midwives because the way they treated Iain made her feel uncomfortable and made them seem inaccessible. Iain considered the unwelcoming attitudes of the midwives as being a reason why his daughter's stillbirth occurred;

Iain "I can't help feeling that perhaps the reason we didn't go straight to the hospital when her movements became weaker and less often was the attitude of the midwives at the ante-natal classes. It is true that they did say if you are worried to contact the hospital, but this message was backed up by jokey examples of people who had done just this, in a tone that made clear that such people were a pain in the bum." [E]

Iain's use of hedging phrases and words such as "I can't help" and "perhaps" may indicate that it was only with hindsight that the midwives' attitudes were recognised as a barrier for getting help. Nevertheless, Iain implied there was a power-imbalance, whereby the midwives presented themselves as being the only ones who could help should there be any concerns, while at the same time denigrating those who might try and access their help. By using terms such as "weaker and less often" —both of which are processes that would have occurred over time—Iain suggests that there was a time-frame in which they might have sought help for their daughter, but midwives' inappropriate humour and disregard for men, as perceived by Iain, caused them not to. For Iain, the focus of the midwifery service as being to protect the baby was thereby

over-shadowed by this unapproachable and unwelcoming nature. As explained in section 5.5.1, some men deemed midwives to be the experts over the medical aspects of the pregnancy and relied on them to confirm that fetuses were unaffected by anomalies. Handing over the responsibility to midwives was a way of protecting the fetus via this appointed expert. However, if men were resigned to the idea that midwives did not welcome them, then men may have felt there was less opportunity to protect their children.

Harry was one man who resisted any perceived attempts to marginalise him in the antenatal setting. Although during his wife's first pregnancy, he felt sidelined, in the second pregnancy, where his wife needed an amniocentesis, he took action to ensure he was not sidelined again. Harry felt strongly about being included—it was the first issue he raised when he was asked to say how his experience of the pregnancy had been so far;

Harry "I'm quite good at making my presence felt. I've learnt over the years to not be ignored cus the first time round cus I didn't really know what was going on, you kind of take a backseat and the emphasis first time round was very much, er, on [wife] and er the baby. And there was erm, the husband was kind of like, you're in the room but, you're almost like observing. Whereas this time because I, I've got issues and I questions and things about it, that I've spoken up and asked about it and that's fine, I've, that's been met very well, very receptively by everyone we've dealt with." [T]

In what Harry says, there is evidence to suggest that taking a "backseat" in his wife's first pregnancy was not an active choice he made. Rather, it was because he lacked the confidence and expertise to be involved ("I didn't really know what was going on"). His use of the second person in the phrase "you take a back seat" generalises this reaction,

thereby emphasising that this would be the normal reaction in situations where a person does not have expertise to exercise any control. Notably, Harry switched from the second person ‘you’ to the first person ‘I’ to emphasise that being more involved, as he was in the second pregnancy, was something that contrasted the norm— something that he personally achieved, that others may not achieve. “Making my presence felt” is also constructed as an active process, which suggests that he worked to be recognised and have his “issues and questions” addressed. Harry’s words additionally suggest that during the second pregnancy, he took the initiative to engage with the staff (“I’ve learnt [...] not to be ignored/ I’ve spoken up and asked”), rather than relying on midwives to engage with him. By setting up his previous experience in contrast with that of his second pregnancy, he emphasised that being acknowledged was indeed a learning process.

5.6.3 Advocacy and Protection

Men were particularly resistant to marginalisation if they felt that women were not receiving the best care. In these cases, men tried to act as advocates for women, pointing out when improvements were needed. By doing this they protected the health of their partners and fetuses. They also risked facing an unwelcoming attitude from some midwives;

Iain “It was pointed out at one stage [...] that the midwife was there for the woman and that if the partner got in the way then they should expect a kick up the backside. Which in one way is fair enough. The problem is that as I mentioned before things are not always explained [to us] in an understandable way - or even explained at all.” [E]

Iain faced a dilemma: either he could stay out of a hostile environment, and not have his

questions answered, or he could get “in the way” of midwives to have these concerns addressed;

Iain “If it was something that my partner had specifically asked me to ask, or that I knew she wanted an answer to, I continued to question whoever until we got the answer my partner wanted. If it was not something of great importance, I just kept my mouth shut. I didn't take it personally - I've worked in a shop, I know how annoying customers can be.” [E]

Iain's quote suggests that when these midwives gave him the impression his concerns were unimportant, he stopped voicing his concerns, but for his partner, he would strive for answers. The idea that only women's concerns would get addressed reinforced the focus of antenatal care as being women, and not couples and families. His analogy of being treated as a “customer” emphasises that his position in the pregnancy was seen as trivial and not worth much time. Andy similarly suggested that he stayed in the background unless something went wrong;

Andy “As a dad it's normally your role to keep quiet unless you know something has been missed out and make sure all the practical stuff is sorted out” [IM]

Hence these men carved another role for themselves in the screening setting, which was to observe and oversee the care and service that midwives provided to women, and take action should the level of care be inadequate. This was a way for men to protect women and the fetuses, despite their exclusion in the antenatal setting. An example of men taking this protective action was provided by Eric, who spoke to a midwife who conducted the nuchal translucency scan about what he deemed to be inappropriate commentary;

Eric “She just kept on saying things which made us worry that maybe there as something wrong, [...] I remember once, this was a later scan she said, ‘so did

you have your Down's err screening then?' after sort of looking at the baby for a bit and we were like, 'yes', and she went, 'and it came back okay, did it?' and we were like 'yes' and she's like, 'oh right, nothing'. [...] I went up to her afterwards and said, 'look why did you say that' you know, is there something you saw or what?' And she's like 'no, no, no' (laughs). And you sort of think 'well don't bloody say it then, cus that's just gonna get people nervous!'" [T]

In Eric's description, he said "I went up to her" suggesting a one-on-one confrontation to address the issues raised during the screening. By acting as a spokesperson for the couple, Eric was able to quell their anxieties and confirm that the baby was developing normally.

Although not acting as an advocate for his wife, Harry emphasised how including men helped to protect women from increased levels of anxiety and stress, which supports the research with women presented in Chapter 1 (section 1.4.2), that women found men's involvement valuable and supportive. Harry felt that by excluding him, midwives were actually placing more pressure on his wife to make decisions about screening and prenatal diagnosis alone;

Harry "It's not just, you know, one person as I say, and I think they've kind of come round to the idea that actually yes you can't ignore [the second person] because the, the, the stress that waiting for a, well, an appointment for an amnio, having the amniocentesis and then waiting for the results is phenomenal" [T]

The phrase "coming round to the idea" links to Harry's earlier construction of "I've learnt over the years not to be ignored". Both phrases indicate that there was a period of time, driven by Harry, during which midwives learnt to adapt to his involvement and inclusion. Nonetheless, Harry's use of hedging words such as "I think" and "kind of" suggests that there was still some hesitance from midwives in accepting him on equal

footing to his wife. Harry also discussed how some midwives could interpret his involvement inappropriate, seeing men as potentially abusive and their inclusion as damaging to women's autonomy. This finding again links to the research presented in Chapter 1 (section 1.4.1), that men might control or coerce women's decision-making (Browner and Preloren, 1999; Markens et al., 2003; Reed, 2009b). Due to this negative perception of men, Harry felt he had to work to be seen as an equal to his wife. This work entailed a conscious effort to be aware of his behaviours;

Harry "I made sure that I am included in the discussions [...] without being pushy and without being over-bearing. I don't wanna come across as that but it's not, it's a case of wanting to show that [wife] and I are in this together" [T]

The use of the phrase "come across as that" suggests that Harry was not, in his own view, "pushy or over-bearing", but was aware that his involvement had the potential to be seen as problematic by some midwives. Similarly, the use of the phrase "bullying" in the below quotation suggests that he understood that his involvement could be perceived as controlling, but from his perspective, was not;

Harry "I can have an opinion in it, we have a good communication between us but I can air my opinion on things but without her feeling like I'm bullying her into it, you know" [T]

What he says also suggests that his wife enabled his participation. They had "good communication" and he felt able to express his thoughts without his wife considering his expression as controlling or coercive. Iain similarly felt that his involvement would be interpreted as threatening by some midwives, particularly because he and his partner disagreed about whether to have an induction. For this reason, he felt that he was eyed with suspicion of being controlling;

Iain "The discussions were not hostile, but there was the implication that was being a controlling partner - which perhaps relates to the numerous domestic

violence literature that festooned the wards.” [E]

These men felt that they were not always treated with respect. Feeling disrespected is investigated further the next subcategory.

5.6.4 Lay versus professional knowledge

As well as being marginalised in relation to women, men talked about how they as a couple experienced an ‘us and them’ dynamic in relation to healthcare professionals. This dynamic was most clear when healthcare professionals failed to strike a good balance between being authoritative knowledge-bearers and being attentive to the couple’s psychosocial well-being. For example, Eric speculated on why their midwife may have provided commentary that caused anxiety during their ultrasound scans;

Eric “You know, she must understand in her kind of business but that the people she’s, the clients she’s seeing are a bit on edge, they’re a bit anxious and the last thing that she should be saying is hinting that there might be a problem by the way she talks about things like, [...] I dunno, I, we, I had a suspicion that, maybe she’s doing it deliberately for some kind of control thing, I don’t know.” [T]

As the only one who was able to tell whether the fetus was developing normally, the “control” over the consultation and the delivery of the screening results was naturally seen to fall on the midwives’ side. Rather than being empathic about the anxiety men and women felt, Eric’s midwife seemed to be unaware of the power imbalance and the worry it could cause. This power imbalance between healthcare professionals and lay people was also evident in what Iain said. His attempts to gain some control though informing himself about screening, birth, and the previous stillbirth as a possible complication were resisted by some professionals;

Iain “The internet was a handy resource for stuff, particularly with regards to

trying to find out the possible reasons for the stillbirth. Of course this was met by the medical professions natural dismissal of anything found by laymen on the internet, but the reasons we found were more comforting than the explanation offered of 'we don't have an explanation. It was one of those things.' Oh and it was pretty amusing to be told that the latest research from the American version of the Lancet was not something that could be relied upon.” [E]

As this quotation suggests, Iain wanted to understand why their daughter had been still-born. Searching for information on the internet was preferable to speaking with healthcare professionals, who were unable or unwilling to discuss why the stillbirth occurred. Healthcare professionals also seemed to dismiss Iain’s views, opinions and speculations based on his status as a “layman”, rather than the lack of credibility in his suggestions. Indeed, by citing “The Lancet” as his source of information, Iain emphasised the credibility of his knowledge and thus the unjustified “dismissal” of this information. He went on to discuss concerns he and his partner had about screening;

Iain “Meetings were less than helpful because of the consultants seeming inability to give a straight answer, and to over complicate and misunderstand what it was that we were asking. This may or may not have been due to the medical professions fear of informed patients [...] It was a genuine matter of concern, if one that related to a question of risk. But for whatever reason the staff refused to engage with the conversation.” [E]

His mention of their “fear of informed patients” further indicates that he perceived healthcare professionals as wanting to maintain a power imbalance in consultations. Chris experienced a similarly hostile response when asking a midwife for more information. He asked a statistical question about whether risk scores given for different conditions during screening were independent of each other. Not only was his question unanswered, but he felt that posing a challenge to the healthcare professional’s knowledge marginalised him further. He was quite forgiving of the midwife’s reaction

and took the blame onto himself for asking difficult questions;

Chris “That’s the one and I asked a question, I always ask difficult questions and she didn’t know the answer so I don’t think I endeared myself to her. Er, erm, yeah. So it was the second scan. First scan was fine, probably more, polite to me but you know I wasn’t massively involved in the whole thing.” [T]

He later said;

Chris “Obviously what I was concerned about was the likelihood of the child having anything. Well but I am accustomed to asking diff (laughs) difficult annoying questions that people don’t know the answer to, so I wasn’t too fussed about that.” [T]

Like Iain, Andy was distrustful of the healthcare professionals during the pregnancy for his first child, who was born in Thailand;

Andy “The main differences in Thailand are to do with the nature of private healthcare. It’s seen as a service so you never know if you’re getting a straight answer. Do they advise a course of action for medical reasons or to increase in the bill. You never know if you’re talking to an accountant or a doctor. [...] I grew to doubt the competency of Thai medics. I think_[son] to was born by C-section at least 2 weeks too early because they were measuring for a Thai fetus [during ultrasounds], not a European. so all the measurements were wrong” [IM]

The medics’ lack of “competency” was obscured by their authority. It was only upon reflection that Andy was able to identify this problem, and realise that his own suspicions were worth paying attention to.

While some midwives did not give men the information they wanted, Bryan felt that they gave him too much basic information, underestimating his knowledge and therefore patronising him;

Bryan “I found the first antenatal appointment really quite frustrating. Well, no, patronising would be a better way of putting it, because I suppose they, they see two classes of people. They see the people that have read the books, or one of the parties have read the books, erm, and yeah, been on the websites and done their own due diligence, and people that just stroll in and expect to be told what

to do, and because we fell into the former category, erm when they were telling us stuff, I was like ‘yeah, come on, let’s get on with this, we know it’. But they weren’t rushing. You can normally tell when someone’s hearing what you’re saying they’re nodding and all that sort of stuff, they were just going through the same old rigmarole they say you know, twenty times a day.” [T]

For midwives, it may be that their hospital policy indicates they have to tell patients the standard information to ensure they are informed in their choices. However Bryan’s quotation indicates that their midwife was almost lecturing them, rather than conversing with them, failing to take the time to see what the couple wanted to know.

5.6.5 Summary

The men in this category had the intentions of beginning on the pregnancy journey on an even footing with their partners. If this attempt was blocked by unwelcoming midwives, these men’s ability to enact prenatal parenting was constrained. The men still found a role for themselves in the screening process, which was to keep an observant eye over midwives. Nevertheless, some men resented being marginalised and only having a voice if a midwife was seen to be failing in her duties. They also felt that informational needs were sometimes ignored, and that some midwives displayed control and power, rather than empathy and consideration, during appointments. Taken together with the findings from the other categories, the finding that men were excluded was particularly troubling because men sometimes relied on healthcare professionals to resolve conflict between them and women. Moreover, men felt that their treatment in the antenatal environment was at odds with the changing roles of men in families and society. Men’s experience of screening therefore caused them to reflect on their role as

a father would be within the family and within society more generally.

5.7 Summary of central category: The family in flux

As explained in Chapter 4, section 4.6.3, a central category is the underlying variable that explains all the findings about the phenomenon. It does not have to explain the entirety of the findings, and some use the central category to focus on a specific aspect of the findings (Corbin and Strauss, 2008). In the current research, the central category encompassed the majority of the findings.

The central category is entitled ‘the family in flux’. It reflects how during pregnancy, men in the study adjusted to fatherhood, and to the changes in their family, by constructing a schema of their future child. The men also began to integrate an identity of being a father (or a father to a second child) into their self-concept, i.e. their perception of themselves (Oyserman et al. 2012). Prenatal paternal identity and child-schema elicited a feeling a responsibility and commitment in men, which in turn encouraged their involvement in screening. Prenatal paternal identity and child-schema were reinforced as a result of receiving screening results and helped guide subsequent decisions about screening. Nevertheless, these conceptualisations were in a constant state of flux because the men were faced with a range of factors that either enabled or constrained them. Men had to perpetually adjust to these new ideas and feelings about their growing family and their role as the man within that family. The issues that men faced during pregnancy that caused fatherhood and family to be in flux are summarised below. For clarity, each factor is labelled as one that either enabled or constrained the

development of men's prenatal paternal identity and child-schema. In reality, within the family in flux, these enabling and constraining factors were intertwined and part of a dynamic experience. They were the ebb and flow of men's adjustment to fatherhood in pregnancy.

Screening gave men the chance to enact some fatherly duties to ensure their fetus was unaffected by anomalies (enabler). In participating in screening however, men were faced with confusing and difficult emotions, such as feeling distant or anxious (constraint). Through taking part in screening, men could receive confirmation that their child was unaffected by anomalies (enabler), which then spurred on practical preparations for the birth (enabler). In contrast, for those who received anomalous results, the child-schema became disjointed. Men who had previously thought of ways they would interact with and build a relationship with the child when it was born were faced with the prospect that the fetus would not be the child they had been imaging (constraint). The prenatal paternal identity for men who received anomalous results became fragmented (Ives, 2008; Sheldon, 2005) into genetic and social strands (constraint). Prenatal diagnosis could reassure men that their fetus was in fact unaffected by an anomaly (enabler), but the negative emotional impact of the high-risk screening result meant men still experienced anxiety, and felt they would not be reassured until the child was born (constraint).

The involvement of healthcare professionals further complicated matters. Some midwives, by giving reassuring information and acknowledging them as a parent, could

reinforce and encourage men's paternal identity and child-schema (enabler). Midwives were seen as experts, to whom fathers could hand over the responsibility of protecting the health and well-being of their partners and fetuses (enabler). Men kept a watchful eye over midwives to ensure their partners were getting the best treatment, allowing them to fulfil a protector role over their family (enabler). However, men's exclusion and disempowerment in the antenatal setting caused some men to disengage from screening and question what role they could play (constraint).

5.8 The grounded theory

The grounded theory derived from the central category is that involvement in screening can have a substantial impact on men's prenatal paternal identity, and men's child-schema. More specifically, some men have a unified child-schema that helps them envisage and prepare practically for fatherhood (or second or third time fatherhood), whereas others, particularly those who receive high-risk screening results, have a more disordered notion of their child, with conflicting ideas about the child they had been imagining, and the child who might be born. Similarly, some men have a coherent conceptualisation of fatherhood, but again those who experience pregnancy complications or high-risk results conceive of fatherhood in its genetic and social fragments (Ives, 2008; Sheldon, 2005). These concepts, whether distorted or reinforced, are the basis upon which subsequent screening decisions are made, and practical preparations for the birth of the child are made. This grounded theory is a novel contribution to the field of antenatal screening and fatherhood research. Whether the

theory applied to men more generally, as opposed to the small group of men in the current study, was the focus of the next stage of this research.

5.9 Chapter summary

Eighteen participants were interviewed about men's experiences of antenatal screening. Most interviews were conducted over the telephone. The analysis of the data has resulted in five categories, which were (1) juggling roles, (2) (de)constructing paternal identity and child-schema, (3) the elusive nature of genes, (4) simple information and support, and (5) a clash of perspectives. The central category, the family in flux, suggests that the paternal identity and child-schema men created during pregnancy was in a constant state of shift. Men's conceptualisations of themselves as a father and their child-schema, encouraged their involvement in screening, but could also be distorted and disturbed if screening indicated there was a high-risk result. The grounded theory that has been constructed from the qualitative findings suggests that screening can have an impact on these paternal identities and child-schemata. In the next chapter, the findings are critically discussed with regard to existing research, and the next stage of the research is outlined.

CHAPTER 6: THE FAMILY IN FLUX: DISCUSSION OF QUALITATIVE FINDINGS

6.1 Introduction

The qualitative study presented in Chapter 5 explored the phenomenon of men's experiences and involvement in antenatal screening and prenatal diagnosis. In this chapter, the findings are considered in relation to existing research, and where possible, research with women. The chapter focuses on the more novel contributions to the field of antenatal screening research provided by the qualitative analysis—the central category (the family in flux) and the grounded theory, which was that involvement in screening has a substantial impact on men's prenatal paternal identity, and on men's child-schema. Some of the findings presented may not have been unique to men, since women may too have experienced the same kinds of issues. Hence research with women is also discussed in this chapter. Following discussion of existing research, the focus will turn to the limitations of the qualitative research and then the next phase of the research.

6.2 Support for the findings in other research

6.2.1 Men's desire to be involved

The findings from Chapter 5 make a contribution to an existing body of research, which suggests that men want to be involved in screening (Dheensa et al., 2012; Genesoni and Tallandini, 2009; Reed, 2009a; Reed, 2011; Williams et al., 2011) and women want men involved (Browner and Preloren, 1999; Markens et al., 2003; Locock and Alexander,

2006). Unlike the metasynthesis findings, where men did not seem to have a role in screening, the current findings suggested that men did have a role, which was to check-up on development of their fetuses and ensure their partner and future children were receiving the best care. Men were involved in screening because they saw it as a responsibility of being a good father. Low-risk results could spur men on to make changes to their lives in line with a prenatal paternal identity, such as moving house or saving money. This finding supports earlier research where ultrasound screening in general (i.e. not those just for antenatal screening) has been shown to make the pregnancy ‘real’ for men and consequently encourage them to make changes to their lives (Draper, 2002; Ekelin et al., 2004).

6.2.2 Technical aspects of screening

In contrast to the metasynthesis findings, men did not consider the medical or technical aspects of screening in detail. Like research with women has shown, men were happy to be guided by midwives through the screening tests (Ahmed et al., 2005). Men also discussed ultrasound screening more than blood screening tests. Similar findings occurred in Reed’s (2012) research on blood screening, where participants thought ultrasound screening was more important than blood screening. They wrongly thought blood tests were less accurate and were used to screen for more minor conditions. Reed suggests that the reason is because of the link between ‘seeing’ and ‘truth’—if participants could see that the fetus looked okay on the ultrasound image, they were more reassured. Reed found that for men in particular, seeing an ultrasound scan was a “better way to connect” because of their ability see the fetus (as Frank in the current

study said), whereas blood screening tests were often on women's bodies, leaving less opportunity for men to be involved. Ultrasound screening was more notable to men in the current study perhaps for the same reasons.

The finding that men did not spend much time seeking information about screening contrasts the findings of the metasynthesis (Dheensa et al., 2012). In this way, antenatal screening differs to other types of genetic screening, where uptake is made more likely if several family members are affected by illness, and if the illness is considered to be severe (McAllister, 2002; Walter, 2004).

Participants rarely thought about genes and genetics in a medical sense; instead they talked about resemblances. Reed (2012) made a similar distinction in her study on antenatal blood screening between 'good-genes', which were for attributes such as appearance and physical prowess, and 'bad-genes', such as those for Down syndrome. Like in the current study, she found that men in general talked about the good genes, but did not focus on the bad-genes.

Reed found that if a blood test for Down syndrome showed there was a high-risk, women were more likely to feel more responsible and anxious than men, because it was only their blood that was tested. This comparison was not possible in the current study since no women who received a high-risk Down syndrome test took part. In contrast, both men and women and men took on the responsibility for bad genes, i.e. through further screening and testing, if the woman was tested positive as a carrier for a haemoglobinopathy, because men too needed to be tested. To an extent, her findings

echo Karl and Polly's situation. Both of them needed to undergo blood testing following their three miscarriages, and as a result, both felt a level of responsibility.

However, unlike couples who were both tested for a haemoglobinopathy, Karl and Polly took on responsibility because they flipped between seeing their problems conceiving as a chromosomal and a fertility issue, discussing it as if it were a malfunction in Polly's reproductive abilities. Before Karl's translocation was diagnosed, Polly was convinced their miscarriages were caused by a fertility issue in her body because this was a more common explanation for such issues. This finding supports previous research that suggests women take on the responsibility of potential anomalies during pregnancy because they carry the fetuses (Rapp, 2000; Reed, 2009a). It also supports previous research that has suggested lay people use personal experience and explanations, rather than genetics, to explain risks and hereditary patterns (e.g. Ekberg, 2007). For example, lay people inaccurately deem individuals to be more at-risk of a genetic illness if they resemble a person who has been affected, or have similar lifestyles to them. Other at-risk individuals need to have had a number of people in their family become affected by the genetic condition or have first-hand experience of another family member's illness, for their risk status to be understood (France et al., 2011; Santos and Bizzo, 2005).

With regard to antenatal screening and prenatal diagnosis more specifically, Rapp (2000) found that of those women aged over 35 and therefore deemed to be at a higher-risk by genetic counsellors, low-income women who had several children already were less likely to feel at-risk than higher income primiparous women. The reason was that

the lower-income multiparous women already had children who were unaffected by anomalies, and had siblings and even neighbours who had lots of unaffected children, which reassured them that their family health and living environment were safe, and that they would have a healthy child too. For these women, the idea of abandoning these experiences and trusting a seemingly abstract statistic seemed bizarre. Their low-risk experience allowed them to feel they had a level of control over whether they had an unaffected child or not. Similarly, Reed (2012) found that for women who already had some children, making informed choices about screening became less important, because they had already been through the process without any risks being detected.

What the current findings show, however, is that even women and men who are well-educated and of high-income can have inaccurate perceptions of risk. Whether of a high or low income bracket, people do not always internalise this information and advice. Instead, those at-risk—and perhaps even those not at-risk but undergoing routine genetic screening—create lay mental models that differ to scientific models of what being at-risk means.

6.2.3 Support for prenatal paternal identity

Previous research has paid less attention to how high-risk results force men to deal with conflicting emotions elicited by a disordered child-schema and prenatal paternal identity. These disordered conceptualisations of the child-schema and prenatal paternal identity led to ambivalence, confusion and conflicting emotions. Research about men's transition to fatherhood has also explicated the common occurrence of ambivalence in

pregnancy (Genesoni and Tallandini, 2009; Chin et al., 2011). The current study, and the pilot study for this work (Williams et al., 2011), suggest that screening may be a time when this ambivalence and confusion is amplified.

6.2.4 Impact of men's involvement on women

Some tentative conclusions can be drawn about the impact that men's involvement could have on women, and how the prenatal paternal identity and child-schema they construct could affect existing children. These issues require further research before any firm judgement can be made.

Men wanted to support their partners, and this finding agrees with research with women, discussed in Chapter 1, section 1.4. 2 (Ahmed et al., 2005; Aune and Möller, 2012; Markens et al., 2003; Reed, 2012). For example, in Locock and Alexander's study (2006), women saw men as a source of support, which was particularly beneficial if a fetal anomaly was found. In that study, women felt men had a calming and rational influence over their decision-making, relaying information to them that healthcare professionals had told them and reassuring them. In Reed's (2012) study, women were reluctant to make decisions without discussing them with their partners, and instead, men and women made decisions together, discussing their options and establishing feelings towards these options. In the current study, men's developing paternal identity and child-schema could be strengthened through involvement, which could have a positive impact on women if it means men practically prepare for fatherhood, and think about the ways they could father the child. These preparations could make the

adaptation and transition to fatherhood, whether it is first, second, or third time fatherhood, more successful, and make new parenthood easier to cope with. These conclusions are tentative however and require further research with women.

Although men were involved and wanted to be involved, their lack of bond to the fetus may mean that they seem emotionally distant from the pregnancy to women. Women may feel they have to work to include men in the pregnancy, first so they can receive support and share decision-making, second to ensure men do not feel left out, third to elicit an emotional connection between men and the fetus, and finally to help men prepare emotionally for the child's birth. Seeing an ultrasound scan is one way women get men involved (Rapp, 2000; Sandelowski et al., 1994). However these screening tests were not always a good way for women to involve men in pregnancy, because the feelings of closeness or joy when seeing the fetal image may quickly diminish for men, if they are felt at all.

Women's thoughts on men's hidden anxiety are not clear. Whether women know that men can feel anxious and the way that couples can together manage their anxieties, needs further research. Women's thoughts on the distortion of men's paternal identity and child-schema are also unclear. A potential implication is that if women realise that men may start feeling negative towards the fetus following a screening appointment, they might feel worried or reluctant to involve them in screening. From the limited amount of views gathered, it could be that women's schemata and maternal identity do not become distorted in the same way.

With regard to how men felt about midwives, the finding that they see them as the experts supports research with women that has found they trust healthcare professionals' opinions, and want their help to make decisions (Ahmed et al., 2012a; 2012b; Heyman et al., 2006; Tsianakas et al., 2012). Regarding men's informational needs, a desire for simple information could be beneficial for women who receive high-risk screening results. The reason is that in Locock and Alexander's (2006) study, some women felt somewhat pressured or rushed by men to make decisions about prenatal diagnosis and termination, because men were likely to read and follow medical facts, rather than delay decision-making to cope emotionally with the diagnosis. If other men are less inclined to seek technical information, then there might be less pressure on women to make decisions, and a more collaborative process of information-seeking and decision-making. On the other hand, women might have less information with which to make decisions if their partners have not sought information. The same limitation could occur as a result of men's exclusion from screening, which can have a detrimental impact on women as discussed in Chapter 5 section 5.6.

6.2.5 Impact of other children

In Chapter 5, when prenatal paternal identity is discussed, it is mentioned in relation to the fetus. Having other children could also have an impact on paternal identity. The men who had a child already were Andy, Chris, Daniel, Harry and Iain. For all these men, the way their first-born child affected their paternal identity was different. For Iain, midwives' attitudes to him in the first and second pregnancies meant he decided to be uninvolved in screening, but he still talked and sang to the fetuses in later pregnancies.

Hence, screening did not help him build a paternal identity or child-schema, but he did so through these other means.

Andy, whose wife had experienced a miscarriage previously, prioritised his son and self-imposed a distance to his daughter until she was born, when her physical well-being could be checked with more accuracy. Harry also prioritised his son when his current pregnancy was screened as high-risk, and made decisions about the fetus that would best protect, or benefit, his son. Hence for Andy and Harry, screening experiences were affected by how they felt about their children.

Daniel and Chris's experiences were slightly different. Their previous experiences had shaped their emotional experience of screening the second time round. Chris anticipated he would feel less anxious because he had been through pregnancy before, meaning his paternal identity and child-schema would not be characterised by anxiety as much the second time round. Daniel felt less excited about the pregnancy and seeing the fetal image. However, both still wanted to be involved in the second pregnancy.

6.2.6 Prenatal paternal identity: support in research

Although no existing studies look at the impact of screening on prenatal paternal identity and child-schemata for men, prenatal paternal identity has been explored under various guises in previous research, such as, fatherhood readiness, prenatal parenting and fetal attachment. All of these concepts help to understand and contextualise the prenatal paternal identity and child-schema men in the current study had.

Despite the coverage it has had in research, the notion of a ‘father identity’ has been criticised on the basis that it over-simplifies the multi-faceted construct of fatherhood into a set of fixed characteristics, and suggests that men make a rational choice of whether to take up this identity. Lupton and Barclay (1997) wrote that ‘father identity’ is;

“a site of competing discourses and desires that can never be fully and neatly shaped into a single ‘identity’, and that involves oscillation back and forth between various modes of subject positions even within the context of a single day [...] The concept of ‘the father’ or ‘fatherhood’ is multiple rather than unitary.”
(p.16).

Nevertheless, the term prenatal paternal identity has been used in the current study and is used to illustrate how the men saw fatherhood as a multi-faceted yet coherent role that they wanted to fulfil. The men wanted to be genetic and social/emotional fathers to the child, although these ‘types’ of paternity were not seen as separate by men who had uncomplicated pregnancies. Some examples of the types of paternal activities men thought of were providing for the child financially, participating in fun activities with the child, and bonding with the child emotionally.

The idea that a prenatal paternal identity can develop before a child is born has been established in other studies. Scharf and Mayseless (2011) have found that men who transition from adolescence to adulthood had ‘parenting buds’, which were mental representations regarding parenting. These buds consisted of perceived parenting ability, conceptualisations of the self as father and of the future child. Participants’ own relationships with their parents also affected their parenting buds. Similar research by

Marsiglio and Hutchinson (2004) has found that men who were not yet fathers started to reflect on whether they were ready to be fathers in terms of their personal development, lifestyles and personalities. They paid close attention to what needed to change in their lives before they had children. The authors termed this ‘fatherhood readiness’. In the current study, men additionally reflected on their lifestyles, but placed more emphasis on assessing their practical readiness, such as their financial situation. Screening caused men to experience these reflections and prepare for fatherhood. It encouraged fatherhood readiness, but was a responsibility of an existing paternal identity as well.

Ogle et al. (2011) found that men enacted a kind of prenatal parenting, which involved reducing maternal anxiety and encouraging women to eat well and take exercise, because these behaviours would increase the chances that the fetus would develop normally and healthily. In the current study, this parenting consisted of participation in screening to check that the fetus was well. A key similarity between Ogle et al.’s (2011) findings and those in the current study was that men’s prenatal parenting was enacted out of an obligation to future children that was independent of their commitment and love for their partner. Marsiglio (2008) cautions that this distinction of whether men are involved for their child or partner has little practical value if the motives to be involved do not impact on their prenatal or paternal behaviours. However, in the current study, the distinction was shown to have practical relevance, because men seemed especially motivated to attend appointments if they felt their attendance was important for the fetus, and if they felt they had a paternal role to play. In contrast, men appeared less eager to attend appointments about the pregnancy more generally, where women were

the sole focus, such as those about breastfeeding. Practitioners who want to involve men in practices like breastfeeding may find that men are more encouraged to attend if their role is emphasised and how their involvement could help their child (Hildingsson and Sjöling, 2012). The demarcation between the pregnancy and the notion of there being a fetus has been found in previous research (Sandelowski et al., 1994; Draper, 2003). While the pregnancy might not have been men's concern, the fetus certainly was.

Like the current findings, previous research has identified that expectant parents create an image of their child, concerning what the child would look like, their temperament, and what activities the parents and child might enjoy together (Marsiglio and Hutchinson, 2004; Sandelowski et al., 1994; Zeanah et al., 1990). Research on fetal attachment has shown that expectant parents create a mental representation of their baby (Doan and Zimmerman, 2003). Attachment theory in developmental and social psychology traditionally refers to the feelings infants experience towards their caregivers (Ainsworth and Bell, 1970; Bowlby, 1969). Parental-fetal attachment theory differs, because it focusses on the caregiver forming a relationship to cared-for, rather than vice versa. Prenatal attachment research offers some useful insight into the way men and women think and feel about the fetus during pregnancy and how screening might affect attachment. The research can also provide some information on men's desire to protect and check the well-being of the fetus, which were emotions that the men in the current study exhibited.

Nevertheless, prenatal attachment is a flawed concept, since it can only be seen from the

perspective of the parent, leading Wilson et al. (2000) to argue that it cannot be measured with any validity. Sandelowski et al. (1994) argue that by looking at expectant parents' feelings towards the fetus within a framework of 'attachment', researchers may have defined a framework for research prematurely. Indeed, work in this area carries on to this day without adequate questioning of whether the construct is valid (e.g. Alhusen et al., 2012). Since fetal attachment is not attachment in the Bowlbian terms, what is felt could more accurately be described as an emotional bond or caregiving system (Walsh, 2010). Therefore attachment measures may not be valid measures of a single construct, but of different aspects of emotions felt towards the fetus. Even if the concept 'fetal-attachment' is referred to as 'love or bond towards the fetus', it may be somewhat irrelevant to the current study, since the men in the current study and in the metasynthesis did not always experience such positive emotions towards the fetus. Another flaw pointed out by Mercer (1994) is that it is unclear what 'being' participants feel an attachment for in research, since there are varying ways that participants can conceptualise the fetus—an argument that the current findings support. There is also a lack of evidence for paternal-fetal attachment.

Prenatal attachment research is nonetheless useful to an extent, because it explores men and women's feelings towards the fetus. Although various definitions exist, a pioneer of attachment research, Condon (1985), suggested that attachment consisted of (1) wanting to know the fetus, and gain information to clarify the representation of it, (2) getting pleasure from feeling the fetus move or talking to it, (3) protecting the baby by abstaining from risky behaviours like alcohol/drug use and (4) making altruistic

sacrifices for the baby, for example by engaging in the behaviours to protect the baby, (5) feeling pain associated with the fantasised termination or miscarriage of the baby. In the current study, (1), (4) and (5) were particularly relevant. With regard to (1), men wanted to be involved in screening to get information about the fetus, which they could then integrate into their cognitive schema of their child. With regard to (4), men engaged in screening and made practical preparations awaiting their child's birth. With regard to (5), if screening suggested that their schema was wrong, men experienced anxiety and distress. Whether attachment is a valid construct or not, disruptions to these positive feelings towards the fetus might be problematic if they make positive postnatal behaviours less likely. Indeed, maternal-fetal attachment has been found to lead to behavioural changes in women that protect the fetus, and encourage postnatal attachment, feeding behaviour, responsiveness to infants' cues, and involvement (Condon and Corkindale, 1997; Doan and Zimmerman, 2003; Fuller, 1990; Pollock and Percy, 1999; Siddiqui and Hagglof, 2000; Ustunsoz et al., 2010; Yarcheski et al., 2009). Research about attachment is returned to in section 6.4.3.

The potential for screening to shatter the child-schema has been touched upon by Seglow and Canham (1999) and Raphael-Leff (1993) who suggested that "prenatal knowledge through sonography or amniocentesis [...] might puncture the bubble of imagining" (p.40), but these authors did not explore the nature and consequence of this puncturing. Healthcare workers in a study by Williams et al. (2001) similarly found that women who experienced uncertainty about whether to terminate, or whether the fetus was affected by an anomaly, had multiple ways of conceptualising the fetus; for

example, participants reported that some expectant mothers separated the concepts of their ‘desired baby’ and the ‘pregnancy’. As discussed in Chapter 5, section 5.2, Sandelowski and Black (1994) found that expectant parents conceptualised the future child as a child-in-head, child-in-womb and child-in-arms. The current findings extend this research by providing some examples of how men might experience these different conceptualisations, and how screening can be a cause of contradictory emotions about the fetus/ future child. Katz-Rothman (1994) too illustrated how amniocenteses changes the way people feel about pregnancy, making pregnancies ‘tentative’ and causing some women to put any emotional closeness on hold. The current findings illustrate that some men also felt that pregnancies were tentative if they experienced risk in the previous or current pregnancy.

A slightly different finding occurred in Rapp’s (2000) study on women and amniocentesis. Rather than shattering the child-schema, seeing ultrasound scans as part of routine screening forced women into creating a child-schema, because sonographers narrated the ultrasound scans, attributing motive to the fetus, such as ‘waving’, and making it more person-like. This idea is summed up in a one of her participants’ description of her ultrasound scan, when she said, “It was nothing really, it looked like nothing. Then they showed it to me and made it something” (p.125). Women in the study felt led into seeing the ultrasound image as a ‘baby’, making the potential for a high-risk result more frightening, and then the decision to abort more guilt-ridden. The experience of these participants therefore contrasts with Harry and Karl’s experience in the current study, where screening forced them to see the ‘baby’ as a potentially

unwanted fetus. This finding reiterates how antenatal screening can shape couples' experience of pregnancy and prospective parenthood more widely.

6.2.7 Genetic and social fatherhood

A key feature of prenatal paternal identity and the child-schema was that there would be a resemblance between the child and the father. These imagined resemblances were important, firstly because they were a way for men to stake their genetic claim to the fetus, even though the resemblances were not explicitly referred to in genetic terms (Lewis and Kattman, 2004; Venville et al., 2005). Resemblances were thereby a way for men to link themselves to the fetus and legitimise their input and involvement in the pregnancy and screening. Related to this is the second point; resemblances are “highly charged with kinship” (Mason, 2008, p.30). Thus, imagining how that child would look like them, and ways they would raise this child, was symbolic of a deep and permanent kin affiliation between men and the child (Finch and Mason, 1993; Mason, 2008).

Imagining this link therefore appeared to encourage men to invest in the pregnancy in anticipation for a relationship with the child once it was born. Men who did not experience complications did not define this link explicitly as genetic. Nonetheless, the notion that these men wanted to be genetic and social fathers to the child was implicit in their discussion of these resemblances. Men who had high-risk pregnancies in contrast talked about their genetic link in more explicit terms.

For men who had high-risk pregnancies, fatherhood became ‘fragmented’—in the current study into genetic and social component. The idea of fragmented fatherhood has

been posited by writers such as Sheldon (2005), who suggest that increasing divorce rates and numbers of non-residential fathers, as well as adoption and reproductive technologies (such as the use of sperm donation) mean that there has been a “widespread sub-division of fatherhood” (p.528), whereby a man may be a genetic father, but not a social one, and vice versa. In a study in which the significance of genetic paternity was explored with a range of different men, some of whom were not yet fathers, Ives et al. (2008) found that genetic fatherhood was not “normatively loaded” (p.78), in that there were no duties or obligations that were specific to being a child’s genetic father, that were not duties and obligations of being a social/emotional father as well. However, in Ives et al.’s (2008) study, non-resident biological fathers, some of whom had no social relationship to their child, tended to place more emphasis on their genetic role, suggesting that it made them the real father. These men saw the genetic role as the normative and ‘correct’ definition of fatherhood. Like these non-resident fathers, men in the current study who faced a threat to being a father emphasised that their genetic relationship would be important and were reluctant to redefine fatherhood. But what was prominent in the current findings was that men also emphasised how a social relationship was a natural consequence of a genetic relationship. Men strove to be fathers in a way that was satisfactory to them, such as to engage in reproductive technologies or termination so that they could fulfil both the genetic and social elements, or not be fathers at all.

The finding that men thought about a genetic and a social relationship when discussing fatherhood somewhat contrasts with Taylor’s (2005) suggestion, that reproductive

technologies are challenging and changing definitions of parenthood. Mason (2008) similarly posits that the term kinship has a capacity to encompass new and changing ideas about who is related to whom. She argues that anthropological definitions of kinship rely too heavily on biology, for example genes and gametes, and says that changes in the ways that people are able to have children mean there are changes to how people understand kinship. However, some men in the current study, especially those who experienced pregnancy complications, resisted challenges to the traditional genetic definition of kinship and fatherhood, and wanted to fulfil genetic and social/emotional elements of paternity, particularly since challenges to fatherhood were also seen as challenges to their masculinity (Goldberg, 2010). The biological definition of kinship was integral to Harry and Karl's connections to the fetus, even if they did not explicitly characterise it as genetic (Joshua was less certain on whether genetic relatedness was integral to kinship). For Harry and Karl, if the biological link was threatened, then so too was the anticipated bond with the child.

In agreement with Taylor (2005) and Mason (2008), in Rapp's study (2000), a woman who terminated a pregnancy due to a Down syndrome diagnosis talked about having a genetic child. The participant said;

“After this, I understand adoption much better. Because it can't be predicted how our child will be from getting your genes. And you don't need your kids to be genetic copies; they might be unlike you anyway. After all, there we were, two perfectly accomplished, intelligent, competent adults. And we'd made a baby who could never grow into those things we most valued.”

This participant differs to Harry and Karl because she saw less value in having a genetically related child following a threat to her pregnancy. This difference might be

because she had been forced to consider genes from a medical perspective, turning her attention away from the familial definition of genes and therefore the definition that was important to the men in the current study in terms of kinship. Another reason for the difference between the participant and the men in the study could be that she had a confirmed diagnosis of an anomaly, whereas the men in the current study did not. If the men in the current study had also received a diagnosis following prenatal diagnostic tests, they too might have shifted their opinion about genetic relationships, seeing them in a medical rather than familial light. Rapp did not explore the participants' ideas about genetic parenthood further in her book, but the way screening and prenatal diagnosis impacts on definitions of parenthood is an area that warrants further exploration.

6.3 Limitations of this phase

6.3.1 Sample and design limitations

The population from which this sample was drawn was large. Despite offering interviews in a variety of formats, a relatively homogenous group was recruited, that was not representative of the population. Most participants were married, all were in stable relationships. They were of high socioeconomic statuses and well-educated, and all men were white British. None of the men participants had to be tested for haemoglobinopathies, although Rachna talked about her husband, who was tested for Haemoglobin E. Also, men were recruited from across the country, meaning there may have been variation in what tests were offered and how they were offered in the antenatal units they attended. However, capturing the views of men from across the country was useful because a wider-range of rich views were gathered than if all the

interviewees were from one catchment area.

There was a high rate of attrition at 35.7%. As Kazmer and Xie (2008) point out, participants can be lost at multiple points during the email interview process. Indeed, five out of ten of the participants who sent back a reply form, but for whom an interview was never arranged due to a lack of response, were participants who requested an email interview. It might have been the case that these participants misinterpreted the nature of an email interview—despite having received clear instructions—and assumed they would receive a list of questions in one email. Another possibility was that the emails went into their spam folders, or were deleted, if they did not immediately recognise the email address or researcher's name. In future studies, aiming for a larger participant sample with a larger margin of attrition would be beneficial if using email-based methods.

The sample may have been limited by selection-bias: men who participated were likely to have been engaged with the pregnancy and involved in screening, which may have limited the range of findings gathered. Men who were not involved in screening may have shared completely different opinions and feelings about the topic.

Regarding interview timings, Andy, Eric, Iain, and Karl's babies had already been born, meaning there could have been retrospective bias in their interviews. That is, men's recollections of their experiences may have been less accurate, because more time had passed since they took part in screening than men whose partners were pregnant at the

time of interview. As Pilnick and Zayts (2012, p.267) argue, “participants’ reports of process are coloured by eventual outcomes of screening”. Thus some men may have been more anxious during the screening process than they recalled in their interview. Their anxiety may have diminished greatly since receiving a low-risk result. A similar limitation was that some men talked hypothetically about what they would do, for example if an anomaly were detected. As genetic counsellors in Rapp’s (2000) study said, a hypothetical plan might be abandoned when a diagnosis is made, or if an affected child is born. Another limitation was that there were few men and women who had experienced high-risk pregnancies, so there was a reliance on a few participants’ views for some of the analysis, such as Category 2.

Another unfortunate limitation was that the digital recording device malfunctioned during the telephone interview with Rachna, resulting in a severely distorted recording. Comprehensive notes were taken during each interview, which helped to give a fuller and richer picture of what Rachna said. The interview was transcribed immediately after the telephone call ended and where it was not possible to work out what the participant was saying, the transcript was marked with “[inaudible]”.

In the interviews themselves, some participants talked about off-topic issues. This issue was dealt with by listening to what participants said about these issues, but then trying to guide them back to more relevant topics. For example, one participant started talking about the options his wife had for pain relief in labour. He was brought back on topic by asking a slightly more relevant question about decision-making regarding pain relief,

and then decision-making about screening. Another limitation of the interviews was the reluctant responses two of the participants gave. One participant, Andy, whose interview was first and was conducted over instant messenger, seemed rushed and despite being told, did not seem to understand that he would need at least an hour to do the interview. It may be that participants invest less time and energy in instant messenger interviews, or have fewer thoughts about what to say. Since just one participant was interviewed this way, no conclusions could be drawn about whether that was the case, meaning further investigation is required. Bryan also gave very short answers. His minimised responses were perhaps a way for him to stay in control of the interview and refrain from sharing sensitive or emotional information— a way of enacting masculinity (Schwalbe and Wolkomir, 2005). The potential for men to do this was discussed in section 4.2.2. Also, the participant was interviewed at work, so was perhaps distracted.

As Opdenakker (2006) suggested, the interviewer cannot be sure whether the interviewee is distracted or alone in disembodied interviews. Distractions were evident in three disembodied interviews, where participants' spouses interrupted the interview, albeit only momentarily. Although interruptions are a legitimate criticism of interviews, such interruptions could similarly happen in face-to-face interviews. In fact, the most severe interruption occurred in the face-to-face interview with Karl and Polly, because the participants were trying to look after their one year old daughter while at the same time talking to the researcher. What's more, Polly's father paid a twenty minute visit to the house in the middle of the interview, meaning the recording had to be paused.

Although not necessarily a limitation, an issue specific to email and online interviews was that participants did not use emoticons, and to mirror the participants, they were not used in return (Jowett et al., 2011). Since tone of voice could not be judged through email and online interviews, emotion could only be gauged through what was said, meaning there were perhaps fewer emotional cues than in a face-to-face or telephone interview. Limitations aside, disembodied interviews were useful because individuals were given some freedom and choice, meaning participants who would normally be unable to participate could take part. For example, Iain discussed why the time commitments involved in a face-to-face, telephone, or instant messenger interview would have rendered his participation much less likely;

Iain “I'd prefer email, if that is not too much of a pain for you. I'd like to help with your research, it's just with a toddler and a baby I'm not really in a position to commit to a block of time - and I'm not sure how useful it would be to your research with me saying stuff like, 'leave your brother alone' and '1,2,3 Bedroom', 'I said bedroom'”

The rich data gathered using the variety of mediums suggests that disembodied interviews need not be considered inferior to face-to-face interviews

6.3.2 The interview as intervention

Taking part in interviews could change participants' perceptions of screening, suggesting that the interview, by allowing men to contemplate, reflect on and discuss screening, acted as an intervention. These contemplations could then affect future behaviour, as illustrated by Geoff, who discussed how he would approach screening differently having taken part in this research if his wife were to become pregnant again;

“I think now being more aware of the sort of stuff they're looking for at 20

weeks', I would obviously, probably go into that with a bit more, you know, sort of, trepidation [...] I'd probably again hunt down information on the internet, go try and look for some reliable sources of information there."

The intervening nature of interviews was also clear from what Daniel said. He was interviewed twice because his first interview happened to occur the day before his wife's 12-week scan. In his second interview, he discussed how he took more notice of whether midwives were including him as a result of his participation in the current research;

Daniel "I notice that for the most part they kind of ignored me, and then they sort of went over the top conscious effort to involve me at certain points, like asking me things or addressing us both at times. I wonder if perhaps they've had a sort of drive to try and include the partner a bit more." (laughs).

SD "Were they asking you questions, or telling you things?"

Daniel "They were showing us the baby, sort of telling us both rather than just talking to my wife and it was a little bit different [...]"

SD "And in what kind of ways did they ignore you?"

Daniel "Just sort of talking to my wife, we'd both walk in and she'd say to me 'have a seat' and they, they sort of talk to her and get her ready and start the scan and ask her what she wants to do and that kind of thing, almost forget I'm there for a bit"

Daniel's case suggests that if longitudinal interviews were used, the data collected in the second and subsequent interviews may be particularly susceptible to intervention effects and hence provide a less representative picture of what would normally go on in screening. Hence while longitudinal interviews would have been helpful for identifying how men's experiences changed over the course of the pregnancy, there was a benefit in using cross-sectional interviews.

6.4 Implications for research

The current chapter has presented some existing research that supports the notion that men develop a paternal identity and child-schema in pregnancy. However, there is no existing research that explores how screening might impact on these conceptualisations, meaning further research is required. Some limited support is provided by literature about attachment and screening, but as discussed attachment is a flawed and possibly invalid concept. The next phase of the current project will therefore focus on how screening impacts prenatal paternal identities and child-schemata.

6.4.1 The importance of exploring prenatal paternal identity and child-schema

It was important to explore men's conceptualisation of 'paternal identity' and 'child-schema' in pregnancy further, because these were integral to men's screening experiences and encouraged men to be involved in screening. The men who faced potential fetal anomalies ended up with disordered conceptualisations of their child and themselves as a father. The resultant conflicting emotions these men experienced left them with a less defined plan and less clear information and emotions with which to make future decisions.

The link between emotion and information in decision-making is outlined in the risk as feelings hypothesis (Louwenstein et al., 2001). The hypothesis suggests that emotions are used as information when making decisions. More specifically, it posits that anticipatory emotions, i.e. gut reactions, such as the anxiety that is experienced when faced with a decision, guides decision-making behaviour. Such emotions would have a

critical role in leading people to make risk-averse decisions. The hypothesis has received support from health psychology research, where the emotions people feel about a decision have been more predictive than knowledge, attitudes and intentions regarding behaviours such as vaccinations, screening and unprotected sex (Dillard et al., 2012; Kobbeltvedt and Wolff, 2009; Weinstein et al. 2007). Having a more vivid mental image (in this case, paternal identity and child-schema) leads to having stronger gut reactions, which then guide decision-making. Emotions are therefore used as information when making decisions, so less clear emotions and feelings towards actions can be interpreted as having less information with which to make informed choices.

In the current study, child-schema and paternal identity were the mental images, which elicited feelings of responsibility, anxiety and the need for reassurance. This in turn propelled men to be involved in screening, so their anxiety could be allayed. Low-risk results reinforced these constructs for men, but if a high-risk result was received, the images of paternal identity and the child-schema, and concomitant emotions, became contradictory or conflicting. Since mental images disrupted emotions, these emotions could lead to more confused and less clear decision-making. For example, Karl and Polly's decision to undergo chorionic villus sampling—which would not have helped them—was based on contradictory conceptualisations of their child, and Joshua's uncertainty about adoption was based on conflicting perceptions of what a genetic relationship meant. It was therefore important to identify how screening could impact on paternal identity and child-schema for men more generally, and for men of a broader demographic, because these conceptualisations could affect decision-making about

further screening tests and diagnostic tests, and whether decision-making was informed.

If receiving high-risk screening posed a threat to men's prenatal paternal identity and child-schema, it would mean appropriate support and guidance would be necessary for men to help them manage distress and manage the impact of any disruption in their adaptation and preparation for fatherhood. A related reason why it was important to explore prenatal paternal identity and child-schema was that these feelings could impact on men's feelings towards the child after birth. For example, early paternal involvement, such as attending ultrasound scans, feeling the baby move and attending birth classes, and 'fatherhood identity salience' during pregnancy can predict involvement with childcare, such as playing and reading with the child a year after she or he is born (Bronte-Tinkew et al., 2007; Cabrera et al., 2008). Men's prenatal expectations can in addition impact on how they feel once the child is born, depending on whether their experiences match-up with or contrast what they expected (Bielawska-Batorowicz and Kossakowska-Petrycka, 2006).

As Marsiglio and Hutchison (2004) suggest, understanding men's prenatal paternal identities could be useful for developing interventions for preparing men for fatherhood, promoting postnatal attachment and gender equity. Marsiglio (2008) suggested that the kinds of conceptualisations men have of their fetuses, and the kinds they have of themselves interacting with the child, warrants further research. Before interventions are designed, it is also important to explore the factors that could impact on prenatal paternal identity and child-schemata.

6.4.2 Improving on attachment research

Although attachment is a flawed concept, some useful research exists about how screening can affect attachment. Research about the impact of seeing an ultrasound scan as part of antenatal screening on fetal attachment is unequivocal. Righetti et al. (2005) found that of 44 men, second trimester ultrasound scans had no impact on paternal-fetal attachment, whereas Gerner (2006), with a sample of 39 expectant fathers, found that the number of ultrasounds men attended was the strongest predictor of attachment, indicating that seeing the fetal image facilitated attachment. Both of these studies were limited, as they had small sample sizes and statistical power was unreported. A larger study by Stanford (2002) compared 200 participants, half of whom had undergone ultrasound screening and half who had not, and like Gerner (2006), found that those who had seen the ultrasound scan scored significantly higher on a measure of parental-fetal attachment. Encouraging expectant parents to attend ultrasound scans could therefore elicit positive feelings towards the fetus. However, not all men will have such a reaction to the scan, as the current study has shown. Moreover, these studies were not longitudinal meaning it cannot be ascertained whether this attachment diminished after seeing the ultrasound image.

The limited research that exists with men supports the current finding, that risk or complications in pregnancy could affect conceptualisations of the child. Ustunsoz et al. (2010) found that increased paternal-fetal attachment among 144 men and 144 women was predicted by lower-risk pregnancies, in comparison to high-risk pregnancies, i.e.

where the woman was diabetic, had pre-eclampsia, a multiple pregnancy or a history of stillbirth or abortion. Hjelmstedt et al. (2007) also found with a sample of 90 men that higher anxiety about losing the baby was significantly and negatively correlated with paternal-fetal attachment. A notable Canadian study with women by Lawson et al. (2006) showed that women who received negative maternal serum screening results (i.e. that the fetus was not at-risk) (n=32) had significantly lower attachment scores than women who declined screening (n=38) and women who underwent an amniocentesis following a high-risk screening result (n=31). The women in this study were all of advanced maternal age, so were all deemed to be at an elevated risk for Down syndrome. Women who received low-risk screening results discussed how they were confused, rather than comforted, by the probability scores they were given. Furthermore, what was seen as a low-risk by healthcare professionals was not always seen as a low-risk by women. But without being classed as high-risk by healthcare professionals, women were ineligible for amniocentesis so could not get confirmation of whether the fetus was affected or not. This study indicates that whether a negative result is received or not, participation in screening might disturb the coherence of prenatal paternal identity and child-schemata, because participation in screening can turn expectant parents' attention towards what could go wrong in the pregnancy, and the potential inaccuracies of screening. Therefore, the way screening could impact on paternal identity and child-schema was the focus of the next stage of the research.

6.5 The next phase

The questionnaire was designed to take one aspect of the family in flux and explore it in

more depth—the impact that screening had on men’s prenatal paternal identity and child-schemata for a larger group of more diverse men. The quantitative research additionally explored whether there were any differences between men from different demographics, and those with different screening experiences (e.g. those with anomalies and those without) in their prenatal paternal identity, child-schema and screening experiences. The next phase built upon limitations of previous work that has explored how screening impacts on attachment. As mentioned in section 6.2.6, one flaw of prenatal attachment work is that it is unclear what the attachment is felt towards. The current work and previous research (Sandelowski et al., 1994; Williams et al., 2001) has shown that men and women think about their future child in a number of ways. Therefore, in the next phase, questions were written about the fetus (child-in-womb) and the anticipated child (child-in-head). Child-schemata and prenatal paternal identity were then analysed to identify the concepts that underpinned them. Comparisons were made of whether there were similarities to the qualitative findings, i.e. genetic and social fatherhood, and the child-in-womb/child-in-head. Such exploration was important if suggestions were to be made for improvements in policy and practice.

Questionnaire research was chosen as opposed to more qualitative interviews, firstly because saturation of the main topics was achieved after eighteen interviews, meaning the next stage was to see whether the topics that arose were applicable to men more generally. Secondly questionnaire research may have encouraged a wider range of men to participate than interview research alone, such as those who would be reluctant to discuss emotive or sensitive topics in an interview setting. Certain demographics of men

did not participate in interview research, for example, those with high school education only, working-class and/or black ethnic minority men. Including a quantitative aspect to the research allowed a more diverse sample of men to be gained overall. Using a questionnaire thereby added authenticity of the research overall because it meant the views of a group of men who may not have participated in qualitative interviews would be represented. The reliability of the conclusions drawn from the qualitative findings were also tested by using both methods.

6.6 Chapter summary

In this chapter, the findings of the qualitative research have been discussed in relation to previous research. The major finding, that men construct a prenatal paternal identity, is supported by research by Marsiglio and Hutchinson (2004) and Scharf and Mayseless (2011), who had no previous partners who had become pregnant began developing a sense of fatherhood readiness, reflecting on what they needed to change in their lives to prepare for fatherhood. Ogle et al. (2011) additionally found that men enacted prenatal parenting—encouraging their partners to eat healthily— since these behaviours would positively impact on fetal health. In terms of the child-schema, previous research has shown that expectant parents have different ways of thinking about the ‘child’ within the child-schema (e.g. Williams et al., 2001). There is also a wide range of research on fetal attachment, which suggests expectant parents create a mental image of their child and develop a protective and altruistic relationship towards it (Condon, 1985; Doan and Zimmerman, 2003). However, prenatal attachment is a flawed concept, since attachment is experienced by the child towards the caregiver.

An implication for the next stage of research was therefore to improve upon attachment research, and explore the relationship between prenatal paternal identity/child-schema and screening to see whether the grounded theory was generalisable to a wider, more representative range of men, from differing demographics. While there has been some limited research on how fetal attachment might be affected by screening (e.g. Righetti et al., 2005), the way prenatal paternal identity and child-schema are affected by and affect screening has not received attention in the existing literature. Exploring this topic using a quantitative phase had an added advantage as it would help to compensate for some of the limitations in the qualitative phase of the research. Since a larger number of men would be sampled, and men who would not want to be interviewed could participate, using a questionnaire rather than interviews would increase the chances that a broader range of men would be recruited. The next chapter describes the construction of the questionnaire, which was used to explore the relationship between screening and paternal identity/child-schema.

CHAPTER 7: CREATING, PRETESTING AND PILOTING THE QUESTIONNAIRE

7.1 Introduction

In the previous chapter, the need for further research about the way prenatal paternal identities and child-schemata are affected by screening was discussed. To explore this research area, a questionnaire was constructed to measure men's paternal identities and child-schemata—herein referred to as the PICS—and men's screening experiences. The research questions for the current study were:

1. For men in general, what factors underlie paternal identity/child-schema?
2. Is there a difference between certain demographics of men, and men who have or have not experienced fetal anomalies, on 'screening views' factor scores?
3. Is there a difference between certain demographics of men, and men who have or have not experienced fetal anomalies, on PICS factor scores?
4. Does involvement in screening affect men's PICS factor scores?

The hypotheses were:

1. Prenatal paternal identity and child-schemata will consist of various underlying factors
2. Demographics and scores on 'screening views' factors will have some effect on men's score on PICS factors

As in Chapter 5, prenatal paternal identity refers to men's feelings towards the fetus, rather than a paternal identity they might have had as a result of having other children. However, one of the demographic details taken about men was whether they had any

other children, and if so, how many, so it could be determined whether having other children affected PICS factor scores.

Two constructs, PICS and ‘screening experiences’ were therefore constructed to measure the extent to which men were developing an identity as a father to the fetus and a schema of the child. The stages of questionnaire formulation were (1) creating an item pool, i.e. a pool of possible questions, (2) refining the items (i.e. questions) to create an initial draft of the questionnaire, (3) pre-testing the draft, (4) piloting the questionnaire, and (5) checking the reliability and validity of the questionnaire using ‘classical item analysis’ (Oppenheim, 2000; Rust and Golombok, 2009; Streiner and Norman, 2008). A short explanation on psychometric scales follows, after which these stages are explained in more depth.

7.2 Psychometric scales

A psychometric scale is a questionnaire that has been developed using scaling techniques (Reckase, 1990). Scaling is “the process that is used to assign numbers to collections of observations” (p.44). Scaling thus allows participants to be grouped according to a characteristic. Reckase (1990) provides the example of scaling ‘height’. He writes that if a population of people were divided into groups, such that members of each group were of the same height, a number could be attributed to each group allowing the groups to be compared. This is called ‘nominal scaling’. The same process can be used for an abstract variable, i.e. a variable that is not directly observable, such as PICS scores (Reckase, 1990). When scaling an abstract variable, numbers are used to

represent unobservable psychological traits; however, the number-assignment process is more complex with abstract variables than with concrete variables, hence the need for a rigorous procedure for developing the questionnaire. The procedure begins with creating a number of questions—referred to as ‘items’—and then eliminating items until a succinct questionnaire remains, with items that most optimally ask about the concepts being measured.

7.3 Constructing the questions

7.3.1 The move from qualitative to qualitative

Questions were designed by identifying the parts of the qualitative findings that required further research and then writing questions that would ask about these concepts. Therefore the questions were written to assess men’s paternal identity and their child-schema, as well as their screening views, so the way these concepts interacted could be explored with the questionnaire.

Around half of the items were written to ask about paternal identity and the child-schema. These items were written to reflect genetic and social/emotional aspects of prenatal paternal identity. With regard to the child-schema, items were written to reflect men’s current feelings towards the fetus (child-in-womb), their anticipated relationship to the child (child-in-head). A few items were included about feeling a bond or positive emotional connection with the unborn baby to reflect previous research where such a bond was found (e.g. Draper, 2002). The term ‘baby’ rather than ‘fetus’ was used on the questionnaire as the latter could have been overly medical or technical for expectant

parents. The other half of the items were written to ask about screening views. All the items reflected categories from the qualitative research or the metasynthesis.

Table 7.1: Creating questions from interview findings

Category Title	Example of PICS questions	Example of screening questions
Juggling roles	I am worried about what family traits will be passed on to the baby	If you're making discussions about the baby, it should be a joint decision
(De)constructing paternal identity and child schema	I have been imagining myself caring for and nurturing the baby I have been imagining that the baby will look like me	I am worried about whether any family illnesses will be passed on to the baby
The elusive nature of genes	I find it difficult to imagine the way the baby will be like me and the mother	
Simple information and support		I'd rather have a shorter appointment, even if it meant getting less information about screening from midwives

By brainstorming the questions, an item pool was created, which contained more questions than the final questionnaire was expected to contain, including several items that asked the same question, but written in different ways. A sample of the item pool is presented in table 7.1. The pool of items were discussed and critiqued with AM and RW (supervisors) to check the content validity of the items—that is, whether the items were relevant to the aims of the questionnaire (Hirai et al., 2008). Through this process, a consensus was reached on which items to keep. In keeping with questionnaire methodology, the resultant list of items that remained was still greater than the anticipated list of items that would be used for the final questionnaire. The list was refined later in the questionnaire development, during pretesting, which is discussed in

section 7.4.

7.3.2 Putting it together

7.3.2.1 Response options

Likert scales were used for response options. They were chosen because they are the most commonly used scaling format (Streiner and Norman, 2008), and feature in well-established questionnaires that have good reliability and validity. Other scales such as the Thurstone scale, the paired-comparison technique and the Guttman scale ask participants to compare specific answers to a question (for example, “how do you feel about the pregnancy?” anxious – indifferent – excited). In contrast, Likert response options consist of descriptors, such as frequency or agreement, ranging from one end of a spectrum to another, as shown in the below example;

It is important that men go to the appointments for the screening tests

Strongly agree	Mostly agree	Unsure	Disagree	Strongly disagree
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A five-point scale was used because from their study of administering a psychometric scale with differing response options, Lozano et al. (2008) found that the optimum number of alternatives was between four and seven. Although reliability and validity improved as more options were added, there was a tailing off of improvement after seven categories. As Steiner and Norman (2008) suggest, when a large number of items are summed to create a score, it is unlikely that using five-point scale rather than a seven-point scale will cause a significant loss of information.

Although some suggest that all Likert scales in one questionnaire should have the same options so that burden of reading is reduced on respondents, Streiner and Norman (2008) suggest that using different options is acceptable because the same set of response options will not necessarily fit each question well. What is more important is that the item and the responses make sense and are consistent. Established questionnaires such as the World Health Organisation Quality of Life Scale (WHOQOL, 1999) use varying response options.

Using a midpoint on the Likert scale is optional. When asking questions for which participants might not have clear-cut answers, offering a midpoint is useful because it deters ambivalent or indifferent participants from selecting an option at random (Weijters et al., 2010). If this happened, the reliability and validity of items would be reduced and participants' views would not be accurately represented (Sturgis et al., 2011). One criticism of midpoints is that they can be interpreted in various ways, such as 'it depends', 'not applicable', 'unsure', 'both', 'don't understand', or 'undecided' (Kulas et al, 2008; Streiner and Norman, 2008). To manage these variations, the midpoint in the current study was given a label such as 'uncertain' or 'sometimes', rather than the more vague option of 'neither agree nor disagree' (Sturgis et al., 2011). Another criticism is that the midpoint might be over-used by participants who are satisficing (Krosnick and Alwin, 1987). Satisficing is where participants choose the first acceptable response option they come across, rather than reading through the whole list of possible responses and selecting the one that is most representative. Furthermore, midpoints might be used by participants who do not understand the question, or those

who have an answer in mind but are reluctant to present it, instead opting for a more socially desirable response, i.e. one that they feel paints them in a better light (Sturgis et al. 2011). During pretesting, participants' reasons for choosing the midpoint were explored. Pretesting is discussed further in section 7.4.

7.3.2.2 Wording

Questions were checked to ensure they were not overly long, i.e. did not contain more than 20 words (Oppenheim, 1992). To ensure the questionnaire was as clear and as easy to follow as possible, the response options were all presented as 'more frequently' to 'less frequently' (left to right). Another option would have been to reverse some of the scales at random, where some answers would be presented from 'less frequently' to 'more frequently'. Doing so could help to address satisficing. Reversing the response options could also address yea-saying bias (i.e. choosing 'yes' or 'frequently' type responses to each question, even if doing so means the answers on two of the questions contradict each other). Streiner and Norman (2008) point out a potential risk of using reverse ordering: some respondents may not notice the change, and could provide inaccurate and meaningless data as a result. To assess whether reverse ordering might have been useful, some of the scales were reversed in the second version of the questionnaire during pretesting. However the results of the second round of pretesting indicated that there was no real advantage of reversing the order of responses—respondents were giving similar answers before and after the reversal of order.

7.3.2.3 Question order

Questions went from a more general topic to a more specific one (Oppenheim, 1995). The questions relating to PICS—which asked men about their experiences of pregnancy—preceded those concerning screening. Ordering the questions in this way additionally meant the less threatening questions came at the start of the questionnaire, which would put the respondent at ease (Aday and Cornelius, 2006, p.23).

7.4. Pretesting method

7.4.1 The purpose of pretesting

Through pretesting, the questionnaire and items were refined further. Pretesting is a preliminary part of the overall piloting process. It is a way of including participants in the formulation of the questionnaire, and it can help to judge whether participants are willing and able to answer the questions (Collins, 2003). For example, pretesting can help to identify questions that participants find too onerous, particularly regarding the amount of information retrieval required from memory. It also allows researchers to check whether participants understand the items and concepts; whether these are understood in the same way by all participants and whether there are contextual effects, for example, whether men who complete the questionnaire before a screening test have a different opinion to those who complete it after (Collins, 2003). Thus pretesting can improve the sensitivity, reliability and validity of the questionnaire (Bowden et al., 2002). More specifically, it helped to improve face validity (whether the items were relevant, interesting and important to the men), item validity (how much the items represented men's experiences of screening) and sampling validity (the extent to which the items sampled the total content area, or whether there was anything else that should

have been asked about screening) (Onwuegbuzie et al. 2009)

7.4.2 Pretesting design

The Cognitive Aspects of Survey Methodology (CASM) was used to pretest the questionnaire (Jabine et al, 1984). The theoretical framework underlying the CASM suggests that there are four actions respondents must complete to answer a question: comprehension, retrieval of information from memory, judgement of what information is needed and finally, response to the question (Collins, 2003; Tourangeau et al., 2000). These processes are usually explored during pretesting using cognitive interviewing. In this kind of interviewing, the investigator administers the questionnaire in a structured interview setting so the processes that participants experience can be explored in more depth. For example they are asked to think aloud while answering questions, to say what the question means to them, and whether they had a particular situation or feeling in mind when answering. Cognitive interviewing also involves asking how the participant felt about answering, whether response formats were clear, and asking how sure they were of their answers.

Based on how few black and minority ethnic, working class and/or unmarried men were recruited from the NHS in the interview phase, it was predicted that recruiting a broad range men to pretest the questionnaire in a cognitive interview format would be unsuccessful. Moreover, administering the questionnaire in an interview would mean those men who would be reluctant to discuss emotive issues face-to-face would refrain from participating. To overcome this potential problem, the cognitive interviewing

techniques were translated into writing. Each questionnaire was appended with additional questions to try and uncover the cognitive processes behind answering the questions. These questions were along the lines of:

- Were there any questions that it was difficult for you to answer? Please write down the number of the question and the reason why it was difficult in the space below.
- Were there any questions you did not feel happy about answering? Why?
- Are there some ways that the options for your answers could be improved? Do you feel like you could find the right answer for you?
- Are there some ways that you think the presentation of the questionnaire could be improved (for example, the way the writing looks, and the amount of space you have to write in)?

Participants were also asked explain their answers to most questions to ensure they had understood it in the intended way. Where questions were asked with potentially ambiguous words, they were asked what the word meant to them. For example:

“Q: I feel uneasy about being a dad (or being a dad again)

Strongly agree / Agree / Uncertain / Disagree / Strongly disagree

➔ So I can see whether this question is clear, can you say what ‘uneasy’ means to you?

Redline and Dillman (2002) stress the importance of optimising the layout of a questionnaire to make it easier for participants to engage with the questions and reduce the chances of satisficing (Stern et al., 2007). Participants were thus invited to make

comments anywhere on the questionnaire about its layout. Prose data as well as questionnaire data were collected in this phase.

Some of the cognitive interviewing skills did not translate into written form, for example, paraphrasing participants' answers to check whether they had been understood, response latency (i.e. the time taken for them to answer each question) and targeted methods, which involves comparing men from different demographics to check for any differences in comprehension and retrieval (Bowden et al, 2002). Being unable to translate these methods into written form was thus a limitation of the pretesting phase of the research. However, since the questionnaire was administered in the same way as it would be in the final sample, this was also a useful way of piloting the research process.

7.4.3 Pretesting procedure

Pretesting was given a favourable REC and R&D approval. To pretest the questionnaire, men were approached at the antenatal unit of a major inner-city teaching hospital and asked if they would mind being told about the research. Willing men were told the project involved exploring men's views of pregnancy and screening. The same inclusion/exclusion criteria as in section 4.5 were explained to these men, so any who felt they did not fit the criteria could refrain from participating. There were instructions on the questionnaires that asked men to fill out the questionnaire, but more importantly to comment on it and attend to the evaluative questions. Men were given an information sheet (Appendix 4.1), the questionnaire (Appendices 3.1-3.4), demographics question

(Appendix 4.2), consent form (Appendix 4.3), and an envelope in which to hand back the questionnaire once it was completed. The information sheet, questionnaire and consent form were the same or very similar to those used in piloting and the final administration of the questionnaire.

Since antenatal visits tend to last for many hours for men and women, men had time to complete the questionnaires while they waited. Men handed back the questionnaire, or gave it sealed in an envelope to the receptionists, from where they could be collected.

In accordance with guidelines by Willis (2005), pretesting was conducted in rounds and changes were made after each round. The questionnaire was tested with a small sample of expectant fathers in each round, and the results were collated and analysed so that items could be accepted, modified, rewritten or excluded. Any changes made to the questionnaire were then explored with subsequent pre-testing participants.

7.4.4 Sample characteristics

As Willis (2005) states, sample sizes are unimportant for pretesting. What matters is that a variety of participants are questioned, which was indeed the case. However demographic details were not collected for these participants, since the aim was to pretest the questionnaire and not over-burden men with background questions as well as the questionnaire. In total, 30 participants returned questionnaires over the first four rounds of pretesting (n=9, 5, 10 and 6, respectively).

7.4.5 Measures

The questionnaires for the first four rounds of pretesting can be found in Appendix 3.1-3.4.

7.4.6 Data analysis

After each round, the questionnaires that were handed out and returned were reviewed and participants' answers and comments were collated. Changes were firstly made to questions that exhibited floor and ceiling effects. Floor effects were those where all participants chose the 'strongly disagree/never' response, and ceiling effects where all chose 'strongly agree/always'. Changes were also made based on the evaluative comments that participants had left. For example, where participants had explained their answers in a way that suggested they had misunderstood the question, the questions were reviewed and reworded. Moreover, there was a general evaluation of the questionnaire after each round.

7.5 Pretesting results

Table 7.2 depicts the major changes that were made after each round. An asterisk denotes a modification that was made based on an issue that was noticed by the researcher during pretesting rather than one that was based on participants' comments. Participants are referred to with codes, for example, R1P1 (Round 1 Participant 1). Following Round 4, the questionnaire was piloted.

One general consideration during pretesting was whether to use agreement or frequency

for the response options (e.g. strongly agree to strongly disagree, or very often to never). After Round 1, frequency response options were chosen because this addressed the problem that for some participants, the act of reading the question might have elicited the thoughts they were being asked about. For example, the question “I’ve thought about what family traits will be passed on to the unborn baby” might have caused some participants to think about family traits for the first time, simply from reading the question. The response of ‘agree’ would not differentiate between men who had been thinking about this a lot and those who had thought about it simply because they read the question. It was acceptable that response options such as ‘very often’ could have different meanings to different participants, since the questionnaire aimed to gather information on how frequently men personally felt they were thinking about their prenatal paternal identity and child-schema. What mattered was whether each individual perceived that they had been thinking about the concepts ‘very often’ in their own opinion (Streiner and Norman, 2008). The questionnaire that resulted from the Round 4 amendments (Appendix 3.5) was then administered for piloting, using the same procedure as for pretesting.

Participants were asked to say how they had been feeling over the previous two weeks to mirror Condon’s (1993) paternal-antenatal attachment scale.

Table 7.2: Changes after pretesting rounds

Round	Sample size	Changes made after this round
1 (Appendix 3.1)	9	<ul style="list-style-type: none"> For questions such as ‘I don’t know how I feel about being a dad’, some comments were made such as ‘I am already a dad’ (participant 3). Questions like these were thus changed to read ‘...dad (again)’. The word ‘unborn’ was added before ‘baby’, because R1P1’S explanations showed that he was answering in relation to a current child. * The term ‘genetic screening tests’ was changed to ‘screening tests’ to make it clearer. Some information about screening was added to help participants to understand the questions about screening. A question ‘can you say how much of this information you already knew?’ was appended to see how familiar participants were with the information.
2 (Appendix 3.2)	5	<ul style="list-style-type: none"> R2P9 and R2P1 and R2P5 (gestation approximately 12 weeks’), commented that it was too early to feel a bond, or to have noticed anything about, the fetus. The question asking whether men felt a bond to their fetus was however retained and a decision was made to include the trimester of pregnancy as a predictive variable for PICS. ‘I have been interacting with the unborn baby’ was changed to ‘I talk to the unborn baby’ to make it applicable to men with early pregnancies. Although men with early pregnancies would not be able to feel the unborn baby kick etcetera, they might still talk to the unborn baby, and both can be thought of as interaction. The change also reflected Iain’s comment about speaking to the fetus.
3(Appendix 3.3)	10	<ul style="list-style-type: none"> Extra questions were added about screening
4 (Appendix 3.4)	6	<ul style="list-style-type: none"> Participants were asked what the term ‘genes’ meant to check their comprehension of the questions.

7.6 Piloting method

7.6.1 Piloting design

Following REC and R&D approvals, the questionnaire that was amended following round 4 (Appendix 2.5) was administered using the same procedure as for pretesting.

An open ended evaluative question (Q36 Please name some ways that this questionnaire could be improved) was also appended.

7.6.2 Procedure

The same recruitment method was used as for pretesting, except that participants were recruited from two inner-city hospitals to ascertain whether the second would be an appropriate centre to recruit from in the final administration. The information sheet, demographic questionnaire and consent form were the same or very similar to those used in the final study and can be found in Appendices 4.1, 4.2 and 4.3, respectively.

7.6.3 Measures

The pilot questionnaire and background questions can be found in Appendix 2.5.

7.6.4 Sample characteristics

Streiner and Norman (2008) suggest 50 is the minimum for piloting when constructing a scale (p84). This sample consisted of 53 participants. Demographic details for those who returned their questionnaires are presented below. Confidence intervals (CIs) are also reported at the 95% level, which is a level common to most research studies (Field, 2005). A confidence interval is a margin of error, and is reported to show how reliable a

value is. It means that if the entire relevant population was asked for this information, the confidence interval, which ranges from a negative to a positive value, would encompass the average score of the whole sample 95% of the time. The larger the CI, the less representative the value is of the whole population. (Gadener and Altman, 1986; Field, 2005). Figures do not consistently add up to 53 participants because some data were missing.

Participants were aged between 19 and 42 (mean = 31.02, S.D 5.70). Most of the men, 35/45 were white British at, (77.8%; CI \pm 12.14) and 10/45 were black and ethnic minority (22.2%; CI \pm 12.14). There were 24/45 (53.3%; CI \pm 14.58) of participants from a lower socio-economic status, 18/45 (40%; CI \pm 14.31) from a middle status, and 3/45 (6.7%; CI \pm 7.3) from a higher status. Regarding marital status, 31/53 participants were married (58.5%; CI \pm 13.27) and 14/53 were living with their partner (26.4%; CI \pm 11.87). Men's partners were between 12 and 39 weeks pregnant.

7.6.5 Data analysis

7.6.5.1 Classical test theory

Using the data collected in piloting, an interim 'item analysis' was conducted on the PICS and 'screening experiences' scales. Item analysis is a process of reducing the number of items on a questionnaire, producing more valid scale (Kline, 2000; Rust and Golombock, 2008). There are two major theories that underlie scale construction, which are classical test theory and item response theory. Classical test theory is based on the assumption that observed scores on a scale includes a level or measurement error:

$$\text{Observed score} = \text{“true” score} + \text{error score}$$

In line with the rejection of truth in the pragmatic approach (discussed in Chapter 3 section 3.2), Streiner and Norman (2008) write that the idea of there being a ‘true’ score is flawed, because the “score for every subject will change with every combination of measures, simply as a consequence of random error” (p.211). The true score in the above equation is the mean score if the participant completed the scale an infinite number of times. The error is said to be the difference between the true score and the observed score.

Item response theory is more like a framework than a theory. It is used when a scale is unidimensional—i.e. when the scale taps one underlying latent immeasurable trait.

However the PICS and screening experiences scales were more likely to be multifaceted (Streiner and Norman, 2008). Indeed, as Kline (2000) argues, item response theory is not suitable for psychological variables where one latent variable cannot be assumed to explain all the variance in the test scores.

7.6.5.2 Overview of tests used

Using classical test theory involved four tests. These were (1) checking skew by calculating the mean for each item, (2) checking skew by seeing how often each response option had been endorsed, (3) checking internal consistency, a form of reliability, and (4) checking reliability using item-total correlations.

The purpose of (1) checking item means, was to explore whether the answers to the

questions were normally distributed, or whether they were skewed. Ideally, participants' scores should have a normal distribution where most of the scores fall around the mean (around 3 if the Likert scale is from 1-5), roughly equal numbers fall on either side of the mean, and the least amount of scores fall at the extreme ends of the distribution. Skewness is when the majority of the scores are clustered at one end of the distribution (Field, 2005). By checking the mean response for each of the items, any skewness was detected. Items with a mean value nearing an extreme end of the distribution, rather than the middle, indicate that participants have mostly answered at one end of the scale, and that the distribution of the data is skewed (Rust and Golombok, 1999). Skewed data are not necessarily "bad data", but mean that the mean and standard deviation are not useful ways of summarising the data (Cochrance Collaboration, 2012). These items could be re-evaluated to make them more sensitive.

Skewness can be accompanied by an issue that some response options are chosen by very few, or a large majority, of participants, which was the purpose of (2) checking endorsement. For example, on a question where there is negative skew, most participants might have chosen (endorsed) the option 'never', with very few participants endorsing the option 'all the time'. Streiner and Norman's (2008) suggest that skew is only a problem if less than 5% of the respondents, or more than 95% of them, endorse a particular response. Endorsements lower than 5% can cause correlation matrices to be unstable, because they would be based on a restricted range of the participants. Items where there are over or under-endorsed response options are also less useful for measuring differences between people, because responses across participants tend to be

the same or similar (Streiner and Norman, 2008).

Test (3) was to ascertain the reliability of the items using internal consistency, which checks whether the items in the subscale are all measuring the same construct—i.e., whether they are consistent (Field, 2005; Rust and Golombok, 2008; Streiner and Norman, 2008). A way to measure internal consistency is to perform a split-half reliability test. This method involves dividing the items on the questionnaire into two sets, summing the items in each set, and calculating the correlation between the two sums. Cronbach's alpha is the average of all the possible split half reliabilities. Test (4) was for reliability too, and it checked whether the items in the each scale correlated with the other items in that same scale.

The items were scored so that a higher score indicated a more marked prenatal paternal identity and child-schema, and a higher involvement in screening.

7.7 Piloting results

During piloting, any problems relating to the way men were recruited were identified so changes could be made to optimise the final administration procedure. Men filled in the questionnaire in the waiting rooms and returned them in an envelope by hand, or left them with the receptionists, from whom they were collected. The procedure was generally deemed to be successful overall, except that women often watched while men completed the questionnaire. This problem was noted and managed in the administration of the final questionnaire. Data gathered during piloting were analysed

using SPSS version 20 to check the psychometric properties of the questionnaire.

7.7. 1 Item analysis: PICS Scale

7.7.1.1 Mean responses

Table 7.3: PICS mean scores

Item	Mean result (1 = always and 5 = never)
Q8: I feel emotionally distant to the unborn baby	4.04
Q10: I worry that I won't be able to bond with the baby when it's born	4.49
Q11: I think about whether family illnesses could be passed on to the unborn baby	2.21
Q13: I feel unattached to the unborn baby	4.23
Q14: I feel a sense of commitment to the unborn baby	4.52
Q16: I feel prepared for being a dad (or being a dad again	4.15
Q17: I feel a bond to the unborn baby	4.12
Q18: It feels real that I'm going to be a dad (or be a dad again)	4.13
Q19: I feel like the unborn baby is a part of me	4.02
Q21: I understand how genetic things affect the baby	4.00

The items in table 7.3 had mean responses that were on an extreme end of the scale, meaning items were skewed.

7.7.1.2 Endorsement

Using Streiner and Norman's (2008) guidelines, the responses presented in Table 7.4 were problematic i.e. had less than 5% endorsement.

Table 7.4: PICS items with low endorsement

Item	Response options <5% endorsement	Solution
Q1: I talk to the unborn baby	Strongly agree,	Response options changed
Q2: I imagine myself caring for and nurturing the unborn baby	Rarely	Changed to “I’ve imagined myself looking after the unborn baby” for simplicity Response options changed
Q3: I imagine ways that the unborn baby will look like me and the mother	Never	Response options changed
Q4: The fact that the growing baby is made of my genes is something I think about	Never	Response options changed
Q5: I think about what parts of me will be passed on to the unborn baby	Never	Response options changed
Q7: I think about how the unborn baby is carrying on my family	Never	Deleted – not as relevant to men's perceptions of themselves as fathers as other items
Q8: I feel emotionally distant to the unborn baby	Never	Changed to: I’ve felt emotionally close to the unborn baby Response options changed
Q9: I think about what family genes will be passed on to the unborn baby	Never	Changed to: I think about what family traits will be passed on to the unborn baby Response options changed
Q10: I worry that I will not be able to bond with the baby when it’s born	Never, Rarely	Changed to: I’ve thought about ways I will bond with the baby when he/she is born Response options changed
Q11: I think about whether any family illnesses could be passed on to the unborn baby	Very often	Deleted – not applicable to those without family history of illness
Q13: I feel unattached to the unborn baby	Often	Changed to: I have felt attached to the unborn baby Response options changed
Q14: I feel a sense of commitment to the unborn baby	Never, Rarely, Sometimes	Response options changed
Q15: I’m not sure how I feel about being a dad (or being a dad again)	Strongly disagree, Disagree	Changed to: I’ve felt sure about my feelings about being a dad (or being a dad again)
Q16: I feel prepared for	Strongly	Deleted

being a dad (or being a dad again)	disagree, Disagree	
Q17: I feel a bond to the unborn baby	Never, Rarely	Response options changed
Q18: It feels real that I'm going to be a dad (or be a dad again)	Strongly disagree	Deleted
Q19: I feel like the unborn baby is a part of me	Strongly disagree,	Response options changed
Q21: I understand how genetic things affect the baby	Strongly disagree, Disagree	Changed to: I understand how my genes (my DNA) might affect the baby Response options changed
Q22: I think genes are really important for how the baby will turn out	Strongly disagree, Disagree	Deleted – does not necessarily measure men's genetic relationship to the unborn child
Q23: I feel that having a genetic link to the baby will create bond a between us	Strongly disagree,	Deleted – overly complex item

Meyer-Bahlburg and Steel (2003) argue that when measuring psychological constructs, skewed distributions might be expected, depending on the context of the sample being measured. An item such as 'I feel that it is important that I attend the appointments for the screening tests' would be expected to have low endorsement of the option 'strongly disagree', because the sample was taken from men who were at an antenatal unit. Thus skewed distributions and low endorsement frequencies are to an extent acceptable.

However since skewness was an issue for so many of the questions in the PICS scale, measures were taken to deal with the issue, which are outlined in the third column of table 7.3. One way to deal with skew was to change the response options to the questions, so the negative options that had low endorsement, such as 'rarely' and 'never' were replaced with more positive options.

Thus the options were changed from

Always	Often	Sometimes	Rarely	Never
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to options such as

Very often	Often	Sometimes	A bit, but not much	Not really
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Also, questions that used negative terms were changed (for example, 'I feel unattached to the unborn baby') because for participants with a low-reading age, the idea of disagreeing with an item to elicit a positive answer could be over-complex (Oppenheim, 2000).

7.7.1.3 Internal consistency

For the PICS scale on the questionnaire, the alpha was .833, which indicates 'good' internal consistency (George and Mallery, 2004; Kline, 1999). Cronbach's alpha would not change drastically if any one item were deleted. The largest difference would be if Q2 or Q7 were deleted, which would elicit a very minor increase the alpha from .833 to .837 (see Table 7.5).

Table 7.5: Impact of deleting PICS items on internal consistency

Question	Cronbach's alpha if item deleted
Q1	.835
Q2	.837
Q3	.825
Q4	.821
Q5	.825
Q6	.826
Q7	.837
Q8	.824
Q9	.821
Q10	.824
Q11	.831
Q12	.822
Q13	.821
Q14	.817
Q15	.825
Q16	.827
Q17	.816
Q18	.817
Q19	.833
Q20	.830
Q21	.833
Q22	.835
Q23	.831

7.7.1.4 Item-total correlations

These correlations are between each item (e.g. Q1) and the total of the scale minus that item (e.g. Total-Q1). This process highlighted whether the scale was homogeneous—that is, whether all the items were measuring the same construct. Items that have a correlation, whether negative or positive, of less than 0.2 do not vary in line with the scale to which they belong and should be considered for deletion. Streiner and Norman (2008) suggest that Pearson's correlations (r) are suitable for item-total, which should be above 0.2 (Kline, 1986). For the PICS scale, Q2, Q7, Q21 and Q22 had positive

correlations lower than 0.2 (Table 7.6).

Table 7.6: PICS item-total correlations

	Pearson's correlation (<i>r</i>)	How this issue was addressed
Q2. I imagine caring for and looking after the unborn baby	.15	Changed to Q2. I imagine caring for the unborn baby
Q7. I've thought about how I'm carrying on my family by having the unborn baby	.13	Deleted
Q21. I understand how genes affect the baby	.18	Response options changed
Q22. I think genes are really important for how the baby will turn out	.15	Deleted

7.7.2 Item analysis: Screening scale

7.7.2.1 Mean responses

The mean value was an extreme end for two items, shown in Table 7.7. The problem was dealt with by changing the response options for Q24 and deleting Q32.

Table 7.7 Screening mean scores

Item	Mean
Q24 (I feel that it is important that I attend the appointments for the screening tests)	4.43
Q32 (Being involved in the screening appointments and discussions is more about being a good father than being a good husband/boyfriend)	2.12

7.7.2.2 Endorsement

The questions in table 7.8 had options with low endorsement

Table 7.8: Screening items with low endorsement

Item	Response option with low endorsement (<5%)	Solution
Q24 I feel that it is important that I attend the appointments for the screening tests	Strongly disagree, disagree and not sure.	Changed to “It is important that men go to the appointments for the screening tests”
Q26 I feel that as the father, I have as much right as the mother to make decisions about whether to have screening tests	Strongly disagree	Response options changed
Q27. If the mother I disagreed on decisions about screening, I’d want the mother to make the final decision	Strongly disagree, Disagree	Combined questions: If the mother and I disagreed about screening, I’d want us to talk and make a decision, rather than her making decisions alone If the mother and I disagreed about screening, I’d want us to talk and make a decision, rather than her making decisions alone
Q28 If the mother and I disagreed on decisions about screening, I’d want us to talk until we came to an agreement	Strongly disagree	
Q31 Any decision about screening for the unborn baby should be a joint decision, between me and the mother	Strongly disagree and disagree	Response options changed
Q32 Being involved in the screening appointments and discussions about screening is part of being a good husband / boyfriend	Strongly disagree.	Deleted – overly complex

7.7.2.3 Internal consistency

Cronbach's alpha for the screening scale was .622, which approached acceptability. The impact on the alpha of deletion is shown in table 7.9. The alpha would increase if the items that had low mean scores—Q24 and Q32— were deleted.

Table 7.9: Impact of deleting screening items on internal consistency

Question	Cronbach's alpha if item deleted
Q24	.644
Q25	.499
Q26	.591
Q27+Q28	.604
Q29	.545
Q30	.568
Q31	.519
Q32	.712

7.7.2.4 Item-total correlations

Two items had a item-total correlation below 0.2, negative and positive, respectively.

These were the same items that had a low mean (Table 7.7): Q24 ($r=-.020$) and Q32: ($r=.064$). Q24 was changed to read ‘It is important that men go to the appointments for the screening tests’. Q32 was deleted because its problems may have stemmed from it being an over complex or ambiguous sentence.

7.8 Round 5 pretesting

Since some of the original screening questions were removed, some additional items were added, the new questions were pretested with ten more participants (appendix 3.6). Following this pretesting, the question “I’ve felt sure about my feelings about being a dad (or being a dad again)” was deleted due to ceiling effects (nine participants answered with ‘I’ve felt completely sure’). The question was also deemed to be ambiguous.

7.9 The final scale

Before finalising the questionnaire, it was analysed using an online program called ‘question understanding aid’ (QUAID; Graesser et al., 2006). This program highlighted words and phrases in an uploaded questionnaire that were ambiguous or potentially difficult to understand. One word that was identified as potentially ambiguous was ‘genetic’. In the final questionnaire, presented in the introduction of the next chapter, terms such as genes or genetics were therefore removed and replaced with phrases like ‘physical part of me’ and ‘flesh and blood’. These phrases were taken from the open ended answers provided by one of the participants (R4P5) who wrote “this baby is a part of my own body and flesh” when asked what ‘genes’ meant to him in pretesting.

7.10 Chapter summary

In the current study, two psychometric scales were developed, based on the results from the interview study. The development of the scales involved item pooling, whereby a list of items relating to paternal identity, child-schema, and screening experiences, were brainstormed. Items were written to reflect genetic and social/emotional aspects of paternal identity, and current and anticipated feelings towards the child (to represent the child-in-womb and child-in-head, respectively). These items were then reduced through evaluation. A draft of the questionnaire was pretested with 30 men, recruited from two inner-city hospitals. Pretesting involved asking men questions about the questionnaire, such as what certain words and phrases meant to them, and asking them to evaluate its layout. After each round of pretesting, changes were made to the questionnaire based on men’s comments. After the fourth round of pretesting, a pilot draft of the questionnaire

was administered to 53 men, recruited from one inner-city teaching hospital. The piloting results were subject to an item analysis, where the skew (mean response and level of endorsement) and reliability (internal consistency and item-total correlations) were checked for both scales. Any items with poor psychometric properties were deleted. These items included those where participants had all answered at one end of the response option scale, and those that had a low score on the reliability measure (Cronbach's alpha). After these changes were made, the questionnaire was reviewed using QUAID software to identify any remaining ambiguous words or phrases. Following this, the word 'genes' was replaced with phrases such as 'flesh and blood'. The resultant questionnaire consisted of 30 questions, and assessed men's scores on screening views, and how they might impact on PICS. The results of these analyses are presented in the next chapter.

CHAPTER 8: IMPACT OF SCREENING ON PRENATAL PATERNAL IDENTITY AND CHILD-SCHEMA: FINAL QUESTIONNAIRE RESULTS

8.1 Introduction

Following the pretesting described in Chapter 7, two scales were produced to measure (1) men's scores on a 'paternal identity and child-schema' (PICS) and (2) men's screening views, which looked at men's thoughts, experiences and views about screening. These scales were administered to investigate the research questions in section 7.1. The aim of this quantitative phase was to investigate the grounded theory in more depth, which was that men's involvement in screening had an impact on their prenatal paternal identity, and on their child-schema. More specifically, the aim was to explore how screening impacted on men's prenatal paternal identity and child-schema.

In the Grounded Theory analysis, men who faced anomalies had more distinct genetic and social aspects to their prenatal paternal identity than men who did not face anomalies. Men with anomalies also had more distinct anticipated (child-in-head) and current (child-in-womb) aspects to their child-schema. Men who did not face anomalies had their prenatal paternal identity and child-schema reinforced by their participation in screening. Since the sample to which the questionnaire would be administered was different to the sample interviewed, it could not be assumed that men's prenatal paternal identity would have a genetic and a social aspect, and that their child-schema would comprise of a child-in-womb and a child-in-head. It was therefore important to conduct an Exploratory Factor Analysis (EFA), explained further in section 8.2, to explore the

underlying structure of PICS for men more generally, before looking at how screening affected men's prenatal paternal identity and their child-schema. The questionnaire that was administered is presented in Figure 8.1.

Figure 8.1: Final questionnaire

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Men's experiences of pregnancy

- With this project, we are hoping to get a better idea of what men think and feel during pregnancy.
- Please read each statement and the answers, and circle the answer that comes closest to how you feel.
- If you are unsure about your answer, the first answer you think of is probably the best one.
- This questionnaire should be filled out by the expectant dad. Please answer on your own!
- Answer in relation to how you've been feeling **for the past two weeks**

Q1. I've talked to the unborn baby

Often	Quite often	Sometimes	A bit, but not much	Not really
-------	-------------	-----------	---------------------	------------

Q2. I've imagined myself looking after the unborn baby

Very often	Often	Sometimes	A bit, but not much	Not really
------------	-------	-----------	---------------------	------------

Q3. I've imagined ways that the unborn baby will look like me and the mother

Very often	Often	Sometimes	A bit, but not much	Not really
------------	-------	-----------	---------------------	------------

Q4. I've thought about how the growing baby is physically made of me

Very often	Often	Sometimes	A bit, but not much	Not really
------------	-------	-----------	---------------------	------------

Q5. I've thought about what parts of me will be passed on to the unborn baby

Very often	Often	Sometimes	A bit, but not much	Not really
------------	-------	-----------	---------------------	------------

Q6. I've thought about how the baby is our flesh and blood

Very often	Often	Sometimes	A bit, but not much	Not really
------------	-------	-----------	---------------------	------------

Q7. I've felt emotionally close to the unborn baby

Very often	Often	Sometimes	A bit, but not much yet	Not yet, but I know I will when he/she's born
------------	-------	-----------	-------------------------	---

Q8. I've thought about what physical parts of me will be passed on to the unborn baby

Very often	Often	Sometimes	A bit, but not much	Not really
------------	-------	-----------	---------------------	------------

Q9. I've thought about ways I will bond with the baby when he/she is born

Very often	Often	Sometimes	A bit, but not much	Not really
------------	-------	-----------	---------------------	------------

Q10. I've thought about what family traits will be passed on to the unborn baby

Very often	Often	Sometimes	A bit, but not much	Not really
------------	-------	-----------	---------------------	------------

Q11. I have felt attached to the unborn baby

I've felt completely attached all the time	I've felt attached most of the time	I've felt a bit attached	Not yet, but I know I will when he/she's born	I haven't felt attached yet
--	-------------------------------------	--------------------------	---	-----------------------------

Q12. I've felt committed to the unborn baby

I've felt completely committed all the time	I've felt committed most of the time	I've felt committed quite often	I've felt committed at times	I've haven't really felt committed yet
---	--------------------------------------	---------------------------------	------------------------------	--

Q13. I've felt a bond to the unborn baby

There's no one I feel more bonded to	I've felt a very strong bond	I've felt quite a strong bond	I've felt a bit of a bond	I haven't felt a bond yet, but I will when he / she is born
--------------------------------------	------------------------------	-------------------------------	---------------------------	---

Q14. It's felt real that I'm going to be a dad (or be a dad again):

Completely real	Mostly real	Quite real, but still a bit unreal	Hasn't felt very real	Hasn't felt very real at all
-----------------	-------------	------------------------------------	-----------------------	------------------------------

Q15. I've thought about how the unborn baby is a physical part of me

Very often	Often	Sometimes	A bit, but not much	Not really
------------	-------	-----------	---------------------	------------

Q16. I understand how my genes (my DNA) might affect the baby

I understand completely	I think I understand	I'm not sure	I don't think I understand	I don't really understand
-------------------------	----------------------	--------------	----------------------------	---------------------------

Q17. At the moment, I think the mother feels a stronger emotional link to the baby than me

I strongly agree	I mostly agree	I'm not sure	I don't agree	I don't agree at all
------------------	----------------	--------------	---------------	----------------------

The next few questions are about pregnancy screening tests. These tests are offered to pregnant women to check whether the unborn baby is healthy. The tests normally involve blood tests and ultrasound scans. For a small number of people, the screening tests show that the baby **might** be at a higher risk than normal of having a condition like Down syndrome. If this happens, then you may be offered more tests. These screening tests are all optional – some people choose not to have them.

Q18. It is important that men go to the appointments for the screening tests

I strongly agree	I mostly agree	I'm not sure	I don't agree	I don't agree at all
------------------	----------------	--------------	---------------	----------------------

Q19. I personally want to go to the screening appointments

I strongly agree	I agree	I'm not sure	I don't agree	I don't agree at all
------------------	---------	--------------	---------------	----------------------

Q20. As the dad, I think I should know a bit about the screening tests offered in pregnancy

I strongly agree	I mostly agree	I'm not sure	I don't agree	I don't agree at all
------------------	----------------	--------------	---------------	----------------------

Q21. Spending some time talking to the mother about screening is important to me

It's very important to me	It's important to me	It's a little important to me	It's not that important to me	It's not important to me at all
---------------------------	----------------------	-------------------------------	-------------------------------	---------------------------------

Q22. As the dad, I have as much right as the mother to make decisions about whether to have screening tests

I definitely have as much right	I think I have the same right	I'm not sure	I don't think I have the same right	I don't agree that I have the same right at all
---------------------------------	-------------------------------	--------------	-------------------------------------	---

Q23. If the mother and I disagreed about screening, I'd want us to talk and make a decision, rather than her making decisions alone

I'd definitely want us to talk and decide	I think I'd want us to talk and decide together	I'm not sure what I'd want	I think I'd want her to make the	I'd definitely want her to make the decision
---	---	----------------------------	----------------------------------	--

together			decision alone	alone
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Q24. Any decision about screening for the unborn baby should be a joint decision, between me and the mother

I strongly agree, it should definitely be a joint decision	I agree, it should be a joint decision	I'm not sure	I don't agree – it should be the woman's decision	I don't agree at all– it should definitely be the woman's decision
--	--	--------------	---	--

Q25. I'd only want information about screening if something was wrong with the baby

I strongly agree	I agree	I'm not sure	I don't agree	I don't agree at all
------------------	---------	--------------	---------------	----------------------

Q26. I'd rather let midwives' tell me about screening than find information on my own

I strongly agree	I agree	I'm not sure	I don't agree	I don't agree at all
------------------	---------	--------------	---------------	----------------------

Q27. I'd rather have a shorter appointment, even if it meant getting less information about screening from midwives

I strongly agree, (shorter appointment)	I agree	I'm not sure	I don't agree	I don't agree at all, (more information)
---	---------	--------------	---------------	--

Q28. I've wondered whether we should bother with the screening tests

I've wondered this a lot	I've wondered this quite a lot	I've wondered this a bit	I haven't really wondered this	I haven't wondered this at all
--------------------------	--------------------------------	--------------------------	--------------------------------	--------------------------------

Q29. Men's only role in screening is to support women

I strongly agree	I agree	I'm not sure	I don't agree	I don't agree at all
------------------	---------	--------------	---------------	----------------------

Q30. Would you like to see more information for fathers about screening and testing in pregnancy?

Yes ☐ Circle how you would like to get this information

Midwife / Father's support worker / Internet / Leaflet/TV

No ☐ If no, could you say why?

8.2 Outline of tests used

All of the statistical terms used in this chapter, and the statistical tests, are explained in detail in Appendix 5. The major tests used are outlined below.

Men's scores on the PICS and screening scales were subjected to some initial item analysis to identify items with poor psychometric properties. Subsequently, EFA was conducted to identify the latent variables that underpinned (1) paternal identity and child-schemata, and (2) views about screening. The factors that were derived from this EFA were then explored further, firstly to see if certain demographics of men scored more highly than others on the resultant factors and secondly to see how demographic variables and men's scores on screening factors impacted their scores on PICS factors. Mann Whitney tests were administered to compare groups of participants on the factors, and correlations were conducted to identify variables that were related to each other. Finally, regression analyses were conducted to predict men's scores on the PICS factors from demographic variables and their scores on the 'screening views' factors.

The factors were used for these tests, rather than a PICS score total (i.e. a total of all the items on the PICS scale) and a 'screening views' score total (i.e. a total of all the items on the PICS scale), because it could not be assumed that the concepts (PICS and 'screening views') were unidimensional. Rather, it was assumed that they were

comprised of various latent variables, which were made identifiable through factor analysing the data.

8.3 Method

A cross-sectional questionnaire was administered to men, who were recruited face-to-face from an inner city teaching hospital. As mentioned in the previous chapter, the hypotheses were

1. Prenatal paternal identity and child-schemata will consist of various underlying factors
2. Demographics and scores on ‘screening views’ factors will have some effect on men’s score on PICS factors

8.3.1 Design

Following REC and R&D approvals, the final cross-sectional questionnaire was administered to men. All questions were closed-ended.

8.3.2 Procedure

The same procedure was used as in pretesting and piloting. A sample information sheet, consent form, and demographics questionnaire are in Appendices 4.1, 4.2 and 4.3, respectively. As mentioned in section 7.7, during piloting, it was observed that some women were looking at men’s answers. Since the questionnaire was intended for men to complete alone, a way to minimise women’s intervention was warranted. Thus when men were given the questionnaire to complete, women were given information about

another study taking place at University of Birmingham exploring birthing positions in labour. From observing men and women completing the questionnaire, providing this leaflet appeared to help limit women's intervention. An observational record was kept of which women may have interrupted men's questionnaire completion; however it was not possible to keep a completely accurate record.

8.3.3 Measures

The final version of the questionnaire was administered. It consisted of 29 items. Questions 1 – 17 asked about PICS. Questions 18 – 29 asked about opinions on screening. An additional question was appended to assist in the development of interventions to get screening information to men, which asked if men would like to see more information for fathers about screening and testing in pregnancy. If they answered yes, they were asked to indicate how they would like to receive such information (Midwife / Father's support worker / Internet / Leaflet/TV). The data collected from this question would be useful for designing interventions to get information about screening to men.

8.3.4 Sample size

For EFA, a variable to subject ratio of 5:1 is considered adequate to determine sample size (McAllister et al., 2011; Streiner and Norman, 2008). Since there were 29 items, 145 participants would have been sufficient.

An *a priori* power calculation was also conducted to determine sample size using

G*Power software, which required the effect size (the size of the difference between experimental groups), p -value, required power and number of predictor variables.

A conservative estimate of 0.09 was made of the effect size. This value lies between the conventionally small (0.02) and medium effect sizes (0.15) (Cohen, 1992). Another option would have been to run a regression analysis with the pilot data to gauge what the effect size was in that sample. However Kraemer et al. (2006) caution against using pilot studies to determine effect sizes; they suggest that by their nature, pilot studies highlight where changes need to be made in the final study, and that these changes can cause the effect size that was calculated from the pilot data to become an inaccurate estimate for the effect size in the final study. Indeed, with the current study, the final questionnaire was slightly different to that which was piloted. The p -value was set at the standard value of 0.05.

For the regression analysis, the outcome variable would be the PICS factors. Predictor variables would include demographics: (1) age, (2) ethnicity, (3) whether the participant had other children, (4) socioeconomic status, (5) number of antenatal screening scans seen, (6) presence or lack of fetal anomaly and (7) whether fetal movements had been felt. ‘Screening views’ factors would also be included as a predictor. However, as explained in section 8.4, the screening scale would be broken down into subscales—or factors—using EFA. Since it was not clear how many factors would emerge from the factor analysis, the number of predictor variables was undeterminable at this stage.

As outlined in Appendix 5, the required power was 0.8, which means there would be a 80% chance of detecting an effect if it existed (Field, 2005). With an estimate that the scale would break down anywhere between two and five factors, the total number of predictors would range between nine and twelve. Between 183 and 204 participants were thus required. In total, 222 participants were given questionnaires.

8.3.5 Data analysis

SPSS version 20 was used to conduct descriptive statistics (section 8.4.1), classical item analysis (section 8.4.2 and 8.4.3), EFA (section 8.4.4 and 8.4.5), univariate statistics (section 8.4.7) and multiple regression analyses (section 8.4.8).

8.4 Results

The results of the descriptive analyses are presented first, followed by results of the item analysis for PICS and ‘screening views’, which was conducted to remove any remaining items with poor psychometric properties. Next, the results of the EFA are presented. The results of the univariate analyses and regression analyses are subsequently presented.

8.4.1 Descriptive statistics

The response rate was 90%, meaning that of the 222 men who were given questionnaires, 200 returned them. Of these, 195 were returned completed. The other 5 were returned with some missing data, meaning totals do not consistently sum to 200. Missing data is discussed further in section 8.4.4.1. Demographic details for those who returned their questionnaires are presented below. Confidence intervals (CIs) are also

reported at the 95% level.

Participants were aged between 18 and 48 (mean 31.77, S.D = 5.85). There were 114/185 (57%; CI ± 7.13) white participants, and 71/185 (35.5%; CI ± 6.9) black and ethnic minority participants. These participants were mainly Black African/Caribbean or Asian Indian/Pakistani.

There were 91/167 (45.5%; CI ± 7.55) men from a lower socio-economic status 9/167 (4.5%; CI ± 3.14) from a middle socio-economic status and 67/167 (33.5%; CI ± 7.16) from high socio-economic status. Comparisons between these data and the ethnicity and socioeconomic status of people in Birmingham and England are presented in Table 8.1.

Table 8.1: Generalisability of ethnicity and socioeconomic status

	Ethnicity (ONS, 2011)		Socioeconomic status (Birmingham City Council, 2005)		
	White	BME	Lower	Middle	Higher
Sample	57%	35.5%	45.5%	4.5%	35.5%
Birmingham	68.0%	32%	31.5%	19.8%	21.7%
England	82.7%	11.8%	24.4%	23.7%	26.8%

In table 8.1, socioeconomic data were taken from the 2001 census as 2011 findings were yet to be published, meaning the data may now be less accurate. Since the current study used a three-tiered classification for socioeconomic statuses and census data uses a ten-

tiered classification, the lower socioeconomic status figures for Birmingham and England in the table are aggregates of the percentages of people working in semi-routine or routine jobs, and those who had never worked or had been unemployed long-term. The middle status is an aggregate of those employed by intermediate and smaller employers, and those working in lower supervisory or technical occupations. The higher status is an aggregate of those working for large employers in higher managerial, higher professional, lower managerial and lower professional roles.

The ethnicity figures for the current sample and for Birmingham are quite similar, suggesting that the sample recruited was in one way generalisable to the population of Birmingham. The socioeconomic status figures for the sample and Birmingham are less similar, but in both sets, the percentage of people from a lower socioeconomic status was greatest, followed by higher, followed by middle. The sample characteristics are less similar to the figures for England, meaning the findings may have only limited generalisability to England's population.

In the current sample, most men, 125/189, were married; (62.5%; CI \pm 6.9), with 51/189 (25.5%; CI \pm 6.21) living with their partners, 11/189 (5.5%; CI \pm 3.25) not living with their partners, and 2/189 (1%; CI \pm 2) who were not in a relationship with the pregnant woman. Comparable data for Birmingham and England were unavailable.

Men's partners were between 9 and 42 weeks pregnant (Mean 23.73, S.D 9.18). A substantial proportion of pregnancies were at 12 weeks' (n=28, 14%), 20 weeks' (n=24,

12%), or 28 weeks' (n=25, 12.5%). Men were likely to have been at the antenatal unit around these times due to the 12-week nuchal translucency scan, 20-week anomaly scan and 28 week growth scan respectively.

Of those who answered the question about fetal anomalies (n=186), most men, 170/186 (91.9%; CI ± 3.92) reported that there were no anomalies, whereas 16/186 (8.6%; CI ± 4.03) reported an anomaly, although not all were genetic. Of those who stated what the anomalies were, three men reported that the fetuses were underweight; four said there was maternal gestational diabetes; two said there were problems with the placenta; one had a high-risk for Down syndrome; one had a high-risk for spina bifida; and three had fetuses with heart, lung or kidney anomalies, respectively.

Regarding attendance, 149/186 (80.1%; CI ± 5.74) attended the booking in appointment, 36/186 (19.4%; CI ± 5.68) did not, and 1/186 (0.5%; CI ± 1.43) was not sure.

For the 12-week scan, 2 of the 189 men who answered the question had not been offered the scan yet (1%, CI ± 3.46). Of those who had, 177/187 (94.7%; CI ± 3.21) attended, 8/187 (4.3%; CI ± 2.91) did not attend, 2/187 (1.1%; CI ± 1.47) were unsure. For the 20-week scan, 56 of the 189 men who answered had not been offered the scan yet (29.6%; CI ± 6.54). Of those who had, 128/133 (96.2%; CI ± 3.25) had attended, 5/133 (3.8%; CI ± 3.25) had not.

Men were asked whether they wanted more information about screening. Most wanted

more information (160/200, 80%; CI ± 5.54), with 31/200 (15.5%; CI ± 5.02) suggesting they did not want more information. Some of the men who did not want more information gave reasons for their choice, the majority of which stated that men already received sufficient information through their partners, midwives or internet. One participant suggested that “men don’t read much” and another stated he was a medical doctor.

Those who wanted more information were asked to state how they would like to receive such information, and were allowed to choose more than one option. Of the 160 men who wanted more information, 137 chose their preferred methods. The most popular suggestion was through midwives, 90/137 (65.7%; CI ± 7.95), followed by leaflet, 53/137 (38.7%; CI ± 8.16), internet, 44/137 (32.1%; CI ± 7.82), fathers support worker, 18/137 (13.1%; CI ± 5.65) and finally television (18/137; 13.1%; CI ± 6.43).

8.4.2 Item analysis: PICS scale

After the men had completed the questionnaire, an item analysis was conducted, in the same way as it was for pretesting. A note was made of any item that had flaws, e.g. items that had negative skew, or had low reliability. After item analyses, all of the items that had flaws were reviewed and decisions were made about which data to delete (see section 8.4.4.1).

8.4.2.1 Mean responses

Section 7.1.1.1 explains the importance of mean values and skewed responses. From the 200 men who answered the questions, mean values ranged between 2.9 and 3.9.

However four items had extreme values (Table 8.2). The data collected for this item were considered for deletion from the analyses.

Table 8.2: PICS mean scores

Item	Mean
Q12	4.51
Q14	4.10
Q16	4.33
Q17	1.74

8.4.2.2 Endorsement

Low endorsement is explained in section 7.1.1.2. Four items had low endorsement, as shown in Table 8.3. That is, they had response options that were selected by less than 5% of the sample. The data collected for these items were considered for deletion from the analyses.

Table 8.3: PICS items with low endorsement

Item	Response options with <5% endorsement
Q11. I have felt attached to the unborn baby	I haven't felt attached yet
Q12. I've felt committed to the unborn baby	I've felt committed at times I've haven't really felt committed yet
Q16. I understand how my genes (my DNA) might affect the baby	I don't think I understand I don't really understand
Q17. At the moment, I think the mother feels a stronger emotional link to the baby than me	I strongly agree

8.4.2.3 Internal consistency

Section 7.6.1.3 outlines a definition of internal consistency. Cronbach's alpha was 0.91 which indicates good internal consistency (George and Mallery, 2004; Kline, 1999). As Table 8.4 indicates, there would be no major changes if any one item were deleted. Positive item-total correlations were well above 0.2, with the exception of Q17 ("At the moment, I think the mother feels a stronger emotional link to the baby than me", $r = .15$). The item was not likely to have been measuring PICS as well as the other items. The data collected for this item were considered for deletion from the analyses.

Table 8.4: Impact of deleting PICS items on internal consistency

Item	Cronbach's alpha if item deleted
Q1	.904
Q2	.902
Q3	.900
Q4	.898
Q5	.900
Q6	.901
Q7	.899
Q8	.897
Q9	.899
Q10	.900
Q11	.898
Q12	.904
Q13	.900
Q14	.910
Q15	.896
Q16	.909
Q17	.912

8.4.3 Item analysis: screening scale

8.4.3.1 Mean response

The mean values, depicted in Table 8.5, indicated that more the extreme ends of the response scales were more frequently endorsed.

Table 8.5: Screening mean scores

Item	Item facility
Q18	4.61
Q19	4.66
Q20	4.66
Q21	4.49
Q22	4.23
Q23	4.62
Q24	4.58
Q26	2.44
Q28	4.18

8.4.3.2. Low endorsement

For eight items shown in Table 8.6, there were response options which were endorsed by less than 5% of the sample.

Table 8.6: Screening items with low endorsement

Item	Response option with endorsement issue <5%
Q18. It is important that men go to the appointments for the screening tests	I don't agree I don't agree at all
Q19. I personally want to go to the screening appointments	I'm not sure I don't agree I don't agree at all
Q20. As the dad, I think I should know a bit about the screening tests offered in pregnancy	I'm not sure I don't agree I don't agree at all

Q21. Spending some time talking to the mother about screening is important to me	It's not that important to me It's not important to me at all
Q22. As the dad, I have as much right as the mother to make decisions about whether to have screening tests	I don't agree that I have the same right at all
Q23. If the mother and I disagreed about screening, I'd want us to talk and make a decision, rather than her making decisions alone	I'm not sure what I'd want I think I'd want her to make the decision alone I'd definitely want her to make the decision alone
Q24. Any decision about screening for the unborn baby should be a joint decision, between me and the mother	I'm not sure I don't agree – it should be the woman's decision I don't agree at all – it should definitely be the woman's decision
Q28. I've wondered whether we should bother with the screening tests	I haven't really wondered this

The low endorsement of all these items could cause further statistical analyses to be unreliable. However as Meyer-Bahlburg and Steel (2003) argue, some responses are likely to receive higher endorsement because of the sample population recruited. It is unsurprising that men endorsed the options that indicated they saw screening as important, because men were recruited from an antenatal screening unit. Subsequent analyses are to be interpreted taking this limitation into account

8.3.2.3 Internal consistency

Cronbach's alpha for the screening scale was .67, which approaches acceptability (George and Mallery, 2003). While values of .7 or above are desirable, lower values can be expected when measuring psychological concepts, because of variability between participants and the diversity of constructs (Field, 2005 p.668; Kline, 1999). The effect on internal consistency if items are deleted is shown in Table 8.7.

Table 8.7: Screening internal consistencies

Item	Cronbach's alpha if item deleted
Q18	.639
Q19	.640
Q20	.646
Q21	.649
Q22	.668
Q23	.654
Q24	.652
Q25	.653
Q26	.678
Q27	.632
Q28	.664
Q29	.624

Item total correlations were positive and above 0.2, apart from for Q26 ($r=.18$).

8.4.4 EFA: PICS scale

A separate factor analysis was conducted for the PICS scale and the screening scale.

The chosen method of EFA was principal axis factoring.

8.4.4.1 Missing data, deleted items and rotation

Missing data were replaced using mean imputation, which involves replacing missing data with the sample's mean for that item. This process is suitable when less than 5% of values are missing (Fox-Wasylyshyn and El-Masri, 2005; Streiner and Norman, 2008).

In this case, there was 0.58% data missing overall, and no one item had more than 1.5% missing data. To improve EFA, the data from items with very high positive correlations with other questions (i.e. where an increase in one item score accompanies an increase in another), or items with poor psychometric properties, should be deleted. Thus data for

some questions were deleted from the PICS EFA.

- Q8: high positive correlation with Q5 ($r=.798$)
- Q11: high positive correlation with Q7 ($r=.717$) and Q13 ($r=.697$)
- Q15: high positive correlation Q5 ($r=.606$), Q6 ($r=.643$) and Q8 ($r=.657$)
- Q16: skewed responses and non-useful question
- Q17: low item-total correlation

To identify the items that made a statistically significant contribution to the factors, only those items that loaded onto factors at $r=.364$ and above were interpreted. When the sample size is 200, .364 is the value at which factor loadings are statistically significant, so those items with loadings above this value can be assumed to provide an important contribution to the factor (Field, 2005).

8.3.4.2 EFA results

Since the sample consisted mainly of men who have not experienced a fetal anomaly, it could not be assumed *a priori* what underlying factor structure for the PICS scale would be. That is, it was unclear what paternal identities and child-schemata would consist of. The EFA results show what prenatal paternal identity and child-schema consisted of in this study.

The results of the factor analysis, using ‘direct oblim’ rotation, are shown in a pattern matrix of factor loadings (Table 8.8). The factor loadings for genetic relationship and imagined interactions are negative. In factor analysis, the signs before the factor loading are arbitrary. What they mean here is that the factors should be entitled

something like ‘few thoughts about genetic relationship’ and ‘few imagined interactions’; the negative loadings would reflect that men did indeed have thoughts about their genetic relationship, and had imagined interactions. However for simplicity, the negative scores are ignored for now, until the regression analysis.

From the pattern matrix, a three-factor structure emerged. These three factors were (1) bonding and closeness to the fetus, (2) thoughts about the genetic relationship to the child, and (3) men’s imagined interactions with the child. These factors were the underlying facets of prenatal paternal identity and child-schemata for men in the study. For further confirmation that a three factor solution was appropriate, the point of inflexion was identified on the scree plot (Figure 8.2). The inflexion point is where there is a descent in the curve and where the values tail off.

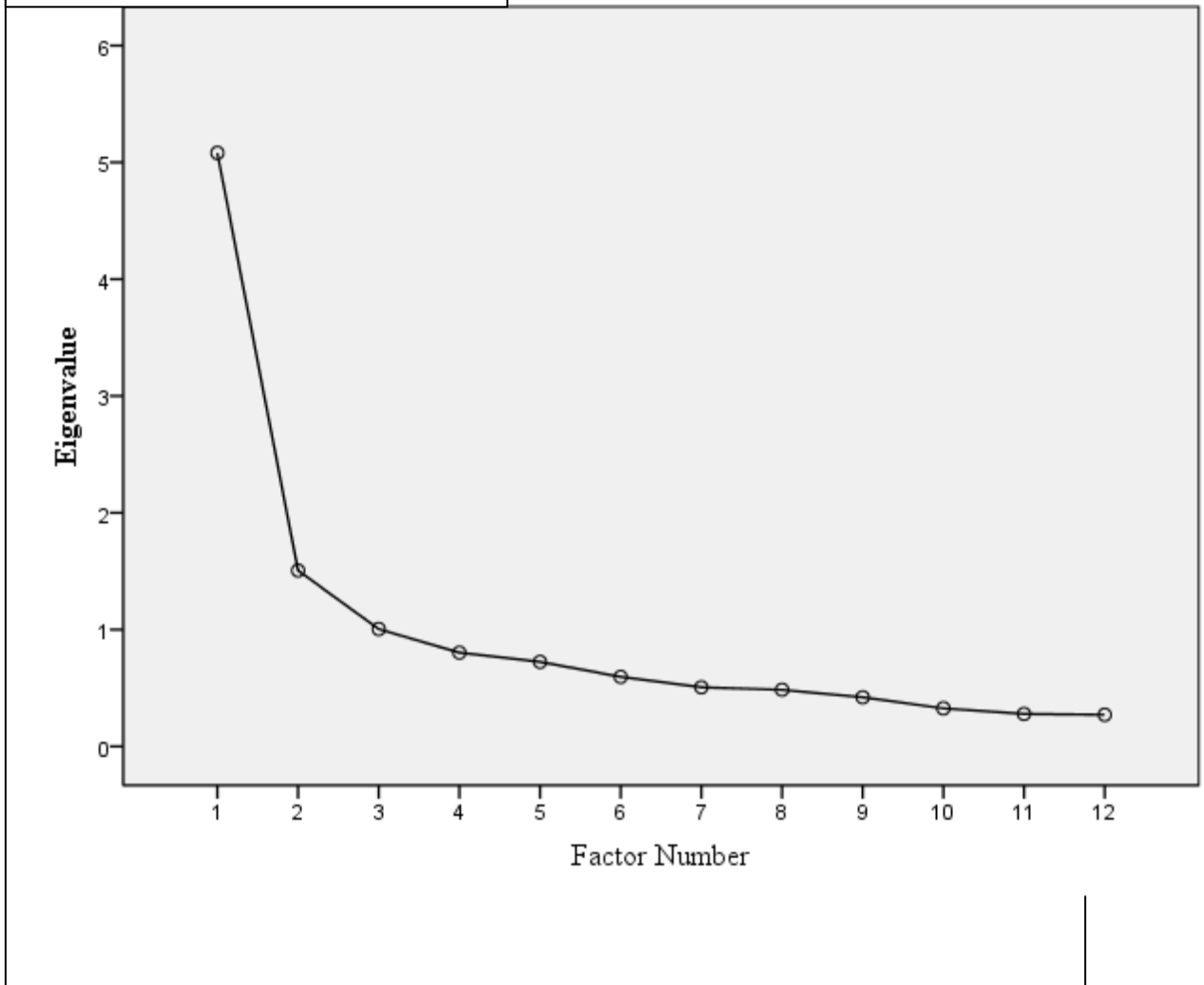
Table 8.8. PICS factors and loadings

	Factors and loadings (<i>r</i>)		
	Bonding and closeness	Genetic relationship	Imagined interactions
Q13: I've felt a bond to the unborn baby	.751		
Q7: I've felt emotionally close to the unborn baby	.699		
Q9 I've thought about ways I will bond with the baby when he/she is born	.544		
Q12. I've felt committed to the unborn baby	.455		
Q14. It's felt real that I'm going to be a dad (or be a dad again):	.444		
Q5. I've thought about what parts of me will be passed on to the unborn baby		-.865	
Q10. I've thought about what family traits will be passed on to the unborn baby		-.678	
Q4 I've thought about how the growing baby is physically made of me		-.663	
Q6. I've thought about how the baby is our flesh and blood		-.654	
Q3. I've imagined ways that the unborn baby will look like me and the mother			-.809
Q1. I've talked to the unborn baby			-.553
Q2. I've imagined myself looking after the unborn baby			-.468

To check the reliability of the factors, the Cronbach's alphas were recalculated for each of the factors. The values were acceptable, at .784, .841 and .736, respectively, indicating that the questions within each factor were measuring the same construct (George and Mallery, 2004; Kline, 1999). Hence, in the univariate analyses (section 8.4.7) and regression analyses (8.4.8), the way screening and fetal anomalies could impact on men's prenatal paternal identity and child-schema in terms of bonding and closeness emotions, imagined interactions, and thoughts about genetic relationship was explored.

The Kaiser-Meyer-Olkin measure of sampling adequacy was .826, indicating sampling was 'great' and correlations were relatively compact (Field, 2005). Second, Bartlett's test of sphericity was significant, indicating there were adequate correlations between variables. Third, in the anti-image matrix, the diagonal elements were all above 0.5, and the off-diagonal elements were close to zero meaning partial correlations between the variables were small. These three statistics thus indicated that the EFA should yield distinct and reliable factors. In a comparison between the correlation matrix based on the model and the correlation matrix based on the observed data, there were few differences. Field (2005) suggests there should be fewer than 50% with differences greater than .5. Here, there were 4% had a difference greater than .5, suggesting the model was a good fit of the data.

Figure 8.2: Scree plot for PICS scale



8.4.5 EFA: Screening scale

8.4.5.1 Missing data, deleted items and rotation

Since there was just 2.9% missing data overall, and as no item had more than 5% missing values, missing data were again replaced using mean imputation. Data from Q18 were deleted because there was a high positive correlation with Q19 ($r=.738$) and had skewed responses. Data from Q26 were omitted because it had a low positive item-

total correlation with the rest of the screening scale.

An orthogonal rotation was used rather than oblique because the factors derived from the EFA would be used in a regression analysis. Uncorrelated factors were therefore required, since an assumption of regression analyses is that predictor variables should be uncorrelated. There are three types of orthogonal rotation. These are (1) varimax, (2) quartimax and (3) equimax. As Field (2005) suggests, varimax results in a simplified factor structure, so was used for the current dataset.

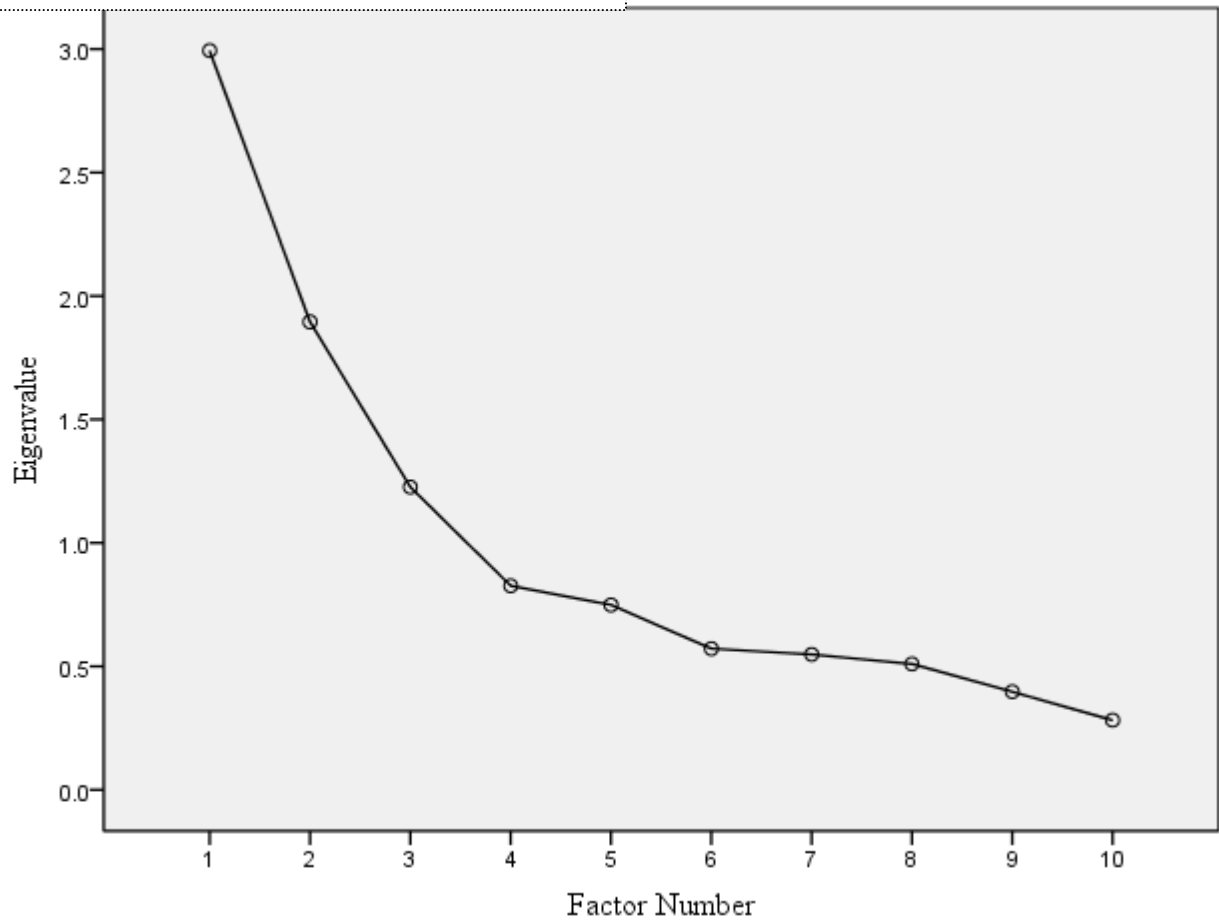
8.4.5.2 EFA results

Three factors were derived from the analysis, which suggested that there were three distinct activities or requirements with regards to screening. Firstly, involvement in screening warranted men's participation in decision-making. Secondly, involvement required men to actively invest some time in screening. Thirdly, screening involved valuing and getting the most out of the appointment. Thus for men in this study, screening views were underpinned by the three factors, (1) making decisions, (2) investing time and (3) wanting information. Again, the scree plot (Figure 8.3) confirmed that there were three factors. Table 8.9 shows the factor loadings. The Cronbach's alphas were .741, .765 and .637, suggesting that the first two factors had acceptable reliability, and the third approached acceptable reliability (George and Mallery, 2004; Kline, 1999).

Table 8.9: Screening factors and factor loadings

	Factors and loadings		
	Making decisions	Investing time	Wanting information
Q24: Any decision about screening for the unborn baby should be a joint decision, between me and the mother	.911		
Q23: If the mother and I disagreed about screening, I'd want us to talk and make a decision, rather than her making decisions alone	.672		
Q22. As the dad, I have as much right as the mother to make decisions about whether to have screening tests	.559		
Q20. As the dad, I think I should know a bit about the screening tests offered in pregnancy		.823	
Q21. Spending some time talking to the mother about screening is important to me		.688	
Q19. I personally want to go to the screening appointments		.598	
Q29. Men's only role in screening is to support women			.613
Q27. I'd rather have a shorter appointment, even if it meant getting less information about screening from midwives			.565
Q25. I'd only want information about screening if something was wrong with the baby			.548
Q28. I've wondered whether we should bother with the screening tests			.475

Figure 8.3: Scree plot for screening scale



The 'making decisions' factor appeared to be coherent; all of the items clearly measured some aspect of decision-making. The 'investing time' factor reflected how men wanted to spend talking about, or participating in, screening. The 'wanting information' factor reflected how men saw the screening appointments as important, and wanted to receive information about screening from them. In the 'investing time' and 'wanting information' factors, there was some overlap in content. For example, the item 'I'd rather have a shorter appointment, even if it meant getting less information about

screening from midwives' loaded onto the factor 'wanting information'. However the item was similar to the items that loaded onto the factor labelled 'investing time'. The overlap could suggest that the content validity of these factors was low—each factor might not be an accurate measure of one underlying variable.

Nevertheless, four statistics were calculated, and showed that the EFA yielded distinct and reliable factors. First, the Kaiser-Meyer-Olkin measure of sampling adequacy, was .727, indicating sampling was 'good' and correlations were relatively compact (Field, 2005). Second, Bartlett's test of sphericity was significant, indicating there were adequate correlations between variables. Third, the anti-image matrix, the diagonal elements were all above 0.5, and the off-diagonal elements were close to zero meaning partial correlations between the variables were small. Fourth, the correlation matrix based on the model and the correlation matrix based on the observed data were compared, and there were few differences; just 8% had a difference greater than .5, suggesting the model was a good fit of the data.

The next stage of the analysis was to test the grounded theory; the impact of 'screening views' factors on PICS factors. The factors derived from the 'screening views' EFA were used as predictor variables, and those derived from the PICS EFA were used as outcome variables. These analyses are discussed in the below sections

8.4.6 Factor scores

Factor scores take into account the weighting of each item on to its respective factor.

Three types of factor scores are (1) regression scores, (2) Anderson-Rubin scores and (3) Bartlett scores. For the PICS EFA, regression scores were used. These are factor loadings which have been “adjusted to take account of initial correlations between variables [...and] differences in units of measurements and variable variances are stabilized” (Field, 2005 p.626). Field and Tabachnick and Fidell (2001) suggest regression scores should be used unless uncorrelated factor scores are required, in which case Anderson-Rubin scores should be used. Since the PICS factors would be the outcome variable, whether they were correlated was unimportant. Conversely, it was important for the screening factors (the predictor variables) to be uncorrelated. Anderson-Rubin scores were therefore used for the screening factors.

Sections 8.3.3 and 8.3.4 have explored the underlying structure of prenatal paternal identity/child-schema, and men’s views about screening. Univariate analyses were used to explore these results further. In each such analysis, one variable was used to divide men into groups, for example whether men had children already. How the groups differed on the factors that made up prenatal paternal identity and child-schema were then explored. Similarly, the differences between groups on the factors that made up ‘screening views’ were also explored.

8.4.7 Univariate statistics

Since data were not normally distributed, non-parametric tests were used.

8.4.7.1 PICS variables

A Mann-Whitney test showed that on the ‘imagined interactions’ factor, those who had felt fetal movements scored significantly higher (mean=81.88) than those who had not (mean rank=112.75), $U = 5407.5$ (3.788 standardised), $p < .001$, $r = .28$.

Spearman’s correlations were conducted as data were not normally distributed.

Imagined interactions was significantly and positively correlated with men’s age ($r_s = .176$, $p = .016$), weeks pregnant ($r_s = -.240$, $p = .001$) and number of scans ($r_s = -.255$, $p < .001$), where younger men, those who were further into their pregnancy, and those who had seen more scans, scored more highly, meaning their reported imagined interactions were greater than other men’s. The number of scans men had attended was also significantly and positively correlated with bonding and closeness ($r_s = -.222$, $p = .002$), such that the more ultrasound scans that had been seen, the higher their reported feelings of bonding and closeness to the fetus. The number of other children men had was significantly and positively correlated to thoughts about genetic relationship ($r_s = .163$, $p = .026$), such that the more children men had, the higher their reported thoughts about their genetic relationship.

There were no significant differences between men according to age, socioeconomic backgrounds, marital status, attendance at booking appointment, attendance at 12 or 20-week scan, presence of fetal anomaly, whether fetal movements had been felt, maternal age, and whether men had seen an ultrasound scan on the day they completed their questionnaire.

8.4.7.1 Screening variables

A Mann-Whitney test showed that on the ‘wanting information’ factor, black and ethnic minority participants scored significantly lower (mean rank=87.71) than white participants (mean rank=96.29), $U = 3671.500$ (-1.060 standardised), $p=.005$, $r=.07$. This suggests black and ethnic minority men saw screening appointments as less valuable and wanted less information from them.

The following variables had no significant impact on men’s scores on ‘screening views’ factors: age, socioeconomic backgrounds, marital status (i.e. married, living with partner, in a non-residential relationship, not in a relationship), attendance at booking appointment, attendance at 12-week scan, attendance at 20-week scan, presence of fetal anomaly, whether fetal movements had been felt, weeks pregnant, maternal age, or whether the men saw an ultrasound scan on the day they completed their questionnaire.

While univariate analyses allow the comparison of groups of men on the factors that emerged from PICS and ‘screening views’, regression analyses involves building a model using demographic variables and ‘screening views’ factors to predict PICS factors. Regression analyses can therefore help to understand what combinations of variables to do with demographics and men’s involvement in screening predicted bonding and closeness to the fetus, their thoughts about the genetic link, and their imagined interactions.

8.4.8 Regression analyses

Multiple linear regression analyses were conducted to determine whether demographic factors or screening views predicted men's prenatal paternal identity and child-schema.

Three analyses were conducted using bonding and closeness, genetic relationship, and imagined interactions, as the outcome variables. Predictor variables (1) age, (2) ethnicity, (3) whether the participant had other children, (4) socioeconomic status measured using the NS-SEC, (5) number of antenatal screening scans seen (i.e. none, 12-week scan, both 12 and 20-week scan, 20-week scan), (6) presence or lack of fetal anomaly and (7) whether fetal movements had been felt, as well as the three screening variables, (8) making decisions, (9) wanting information and (10) investing time.

Nominal data, i.e. data where participants are put into categories, rather than where they have scores on a continuum, were dummy-coded. For example, non-white participants were given the label of 0; white participants were given the label of 1. Regression analyses can be used on skewed data, provided the other assumptions are met (Field, 2005; Tabachnick and Fidell, 2001). Assumptions in the current analyses were all met.

Backwards regression was used, which involves inputting all of the predictor variables into the model at once. One by one, predictors that are not making a significant contribution to the model are removed. Assumptions are discussed in the next section.

8.4.8.2 Regression 1: Bonding and closeness

The model predicted 12.4% of variance ($R^2 = .124$) and was significant $F(4, 199) = 11.069, p < .001$. Significant predictors are shown in Table 8.10.

Table 8.10: Bonding and closeness regression coefficients

	B	SE	Beta	P
Investing time	.201	.062	.219	$p < .001$
Number of scans	.336	.120	.190	$p < .006$
Making decisions	.128	.062	.140	$p < .039$

Thus more time invested in screening more scans and more involvement in decision-making were predictive of closeness towards the fetus. The predictors are independent of each other —i.e. the regression does not show that a high score on investing time *and* number of scans *and* making decisions in conjunction with each other predicts a high score on bonding and closeness, but men who had a high score on any one of the predictors. The same is true for regressions two and three.

Power (β) was calculated post-hoc, and was 0.97, indicating there was a 97% chance that the regression analysis detected a genuine effect. The regression was thus sufficiently powered for results to be meaningful.

8.4.8.3 Regression 2: Genetic relationship

Since the genetic relationship factor had negative factor loadings, positive beta weights

indicate a lower score on those factors, and negative beta weights indicate a higher score.

The model predicted just 9.3% of variance ($R^2 = .093$) and was significant $F(2,199) = 10.156, p < .001$. Predictors from the significant are shown in Table 8.11.

Table 8.11: Genetic relationship regression coefficients

	B	SE	Beta	P
Investing time	-.254	.064	-.271	$p = .001$
Age	.027	.011	.166	$p = .016$

Thus those who had invested more time in screening and younger participants had higher scores on ‘genetic relationship’. Power was 0.88, again suggesting the regression was sufficiently powered.

8.4.8.4 Regression 3: Imagined interactions

Imagined interactions also had negative factor loadings, meaning positive beta weights indicated a lower score on the factor, and negative beta weights indicate a higher score.

The model explained 18.5% of variance ($R^2 = .185$) and was significant. $F(4,199) = 11.069, p < .001$. Predictors from the significant model are shown in Table 8.12.

Table 8.12: Imagined interactions regression coefficients

	B	SE	Beta	P
Investing time	-.290	.060	-.320	<i>p</i> =.001
Fetal movements	.384	.127	.200	<i>p</i> =.003
NSSEC	-.125	.068	-.122	<i>p</i> =.069
Age	.018	.011	.114	<i>p</i> =.096

Thus those who invested more time in screening, those who had felt fetal movements, those of a higher socioeconomic status and younger participants had more imagined interactions with the fetus. Power was 0.99, suggesting the study was sufficiently powered.

8.5 Chapter summary

In this chapter, the results of the quantitative analysis have been presented. The response rate was 90%, meaning of the 222 men approached, 200 men returned a questionnaire. The demographic characteristics of the sample were much more varied than in the Grounded Theory analysis, with 35.5% of men from a black or minority ethnicity, and 45.5% from a lower socioeconomic status. Results of EFA illuminated the underlying structure of the two scales, showing that PICS was constructed of three latent factors; bonding and closeness, thoughts about the genetic relationship and imagined interactions. The ‘screening views’ scale was comprised of three factors; ‘making decisions’, ‘investing time’ and ‘wanting information’. Some initial analyses showed that black and minority ethnic men scored significantly lower on the ‘wanting

information' factor of the 'screening views' scale. Subsequent analyses involved three regressions. The results of the first regression showed that investing time in screening, making decisions about screening, and seeing more ultrasound scans, predicted higher scores on 'bonding and closeness' scale. The second regression showed 'investing time' in screening and being younger predicted a higher score on the 'genetic relationship' outcome. The third regression showed that investing time in screening, feeling fetal movements, being of a higher socioeconomic status and being younger predicted a higher score on the 'imagined interactions' outcome. Men who were more involved in screening therefore had higher scores on PICS scales. Results and limitations are discussed in relation to interview findings and wider research in the next chapter.

CHAPTER 9: IMPACT OF SCREENING ON PICS: DISCUSSION OF QUESTIONNAIRE FINDINGS

9.1 Introduction

The third phase of the research has resulted in the development of two new scales; one measuring prenatal paternal identity and child-schemata, which has good internal consistency, and another measuring screening views, which has near acceptable internal consistency. The results of the factor analyses and regression analyses are now considered in relation to existing research.

9.2 Summary of results

Three factors emerged from the PICS scale, which were (1) bonding and closeness, (2) genetic relationship and (3) imagined interactions. Three factors emerged from the screening scale, which were (1) making decisions, (2) investing time in screening and (3) wanting information. Each factor comprised of three or more items each, with factor loadings ranging from .468 to .865 for the PICS scale and .475 to .911 for the screening scale. For PICS factors, the descriptive statistics showed that for the 'wanting information' subscale, black and minority ethnic participants scored significantly lower than white participants. There were no other significant differences between men of different demographics on the PICS factors. Three regression analyses were conducted using the backwards stepwise method and significant predictor variables were identified for each of the outcome variables.

Each regression is discussed in turn in section 9.3.4. The open question on the questionnaire revealed that eighty percent of the men wanted more information about screening tailored to men, with 65.7% wishing to receive this information from midwives, suggesting men want information from the people they deem to be the experts, which agrees with the interview findings.

9.3 Links to wider research

9.3.1 Discussion of the emergent factors: PICS

9.3.1.1 The meaning of the three factor model

The emergence of the three factors indicates that the men's investment in their fetuses, and the interest they showed their fetuses, was based on an emotional link, imagined interactions, and a genetic link. The emotional link was the feelings men experienced during pregnancy and the genetic link consisted of men's thoughts about how the child would be theirs. The distinction between social/emotional and genetic factors seems to contrast the interview findings, where paternal identity was a coherent and singular concept. Nonetheless, the emergence of these two separate factors does not imply that paternal identity was a fragmented concept for the questionnaire sample, but more simply that both of these aspects of paternal identity were important and pertinent to the men in the questionnaire study.

Each factor is discussed in turn. The exposition of similarities and contradictions between the interview and questionnaire phases shows that using a mixed methods design has been useful in exploring men's experiences of pregnancy in depth.

9.3.1.2 Bonding and closeness

The bonding and closeness factor encompassed the items that asked about an emotional link to the fetus and anticipated emotions to the future child. In one sense, this result supports the grounded theory. The child-schema was not split into a ‘child-in-womb’ and a ‘child-in-head’ despite the items being written specifically about these two constructs. Therefore, this result suggests that for men in the questionnaire study, and men who did not face anomalies in the interview study, the child-schema was an amalgamation of the fetus and the child they were imagining. Men unified the positive emotions, which they thought they would experience towards the child when it was born, with their feelings towards the fetus.

However, the interview finding that men did not feel an emotional bond towards the fetus is contradicted here. This contradiction might reflect that men were more open with discussing their emotions in the questionnaire, or that there was social desirability bias—men did not feel love or a bond, but felt they had to answer positively to show themselves in a good light. It is also possible that since some men’s children had been born in the interview study—Andy, Eric, Ian and Karl—any feelings towards the fetus may have been overshadowed by their love for the child, meaning they were less likely to report having any feelings towards the fetus. The men in the questionnaire study, who were all expectant fathers, may have had more pronounced feelings towards the fetus in comparison. It is consistent with the interview findings that the child-in-womb and

child-in-head were indistinct. In the interview study, it was only when this child-schema was threatened, by a screening result that showed there was a high-risk, that it became splintered into a child-in-womb and child-in-head. The majority of men in the questionnaire phase did not experience anomalies.

9.3.1.3 Genetic relationship

The emergence of a genetic factor suggests that for men in the questionnaire study, there was a genetic aspect to prenatal paternal identity, which is somewhat distinct from the emotional aspects that were represented in the bonding and closeness factor. Gregory and Milner (2011) also point out that this emphasis on men's genetic fatherhood has grown in recent years because as divorce rates rise and men are at-risk of becoming estranged from their children, men could be more likely to stake their genetic claim to the child.

The emergence of a genetic factor could be interpreted as contradictory to the interview findings, where only fathers who experienced anomalies discussed a distinct genetic part of pregnancy. In actuality, the result is not dissimilar to the interview findings, because on the questionnaire, men were not asked about this relationship using terms like 'genes' or 'genetics'. Instead, they were asked whether they had been thinking about the baby as a 'physical part' of them, or their 'flesh and blood'. Thus, as with the interview analyses, men did not necessarily think about their genetic relationship explicitly in genetic terms, but thought about it in a more abstract and metaphorical way. Indeed, Nelkin and Lindee (2004, p.152) suggest that a common metaphor of the gene is

that it is the essence of identity, and Ettore (2002) argues that paternal ties are based on genes. Nonetheless, the emergence of this factor suggests that for men in the questionnaire study, being a genetic father was something they thought about and was important to them during pregnancy. The reason why it came out more distinctly in the questionnaire results might also be that men find it difficult to articulate their thoughts about their genetic relationship in an interview setting. Indeed, Joshua talked about how the genetic link was a “complicated topic”. The method of asking questions about such an abstract concept may be important for eliciting information. Direct, specific and closed ended questions, like those that the questionnaire asked, might be best.

9.3.1.4 Imagined interactions

The imagined interactions factor was difficult to interpret. It was the weakest factor, having just three items load onto it, two of which had relatively low loadings, meaning these items did not have a very strong relationship with the factor. Moreover, one of these items (‘I’ve imagined ways that the unborn baby will look like me and the mother’) could be argued to measure ‘genetic relationship’. The emergence of this factor nonetheless provided further evidence that these men projected ideas and feelings about the child they had been imagining onto the fetus.

9.3.2 Discussion of the emergent factors: screening views

The results of the factor analysis on the screening scale suggest that men’s definition of involvement in screening had three facets.

9.3.2.1 Making decisions

The first factor, 'making decisions' suggests that men in the questionnaire study wanted to participate in decision-making about screening. More specifically, the men felt that they and their partners should make decisions about screening together, which supports some of the interview findings. Higher scores on this factor indicated that the men saw their involvement in decision-making as more important than those with lower scores.

9.3.3.2 Investing time

The second factor, 'investing time', suggests that men in the questionnaire study wanted to invest time in screening, through finding out about screening tests on offer, talking about screening tests with partners and going to appointments. Again, this finding supports the interview findings, where men felt that their participation in screening was a responsibility of being a good father. Higher scores on this factor indicated that men saw investing time in screening as more important than those with lower scores.

9.3.3.3 Wanting information

The third factor, 'wanting information', showed that the actual NHS screening appointment was important to men in the questionnaire study. They wanted to take advantage of the screening appointment, by taking up the tests on offer and getting some information from midwives. Higher scores on this factor indicated that men wanted more information and placed more value on the appointment than those with lower scores. Again, the result supports interview findings, where men wanted

information—albeit simple information—to confirm the fetus was developing normally. This factor had less acceptable reliability than the other factors; therefore a caveat of the results is that the questionnaire would benefit from reliability and validation studies in future research.

9.3.3 Discussion of univariate analyses

9.3.3.1 BME men: under-informed or suspicious?

Descriptive analysis showed that black and minority ethnic participants scored significantly lower on the ‘wanting information’ factor than white participants, which suggests that men of black or minority ethnic populations wanted less information about screening and saw NHS screening appointments as less important for getting information. This finding links to previous research in the UK where South Asian women were significantly less likely to take up Down syndrome screening than white women (Dormandy et al., 2005; Rowe et al., 2008). Research from elsewhere has generated similar findings, with Aboriginal women in Australia (Maxwell et al., 2011), Turkish, North-African, Aruban or Antillean women in the Netherlands (Fransen et al., 2011) and African American women in the USA (Kupperman et al., 2006). Rowe et al. (2008) suggested that Asian women may be less interested in screening because their cultural or religious beliefs mean they would not terminate a pregnancy. Similarly, Kupperman et al. (2006) found that for African-American women, lower uptake of Down syndrome screening was predicted by higher levels of faith and fatalism (cultural, religious, and fatalistic attitudes toward screening and birth outcomes) and lower value placed on screening. Contrarily, Dormandy et al. (2005) and Fransen et al. (2011)

argued that Asian women accepted screening less often, not because they had these fatalistic attitudes but because they were under-informed. Although the current study did not look at screening uptake, the finding that men saw appointments as less valuable could be explained by any one or combination of these reasons. Men might have placed less value on the screening appointments because they would not want to terminate, or because they did not see the information provided as valuable.

Another possible explanation is that black and minority ethnic participants are more suspicious of medical screening. Dula (1994) looked at various medical issues and events that may increase suspicion towards the healthcare system amongst black and minority ethnic people, for example the Tuskegee syphilis experiment. This experiment was a 40-year study conducted by the US health department in 1932. It was controversial and highly unethical by today's standards because it involved monitoring the natural progression of syphilis in 399 African American men. These men were not told they had the disease and were not provided with penicillin when it became available. Between 18 and 100 men died from syphilis (Freimuth et al., 2001). Dula (1994) also discusses how educational materials published by the National Institute of Health in the 1970s claimed that 2 million black Americans had sickle-cell anaemia, when in fact this was the number of people who had the trait. Health insurance increased and jobs were lost because carriers were thought to be ill. Since early advice in the USA, for carriers and those with the condition, was to simply not have children, some believed the health authorities were simply trying to control the black population. Suspicion that originated from the early response to sickle-cell, and from the treatment of black participants in medical research, may cause mistrust towards healthcare

professionals even today (Freimuth et al., 2001). An example from the UK comes from Konotey-Ahulu (2010), who mentions that suspicion at the accuracy of results was a reason why men may not bother with screening. In a rapid response to Dormandy et al.'s (2010) trial where uptake of haemoglobinopathy screening was between 3% and 8% overall, he discusses an apparently widely heard rumour of a West African man who was told his child would be born with sickle-cell anaemia following prenatal diagnosis. The parents decide not to terminate, however, and the child was born with completely normal haemoglobin. When the parents talked about this with healthcare professionals they were told it was due to a "laboratory error".

As with Rowe's study, (2008) the current findings may be somewhat limited because all non-white participants were grouped together, since the number of participants in each group of ethnicities was low (for example, there were just four participants who self-reported as Arabic). Nevertheless, the current research is valuable because it has explored the views of men from different ethnicities, which previous research has neglected.

9.3.3.2 Men with or without anomalies

The absence of differences between men who had experienced pregnancy complications on any of the outcome variables contrasts the interview findings where men who experienced a high-risk pregnancy had a distorted child-schema and paternal identity, and wanted more detailed information from screening tests. Those who did not experience anomalies had a more coherent child-schema and paternal identity, and wanted simple, reassuring information. Some explanations for this discrepancy might be

that these differences were not there for these men. A second explanation could be that the questionnaire was not sensitive enough to measure the differences, meaning further research is needed to refine and validate it. A third explanation may be that there were insufficient men with anomalies who took part. Since just 8.6% of men experienced anomalies, it is likely to be the final issue, meaning further research is needed to explore the experiences of men who experience high-risk pregnancies. Another explanation is that the anomalies faced by men in the questionnaire study (e.g. underweight fetus, gestational diabetes, placental problems) differed to those faced by men in the qualitative study (e.g. previous miscarriages, stillbirth, high-risk Down syndrome screen, haemoglobinopathy carrier, chromosomal translocation). Different anomalies might impact men's PICS factor scores in different ways, depending on how much men knew about the risk, and the level of risk posed to the mother and fetus.

9.3.3.3 No other differences

There were no differences between men who were not in a relationship with the pregnant woman, and those who were. This result suggests that expectant fathers in the questionnaire study saw screening as important regardless of whether they lived with the pregnant women or not, or whether they were still in a relationship with her. There were also no differences between men who had attended all the previous antenatal screening appointments (the booking appointment, the nuchal translucency scan, and 20-week anomaly scan) and men who had attended only some of the previous appointments. This result may be explained because those men who really were uninvolved did not participate—men who did not attend the booking appointment may

not have attended subsequent antenatal appointments, meaning they would not have been recruited into this study. However the result additionally implies that men who missed some appointments saw screening as just as important or valuable as men who attended all appointments.

9.3.4 Discussion of the regression analyses

9.3.4.1 Regression discussion: Bonding and closeness

A higher score on making decisions, higher score on investing time, and a greater number of scans seen, were significant predictors. A possible explanation for their significance is that the more time men spent thinking about the child-schema, the more salient the child-schema was and the more salient the emotions became. Specifically, investing time in finding out whether a fetus was affected by anomalies allowed men to safely develop a child-schema to which an emotional connection could be formed, because screening provided reassurance that the fetus was unaffected by anomalies. Having to make decisions about the fetus in particular may have made men's responsibility as a father prominent, which in turn could have drawn attention to their future relationship with the child, and the positive emotions this relationship would elicit. The result also fits with decision-making models, such as the risk as feelings hypothesis (Louwenstein et al., 2002), which suggest that decision-makers will anticipate emotions that will result from that decision. Thus men who thought more about making decisions could have been more likely to additionally think more about the confirmation and reassurance that the decision could provide.

Furthermore, it might be that men saw screening as a way to control whether they had a child unaffected by an anomaly. Feeling in control allows people to feel prepared for eventual outcomes and lowers stress and anxiety (Abraham et al, 2011). Hence the more men invested in screening, the more in control they would feel, which in turn would reduce anxiety, making way for more positive emotions.

Seeing more scans was predictive of bonding and closeness possibly for the same reasons as outlined above. Actually attending screening, as well as having intentions to invest time and make decisions about screening, could foster bonding and closeness. It may also be that the more exposure men had to the fetal image, the more of these emotional feelings they experienced. While the interview research suggested that men did not always feel such an emotional outcome from seeing ultrasound scans, this conclusion would support previous work that suggests ultrasound screening can help men develop a bond with the fetus (Draper, 2002; Mitchell and George, 1997; Williams and Umberson, 1999). The discrepancy between the interview and questionnaire findings could be explained if men in the questionnaire phase had seen an ultrasound scan just before taking the questionnaire, making the fetal image and any resultant emotions more prominent in their minds in comparison to the men in the interview phase. However there was no difference between the men who had seen a scan that day and those who had not.

9.3.4.2 Regression discussion: thoughts about genetic relationship

Higher scores on investing time and age (younger) were predictive. The reasons for why

investing time in screening was predictive are likely to be the same as those for bonding and closeness: the men invested time in screening because they felt it was their duty to their child. The offer of screening may have elicited thoughts about why screening was important—the reason being that it provided them with the chance to ensure their genetic offspring were unaffected by anomalies .

Explanations for why younger men scored more highly on thoughts about the genetic relationship are unclear. The finding is nevertheless important because some research suggest that younger men feel more excluded in antenatal units, perhaps because midwives assume that they will be poor parents and eventually become transitory in the lives of their children (Department for Children, Schools and Families/Department of Health, 2009). Reeves et al. (2009) argue that this line of thought is dangerous because the absence of engagement with young fathers may cause them to feel under-valued, and more ambivalent and confused about their role in the family unit. In the current results, younger men were not more involved in screening, but had higher scores on PICS factors. This means they imagined themselves as fathers and visualised their child more than older men. The results suggest that the younger men in the study were engaged in pregnancy and prospective fatherhood, and perhaps that more work needs to be done to engage them in screening and antenatal services as well. The former Department for Children, Schools and Families and Department of Health (2009) have published a guide called ‘Getting maternity services right for pregnant teenagers and young fathers’ to achieve this aim, with tips such as treating young people’s views with respect and making young fathers’ value recognised. While the finding has some

importance, there is no existing research that suggests why the finding might have occurred, and therefore why the younger men thought about fatherhood in a genetic way more than the older men. Some very tentative explanations are that the younger men, if they initially felt under-prepared for fatherhood due to their age, visualised the child more often to better prepare themselves for fatherhood. Alternatively, the increasing depth with which genetics has been taught in schools in more recent years (e.g. Holmes et al. 2010) may have made the genetic relationship more pronounced for younger men. These are speculative conclusions, and in line with abductive reasoning (discussed in section 4.6.4) they necessitate a return to some empirical data to check for evidence.

9.3.4.3 Regression discussion: Imagined interactions

Higher scores on investing time, feeling fetal movements, socioeconomic status (higher) and age (younger) were predictive. Investing time was likely to have been a significant predictor for similar reasons as outlined for regressions one and two.

Men from lower socioeconomic backgrounds might have been more reluctant to imagine life with a child if such imaginings caused anxiety, for example because of financial worries about how they would cope with the child's birth. Such men might therefore need extra support in preparing for life with the child. It is unclear why younger men scored more highly on imagined interactions, but could possibly be for the same reasons as for the 'genetic relationship' regression.

The finding that men who had felt fetal movements scored higher on imagined

interactions indicates that as the baby started to move, men were more likely to imagine what it looked like, more inclined to talk to it, and more likely to imagine looking after it. The finding supports work by Han (2008) who found that men talked to the fetus (termed by Han as “belly talk”, p.305) once the fetal movements were palpable.

9.4 Strengths of the questionnaire research

Three major limitations of the interview phase were compensated for in the questionnaire phase. Firstly, in comparison to the relatively homogeneous interview sample, a broader demographic of men was recruited in the questionnaire phase: 35.5% were black or ethnic minority, 45.5% of men were from a lower socioeconomic status and 37.5% were not married to their unborn baby’s mother. The interview findings were therefore explored in this population. Although the questionnaire sample was not generalisable to the population of England in terms of ethnicity and socioeconomic status, there was similarity between the current sample and the population of Birmingham.

Secondly, in the interview study, men were recruited from all over England, meaning there might have been regional variations in their experiences, according to which tests couples were offered and how they were offered them within the different trusts. The questionnaire phase compensated for this limitation, because the findings were explored further with 200 men recruited from one inner-city hospital.

A third limitation of the interview phase was that some men’s children had already been

born, so their interviews may have been affected by retrospective bias, i.e. they may not have remembered their experiences as clearly as someone who had very recently undergone screening. Their experiences also might have been coloured by the screening results they received (Pilnick and Zayts, 2011). In the questionnaire research, men's partners were currently pregnant and they were surveyed recently after, or in the midst of, their screening appointments. The range of gestational points was narrower for men in the questionnaire study, with the mean at 23.73 weeks, meaning it gave deeper insight into experiences around the time of screening than the interview study.

9.5 Limitations of the questionnaire study

There were some limitations unique to the questionnaire study. On the questionnaire, some men might have been made uncomfortable by the word 'unborn baby' if they were planning on terminating the pregnancy, or if the pregnancy was unwanted. The items were written this way to reflect the word choice of participants in the interview sample, who referred to the fetus as a 'baby'. As discussed in section 7.5, the word 'unborn' was added to make it clear to men that the questionnaire was about the fetus, rather than existing children. In further reliability and validation studies with the questionnaire, the word 'fetus' could be pretested to see what men's reaction to it is, and whether there are differences on findings between questionnaires that use 'fetus' and those that use 'unborn baby'. This issue highlights the complexity of investigating men's feelings towards a fetus, because of the many ways in which different men will conceptualise it (Katz-Rothman, 1994; Sandelowski et al., 1994; Williams et al., 2001).

With regard to the design, the kinds of questions men were asked in the questionnaire were shaped by the metasynthesis findings and the interview findings. This could mean that the findings with one set of men were imposed on another set of men. There might have been aspects of prenatal paternal identity, child-schemata and screening views, for which questions were not formulated and therefore were not explored. However, through using this design, some novel findings emerged that were specific to the men sampled in the questionnaire study, for example, black and ethnic minority men not placing as much importance on getting screening information as white men. These findings can inform future interview research, which will open up other avenues of exploration.

Some of the questions asked men about their opinions on screening, rather than their actual involvement. For example, one question asked how important it was for men to spend some time talking to their partners about screening. There could have been a discrepancy between men's views and their actual involvement, and the factors that could stop men from putting their intentions into practice were not explored. Since this study was not longitudinal, baseline measures were not taken, meaning some men might have had a stronger prenatal paternal identity and child-schema before entering into screening.

A general limitation of questionnaires is that participants may have been satisficing, i.e. choosing the first response option that vaguely fits their real answer, rather than reading all of the response options and trying to decide which was best (Stern et al., 2007).

Questionnaires could also have been victim to social desirability bias, particularly since men were in the company of their wives and partners when filling in the questionnaire. What's more, the busy and distracting environment in which men filled out questionnaires could have prevented them from engaging with the questions closely. Despite these limitations, the questionnaire phase has meant screening, paternal identity and child-schemata have been explored in more depth and avenues for further research have been opened up.

In terms of the results, only a small amount of variance was accounted for in each regression analysis, indicating that screening is just one of many variables that affect men's paternal identities and child-schemata. Other variables might include social support, economic situation and relationship. These can impact on depressive mood after pregnancy, so can perhaps affect prenatal feelings (Bielawska-Batorowicz and Kossakowska-Petrycka, 2006). Bronte-Tinkew et al. (2007) found that whether the pregnancy was planned or not predicted paternal warmth and nurturing. This variable would also be a likely predictor of prenatal paternal identity and child-schema. Another variable that is likely to impact men's paternal identity is 'maternal gatekeeping', i.e. women's ability to facilitate or restrict men's involvement in antenatal care. Evidence exists that it can predict father involvement in child-care (Cannon et al., 2008; McBride et al., 2005). Predictors of maternal gatekeeping behaviours include salience of maternal identity, strength of maternal gender-schematisation (i.e. how strongly stereotypical their views about gender roles were), maternal self-esteem and parental idealisation (Allen and Hawkins, 1999; Barry et al., 2011; Fagan et al., 2003; Gaunt, 2007;

Schoppe-Sullivan et al., 2008). Samples in gatekeeping studies have largely consisted of white couples, who were highly-educated with large annual incomes, meaning findings are not generalisable. Further research is needed to explore these variables in relation to PICS factors, in a larger study where perhaps women could be questioned on gatekeeping behaviours and relationship quality.

9.6 Chapter summary

In this chapter, the questionnaire results have been discussed, and comparisons to interview findings have been explored. Overall, the interview findings were generalisable to a larger group of men from a broader demographic background. One difference was the emergence of the ‘bonding and closeness’ factor in the questionnaire study. In contrast, men in the interview findings did not always express closeness to the fetus. This discrepancy might indicate that men were more expressive about their feelings in the questionnaire, or that they had conformed to social desirability bias. The emergence of the ‘genetic relationship’ factor supports the interview findings, that there is a genetic component to paternal identity, which is not necessarily defined explicitly as ‘genetic’. The ‘imagined interactions’ factor had weak reliability, but its emergence supports the interview findings, that men project ideas about a child they had been imagining onto the fetus. The emergence of ‘making decisions’, ‘wanting information’, and ‘investing time’ as factors that underpinned ‘screening views’ support the interview findings, and suggest that these three are integral to men’s involvement in screening. As stated in Chapter 8, black and minority ethnic men scored significantly lower than white men on the ‘wanting information’ factor, which echoes similar research with women

(e.g. Rowe et al., 2008). Previous research also helped to explain the outcomes of the regression analyses. For example, making decisions and investing time in screening could cause men to think about the confirmation and reassurance that screening could provide, leading them to have stronger feelings of bondedness to the fetus. Seeing scans could further elicit these feelings, as Draper (2002) and Ekelin et al. (2004) have found. Investing more time could elicit stronger thoughts about the genetic relationship to the fetus, and more imagined interactions, for the same reasons. Reasons why younger men had higher scores on thoughts about their genetic relationship and imagined interactions are less clear, so require further research. The next chapter concludes this thesis and points out implications to practice and further research.

CHAPTER 10: CONCLUSIONS: LIMITATIONS, IMPLICATIONS AND FUTURE DIRECTIONS

10.1 Introduction

In this final chapter of the thesis, the original contribution to knowledge is discussed.

The findings are summarised, after which the limitations and implications for practice and future research are highlighted

10.2 Strengths and original contribution to knowledge

With regard to study design, this research makes an original contribution as it is the first to explore men's experiences in England in detail, where men made up the majority of the sample, and where women were interviewed specifically about men's involvement. Moreover, it is the first to use a variety of interview methods in an attempt to reach men from a wide range of backgrounds and who might be reluctant to take part in more formal interviews. As a result it has elicited rich data to provide new information in an under-researched area. The findings have contributed to existing knowledge about men's experiences of pregnancy, and also to knowledge about people's experiences and understanding of genetic screening. The thesis has shown that men want to be involved in screening. But most importantly it is original in the way it has shown that prenatal paternal identity and child schemata are affected by, and affect, experiences of screening.

10.3 Summary of research questions and findings

As discussed in Chapter 1, exploring men's experiences was justified because men's involvement could help women gather information to make decisions, and help them cope with the anxiety about screening. However for men themselves, screening can have a long-term impact and is a way for them to get involved in pregnancy. Doing a metasynthesis of the existing literature showed that although men wanted to be involved in screening, they had a very minimal role, which suggested that screening is not necessarily the most suitable way for men to get involved in pregnancy. From doing the metasynthesis, it was made clear that more in-depth qualitative research with men was required, particularly since most of the UK studies included in the metasynthesis used couples' interviews, which could affect what men felt able to share in the presence of their partner. Another issue was that a more representative sample of men was required, since the studies in the metasynthesis focussed largely on well-educated, white men who were married. A mixed methods design was therefore chosen, firstly to elicit in-depth views, and secondly so the generalisability of interview data could be explored with a larger and more representative group of men using a questionnaire. Including a questionnaire meant that men who would be uncomfortable with or unwilling to discuss emotional and sensitive topics could participate (e.g. Butera, 2006).

The research questions for the interview study were, (1) what are men's experiences of antenatal genetic screening? (2) what are men's views, beliefs and values regarding involvement in screening? and (3) what enabling and constraining factors exist regarding men's involvement?'.

The findings suggested that men wanted to be involved in screening because of an obligation to support their partners, but also to check the genetic health of their fetuses. Their experiences were therefore characterised by a sense of responsibility and anxiousness. Men wanted basic information from screening, preferring to trust midwives than to find their own detailed information. They appreciated it when midwives included them and showed support and empathy, and sought support from family and friends. For men who felt excluded by midwives, screening was more of a negative experience. These men felt it was important that they resisted marginalisation to ensure their partners and fetuses were getting the best care possible. Men were involved in making decisions with women, although they often felt that women would make any final decisions if there were disagreements.

The major finding, which formed the grounded theory, was that men's experiences of screening were intimately linked to the construction and development of a paternal identity and a child-schema in pregnancy. These conceptualisations encouraged men to be involved in screening, and were also reinforced or disrupted following screening results. Men faced various enabling factors that encouraged these conceptualisations, such as being given reassurance that the fetus was healthy and their preparations were warranted. In addition, they faced factors that constrained their prenatal identity and child-schema, such as feeling distant or anxious, seeing screening as inaccurate, and seeing midwives' as having unwelcoming attitudes. These enabling and constraining factors meant men's images of their child and themselves as a father were in a state of

flux during pregnancy. Screening results impacted on their mental images of the fetus and these mental images in turn impacted on their subsequent screening views. This was a novel but highly important finding that required further investigation to ascertain the generalisability with a wider population.

The next stage of the research explored one aspect of the ‘family in flux’ in more detail, which was how screening impacted on paternal identity and child-schemata for a larger group of men from a broader demographic. The final sample contained 200 men. In this phase, the first research question was, ‘what factors underlie men’s perceptions of paternal identity and child-schemata?’ The results indicated there were three distinct factors, which were ‘bonding and closeness’, ‘genetic relationship’ and ‘imagined interactions’. ‘Screening views’ was also comprised of three factors, which were ‘investing time’, ‘wanting information’ and ‘making decisions’.

The second research question was ‘Is there a difference between certain demographics of men, and men who have or have not experienced fetal anomalies, on ‘screening views’ factor scores?’ The results indicated that men generally had the same views on screening, but black or minority ethnic men scored significantly lower on the ‘wanting information’ outcome variable.

The third research question was ‘is there a difference between certain demographics of men, and men who have or have not experienced fetal anomalies, on PICS factor scores?’ The results indicated that younger men scored more highly on ‘imagined

interactions' and men with other children scored more highly on the 'genetic relationship' factor. There were no differences between men with and without anomalies.

The final research question was 'does involvement in screening affect men's PICS factor scores?' The three regression analyses indicated that investing time in screening, seeing more ultrasound scans, and being more involved in decision-making, predicted higher scores on the 'bonding and closeness' factor. Investing time in screening and being younger predicted higher scores on the 'genetic relationship' factor. Investing time in screening, feeling fetal movements, having a higher socioeconomic status, and being younger predicted higher scores on the 'imagined interactions' factor.

Therefore the results showed that for men in the quantitative study, involvement in screening predicted a stronger paternal identity and child-schema. This was therefore an interview finding that was generalisable to the larger group of men in the questionnaire study. The questionnaire research also expanded on the interview findings, by providing novel insights, such as the result that black or ethnic minority men saw getting screening information as less important than white men, and that younger men thought more about their genetic relationship and had more imagined interactions than older men. The methodology used in the current research was therefore successful: men took part and discussed emotive topics in interviews, and a broad range of men from different demographics were included in the questionnaire study. Combining the methodologies has been useful for assessing the generalisability of the qualitative

findings and opening up further avenues for research from unexpected questionnaire findings. Using mixed methods has highlighted that men are not inaccessible or unwilling to talk about health or emotions, but that an innovative and flexible research design may be needed to reach men and achieve rich and valuable data.

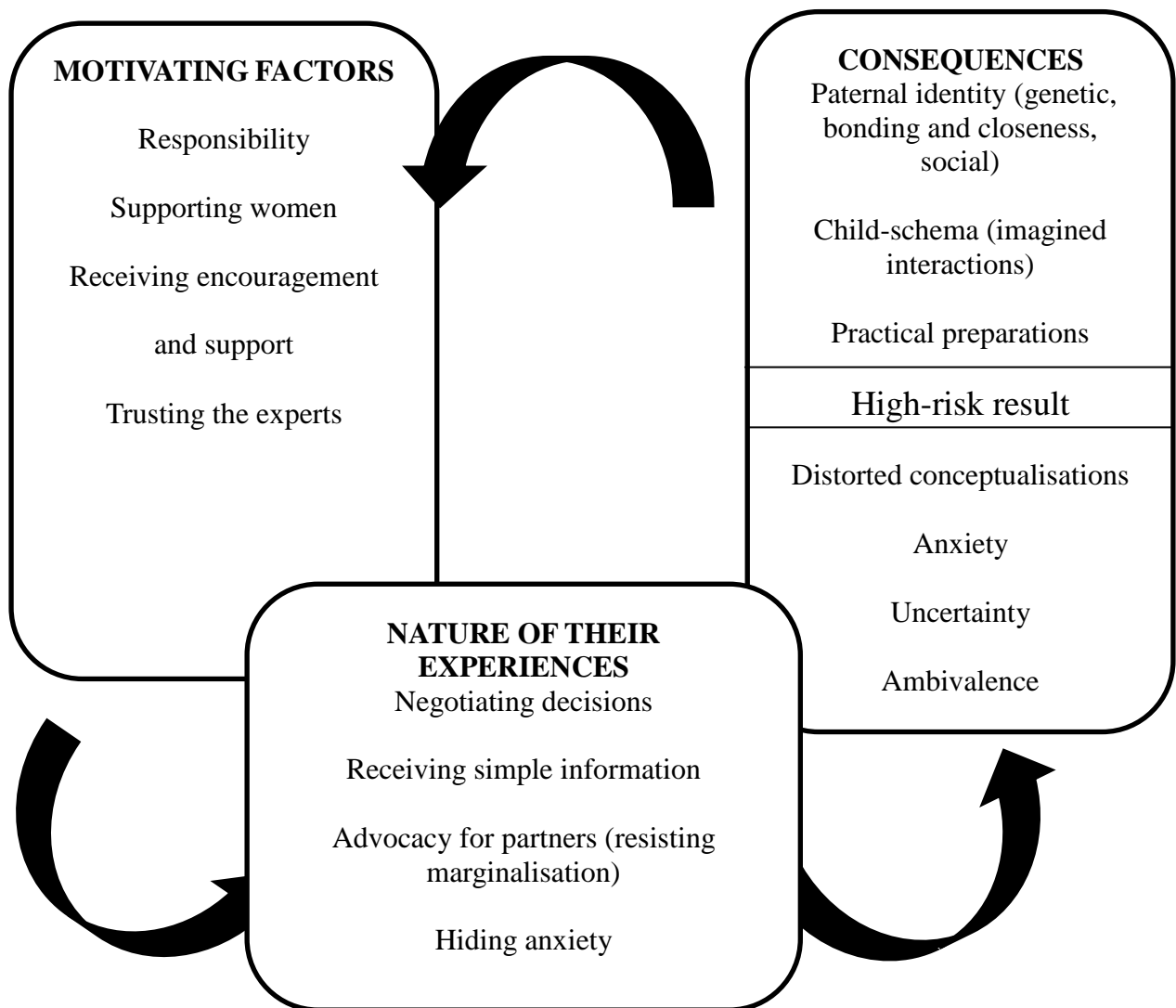
The findings in the study generally suggest that men feel a responsibility to be involved in screening. Men in the current study were not asked about their own health behaviours, meaning it cannot be determined whether men had previously been reluctant to participate in healthcare services. However, they wanted to be involved in healthcare and take up NHS services when it was for the fetus. As Robertson (2007) suggests, participation in health-related behaviours has an underlying moral dimension for men. It has a deontological basis (based on the notion that acts are inherently good or bad), meaning men were driven to participate in screening because of the desire to be a good father. It also has a teleological basis (based on a focus on the outcomes of an act), meaning men wanted to participate because they wanted a genetically healthy child to be born or they want to be prepared for the birth of a child with a disability.

10.4 Tentative framework: men's experiences of screening

Figure 10.1 is a diagram of the main findings from the metasynthesis, interview findings and questionnaire results. The diagram is a framework for understanding men's experiences of screening, representing motivating factors for men's involvement, the nature of men's screening/testing experiences, and the consequences of their experiences. As it is still a tentative framework, future research is needed to develop it

further. The framework could be used by healthcare professionals, researchers or policy-makers for designing interventions to motivate and encourage men to participate in screening, or to help expose the issues men face. The framework is cyclical, because once screening has been experienced, more decisions about screening and prenatal diagnosis often need to be made, either later in the pregnancy or in subsequent pregnancies. The cyclical nature of the framework reflects the family in flux—new ideas and feelings about the future family were constantly being generated.

Figure 10.1 Framework for men's experiences of screening



In terms of antenatal care in the NHS, the current research has come at an important time, since the use of non-invasive prenatal diagnosis is growing. As genetic technologies develop and new screening tests become offered more widely, new concepts will undoubtedly be added to the framework specific to the issues that arise from this kind of testing.

10.5 Implications to further research and practice

Since the current government continues to make cuts to public services such as the NHS, policy-change may be unlikely, and antenatal managers and healthcare professionals may not have the resources, time or training to enact any practical changes that have been identified as implications following this research. Further research is also required with men and women before more concrete implications are identified. The suggestions here are therefore tentative.

Having a prenatal paternal identity and child-schema could be beneficial for men if it helps them to prepare for fatherhood. However, because high-risk screening results impacted on their developing identities, being involved in screening could be emotionally distressing for men. Thus if men are to be involved, they may benefit from emotional support from healthcare professionals. This leads to two other questions, firstly of whether it is right for practitioners and policy-makers to encourage a prenatal paternal identity and child-schema in men if it entails risk of emotional distress, and secondly whether recognising and managing men's emotional distress is the responsibility of healthcare professionals.

To answer the first question of whether it is right to encourage a prenatal paternal identity and child-schema in men, longitudinal research is required to see whether there are long-term benefits of having these conceptualisations during pregnancy. As discussed in Chapter 6, section 6.4.2, some research from USA suggests that having a paternal identity in pregnancy, and early paternal involvement, for example attending ultrasound scans, feeling the fetus move and attending birth classes, can predict increased participation, such as playing and reading with the child, up to three years after birth (Bronte-Tinkew et al., 2007; Cabrera et al., 2008). These studies are limited, since the questions used to assess prenatal involvement and paternal identity were not validated and no information was provided on how the measures were constructed. Replication of these studies would therefore be required to improve upon these limitations and explore whether the same findings occur in England before any conclusions can be derived.

Measuring prenatal paternal identity and seeing whether it predicts postnatal paternal behaviours might not be useful, if what is being measured is simply a stable trait in the individual, such as ‘desire to be a father’. This trait could manifest as a stronger prenatal paternal identity and more involvement once the child is born. It would be more useful to explore what happens if prenatal paternal identity is disrupted, or if prenatal expectations are not met, for those men who have them. Longitudinal research has shown that if there are discrepancies between what men expect and what their actual experiences are once the child is born, for example about what family and social life

would be like, they can experience postnatal depression and parenting stress (Bielawska-Batorowicz and Kossakowska-Petrycka, 2006; Flykt et al., 2009). In the long-run, having a paternal identity and child-schema during pregnancy could have a negative impact, because if expectations about being a father and having a child are not met, then the transition to fatherhood could be more difficult.

Longitudinal research is also needed to explore experiences of men who encounter a high-risk screening result but have an unaffected child, with regards to adjustment to fatherhood. Other issues that need further exploration are the differences in the disruptions men and women face, and what happens when conflict in couples arises regarding feelings towards the fetus and decision-making.

With regards to the question of whether healthcare professionals are in a position to manage men's emotional distress, it can be argued that identifying distress and support falls within the remit of midwives' roles, because the emotions men and women experience can impact on decision-making and whether decision-making is informed. If people are to take part in their own care planning, their feelings about their care should be taken into account. (NICE, 2008).

10.6 The next stage

The next stage of the research will be firstly to administer the questionnaire to another population of men and re-analyse it to see if the findings would be replicated. Secondly, it will be to conduct a longitudinal study to explore the implications of having a prenatal

paternal identity and child-schema on decision-making, since as explained in Chapter 6, section 6.4.1, disrupted emotions and mental images could make ‘gut instincts’ more confused and therefore decision making less informed.

Research with more men, such as those at risk of haemoglobinopathies, is needed to explore whether the same findings occur. Healthcare professionals’ views also require attention to explore their thoughts and feelings about the current findings. For example, midwives thoughts on how to manage men’s anxieties as well as women’s could be investigated further, as well as how they can manage the uncertainties men feel. This is particularly necessary because just one study has been conducted in the UK about midwives’ attitudes to men’s involvement in screening (Reed, 2009b). The current research has therefore opened up avenues for further exploration, which can deepen understanding of men’s experiences of screening.

10.7 Chapter summary

With regard to study design, this research makes an original contribution as it is the first to explore men’s experiences in England in detail, where men made up the majority of the sample. It is additionally the first to use a variety of interview methods, and has elicited rich information as a result. The findings have contributed to existing knowledge about men’s experiences of pregnancy, and additionally to knowledge about people’s experiences and understanding of genetic screening. The thesis is most original in the way it has shown that prenatal paternal identity and child-schemata were affected by, and affected, experiences of screening. The findings therefore suggest that

involvement in screening can have an impact on men's wider experience of pregnancy, in terms of their developing paternal identity and the schema they construct about their child. More specifically, it has been found that low-risk results could encourage the development of this prenatal paternal identity and the child-schema, while high-risk results could distort these conceptualisations. This theory now requires further research with other groups of men, such as those at-risk of haemoglobinopathies. Further longitudinal research is also needed with men to explore how screening, and prenatal paternal identities and child-schemata, can affect their transition to parenthood, whether it is their first, second or third child, so that any implications of screening can be determined and problems can be identified and managed. Such research has the potential to improve outcomes for children as well as couples.

POSTSCRIPT: REFLECTIVE SUMMARY

In this reflective summary, some thoughts about the thesis as a whole are shared, and some of the ways that my own experiences, or lack thereof, may have shaped findings, are made explicit. Through keeping a reflective diary, I remained aware of the thoughts presented in this summary while conducting my research and was better able to control the effect of the biases on the findings.

Coming to this project, and the Nursing and Physiotherapy department, involved a period of acclimatisation for various reasons. Firstly, my background was psychology, so being out of a psychology department meant that I was outside of my 'comfort-zone'. What I have learnt from conducting the project is the value and importance of taking a multi-disciplinary perspective when exploring a topic that affects people every day. Trying to look at screening from one perspective, whether it is psychological, sociological or anthropological, would be to artificially put men's and women's experiences into a box, when in reality, exploring issues from various disciplines, helped to understand the subject with more depth.

Secondly, I am not a midwife. Therefore my experiences about antenatal screening and pregnancy were limited. This limited experience was beneficial when it came to the empirical part of the research, because it meant that I had fewer personal biases. It also meant participants could talk to me without worrying that they were criticising me or my practice. However not being a midwife also meant that I had little experience of

the setting in which screening is conducted, the constraints placed on midwives to deliver services, and the kinds of tasks and challenges midwives deal with.

More personally, I have no children, which again meant I was an outsider looking in to a world I initially knew little about. While this was beneficial in some respects, again because it meant my interpretations of participants' experiences were not coloured by my own, having children may have fostered rapport, and deepened empathy and understanding. Looking at fatherhood in the UK was also a new and somewhat unfamiliar experience for me, particularly in the interview stage, when I was speaking to well-educated, white British men, who were in committed relationships. In contrast, I grew up in a working-class household, with a father who was born in India, who although not religious, had quite traditional values—for example on divisions of labour—and had relatively little involvement in childcare. What struck me initially was that there were major differences between the men I spoke to and my own father, as well as other men described as old-fashioned fathers in research (e.g. Ivry and Teman, 2009). However I came to realise that some men who seem like they have little to say about involvement in pregnancy and childcare, or who seem like they want little involvement, simply have not been asked their opinions in the right way. While such men might not want to participate in interviews, they may still have valuable narratives to contribute. This is the reason why the questionnaire aspect was important—and indeed, the views of a wider range of men were gathered through this method.

In fact, it was the questionnaire phase of the study that really allowed me to understand

men's experiences of screening, because I was able to spend many hours in the midst of the screening setting, enabling me to almost conduct an ethnographic study of what men's experiences of screening were like.

I kept a log of some of the reactions to the research, because they offered some insight into what people thought of the study. For example, one woman, after having explained the study to her partner, said how good she thought it was that there was some effort to include men. Similarly, another man said, "it's about time someone asked me some questions!" when approached, suggesting that men want to be heard, but are often overlooked. Some women were quite enthusiastic to have their partners involved, saying things like, "he'll do one!" when approached (of course, in these cases, I had to make sure the man really wanted to participate). An incredibly common reaction was for the couple to find it amusing that the research was with men and not women, perhaps because women also felt that it was "about time" men were asked their views about the pregnancy, or given a pregnancy related task to endure. In other cases, women acted as gatekeepers to their men's participation. For example, one woman said 'okay, thank you' in a very dismissive way after I explained the research to her partner, and took the questionnaire documents from me. In my notes, I concluded that perhaps some women were in 'decision-making mode' when in the antenatal setting, taking control in their antenatal care. It may also have been the much more simple fact that women did not want to miss their name being called for their appointment, which reflects a limitation of conducting research in a busy environment.

The negative comments were especially interesting, and made me curious to explore why such men might have such negative attitudes to research, or research about pregnancy. One man told me that he thought there was no point in the questionnaire, and was quite incredulous when I tried to explain the point to him. A questionnaire was also returned—perhaps by the same man—with “pointless questionnaire” written in the section for participants to add any additional comments. Another man thought the questionnaire was too long for him to fill in, and another said he could not “be arsed”. In contrast, a few men were very eager to learn more about the study, and spoke to me after completing their questionnaires, which was encouraging and motivating

A personal issue I had to overcome was that by asking men questions I had written in the interview stage, and by handing out a questionnaire I had written to men in the questionnaire stage, I was exposing myself to potential criticism. I also felt worried that my questionnaire would be received badly by the very people it was intended to research. Nevertheless, I eventually began to see that exposing my work was exactly what I needed to do in order for the research to be valid and worthwhile. It took a growth in confidence for me to feel comfortable with exposing the questionnaires. In publishing aspects of this thesis, I hope to expose this work further, so that it can have some significant impact on further research, practice and policy.

APPENDIX 1.1

ADDITIONAL SUPPORTIVE QUOTATIONS FOR METASYNTHESIS

Men's emotional conflicts

Responsibility but emotional distance

Supporting women

- "I went to give her support; it's better for us to be together to decide." (Adrian: Browner and Preloren, 1999)
- "I almost felt as a dad I had to be, I had to be there for [partner], and you know, sometimes I think you put your own emotions to one side because, as I said before, you know, it's the woman who carries the child and, you know, I feel that she feels that more than I do, and all I could do was just be there for her, you know. So we still believed, we still had hope." (AN06: Locock and Alexander, 2006)
- "Well I wanted to be involved and make the decisions with her. I didn't want her to feel alone. I mean at the end of the day it's our baby isn't it?" (Dave: Reed, 2009a)
- "Well, it's our baby so it's our responsibility. She might be carrying it but I'm the dad so I need to take responsibility too" (Bihar: Reed, 2009a)
- "I feel I am there not to make the decisions but to listen to my wife and help her make the decision she feels most comfortable with. We have been lucky that we have not had to make any difficult decisions regarding screening test results, but I would hope if we did, that I would listen and help in the same way" (Gordon: Williams et al., 2011)

Emotional distance

- "At times, I've talked like I was envious of not being able to have those changes going on inside of me, you know. Lately, we've been talking about how it's harder for the guy to accept this, what's going on, and being all excited about it". (Unnamed: Sandelowski, 1994)
 - "And that's probably the one thing that I don't like about this is that I can't share. And then it's..." "Oh well, that's
-

good ‘cause then I don’t have to go through the pain.” That’s not the point for me. The point is trying to share the experience.” (Neal: Williams and Umberson, 1999)

Emotional closeness

- “She knew very well she was pregnant. But for me . . . I think the scan was the point at which erm I really felt it’s my child in there, sort of thing, and there it is” (Robin: Draper, 2002)
- “And it became so very alive and I felt very close to the baby. Yes it felt like a fine moment, it was a very philosophic...emotional moment...It felt very good [...] Ultrasound has really been an important moment for all three of us [...] we have felt we have become much closer to one another in some way.” (Father 12: Ekelin et al., 2004).
- “The issue of screenings really brings your feelings to the fore. [...] From the moment you find out your partner is expecting you are forming a bond with a tiny person who is growing day to day. As this progresses your emotional attachment grows as well” (Liam: Williams et al., 2011).
- “I think at the sonogram. Because she wasn’t really showing. She wasn’t really having a whole lot of symptoms, but when you see that sonogram, when you see that little baby in there, it’s neat. So that’s when I really started getting excited and getting involved.” (James: Williams and Umberson, 1999)

Hidden anxiety and grief

Putting aside feelings

- “I almost felt as a dad I had to be, I had to be there for [partner], and you know, sometimes I think you put your own emotions to one side because, as I said before, you know, it’s the woman who carries the child and, you know, I feel that she feels that more than I do, and all I could do was just be there for her, you know. So we still believed, we still had hope.” (AN06: Locock and Alexander, 2006)
 - “Of course I felt anxious...this long needle...” (Sjogren, 1992)
-

Men's focus on information

Men's technical outlook

- "I went to the genetics consultation to help her. And to know. Because he who does not know is like he who does not see [...] I told her that she couldn't be swayed by what she hears on the streets, that she had to see the truth of science." (Roberto: Browner and Preloren, 1999)
- Because we have this opinion you see, to get information of possible inherited diseases, which you can diagnose early in pregnancy, then it is just fine to do it. Then you have a choice. (Prospective father 2: Interview 1)
- "It was difficult, but you dust yourself off, you go home, you read up your books, you read the Internet, you know. And I think you're able to then make informed choices." [AN06: Locock and Alexander, 2006).
- "You almost with that somebody would help you and sort of say, "Well, I think you should do this." But of course they wouldn't, they wouldn't say either way, "We think you should do this. We think you should do that."...Sometimes I sort of wished that somebody had given us a guiding hand, because it was so hard to decide." (White British father: Locock and Kai, 2008)
- "I think I tried to prod them in a way, and say, you know, —If I have to go to termination, what is the steps? [...]I think they were trying to be neutral, but in a way if the patients want to know then they should give us the whole works rather than shield us" (Father of Vietnamese origin: Locock and Kai, 2008).
- "Now, you see! [The counsellor] says [the amniocentesis] is less painful than a dental extraction." (Juan: Markens et al., 2003).

Only midwives reassure

- "[...]everything's in the right place. That's always a relief. I suppose that's probably the biggest anxiety is that there's something, something wrong." (Rick: Draper, 2002)

 Women's emotional focus

-
- Man: “I’d spent the weekend on the internet, so all these things that [consultant] was listing off as problems I’m thinking, “Yeah, I’ve heard of that. Yeah, I’ve read that one...””.

Woman: “But I hadn’t looked at the internet. I hadn’t seen the amount of problems that could be and what was linked to what. I chose not to look at it. (AN38: Locock and Alexander, 2006)

Men’s impact on decision-making

Making decisions together

Ultimate decisions – women’s rights:

- “This one was one of the easy areas. We both agreed, and she is carrying the child but she’s also the one who’s getting stabbed in the belly.” (Paul: Kenen et al., 2000).
- “It didn’t feel I had the right to make a decision, in a way. I felt it’s really for [partner] to decide. I just didn’t want to be sort of directional, I suppose. And I just felt that, you know, I would support [partner] whichever way she decided.” (AN13: Locock and Alexander, 2006)
- “I mean that it was my opinion that counted to me, but I wasn’t going to go against her wishes because she is the one having them, you know. It’s her body. Whatever she wants to do.” (Andrew: Markens et al., 2003)
- “In discussions it is difficult because we are making decisions that affect the baby but also my wife's body... and I feel she must always have the final say on any decisions made. So even though they are decisions we both have to make, I feel I am there not to make the decisions but to listen to my wife and help her make the decision she feels most comfortable with.” (Gordon: Williams et al., 2011)
- “I think that we have a similar need for this test, but she has the final decision”. (Sjogren, 1992)
- “my role was to give some advice” (Sjogren, 1992)

Making decisions together

-
- “Well I wanted to be involved and make the decisions with her. I didn’t want her to feel alone. I mean at the end
-

of the day it's our baby isn't it?" (Dave: Reed, 2009a)

Exclusion and relegation of views

- “Even if what we saw was fantastic, we had maybe expected better pictures and a more positive attitude from the midwife that we met” (Father No 20: Ekelin et al., 2004).
- “I sat there and the doctor explained and I said, ‘Yes, yes’ as if I understood what he was doing....” (Ron: Ivry and Teman, 2008)
- “The midwife went upstairs, and she never spoke to me about what to do or anything like that. She was in, hello, then out and goodbye, and it was just her and Suzie all the way through.” (Ben: Reed, 2011)
- “I currently feel there is an obvious disconnect for fathers in the current process. We often have concerns and questions that we would like to ask but are rarely given the opportunity.” (Steve: Williams et al., 2011)
- “We had a complete difference of opinion that has never really been resolved (as the scans thankfully did not show any abnormalities). However I get the impression that my opinion would be disregarded at the possible detriment of our relationship unless I changed my opinion.” (Steve: Williams et al., 2011)

Men's unrecognised views

Declining screening

- “Let's say in the worst case scenario she [the fetus] will have an anomaly. What, we should kill her because she has an anomaly? Still, deep inside me, I want to believe there is no anomaly, that she'll be okay, doctors aren't always correct, tests aren't always right either.” (Lior: Ivry and Teman, 2008)
 - “While we accepted that knowing whether our baby would have Downs Syndrome may help us to prepare for the fact, we felt that such worry prior to giving birth was unnecessary. We both felt that nature was the most important part of this equation” (George: Williams et al., 2011)
 - “[screening] was changing the focus from being a happy expectant father, to being concerned about the baby being abnormal or worse... [...] It caused anxiety.” (Liam: Williams et al., 2011).
-

Unacknowledged opinions

- “It just came in the middle of the conversation we had as she was measuring the femur length and then the circumference of the head and explaining that to us and then just: ‘Do you want a Nuchal Translucency screening?’ We both said no.” (Man 2: Gottfredsdóttir et al., 2009b)
- “I had to research the internet to check about the triple marker, what the chances are, what are all these statistics.... Let’s just say we had other resources to give us a critical perspective on what they told us. And when they spoke to us, they did not speak to the point [taches] about the results.... They said, “With such results we recommend undergoing amniocentesis,” and threw us out like this, this I call frightening. ...[As a result] she [his wife] was hysterical and I told her “We should decide. They are doing everything to cover their asses.” (Samson: Ivry and Teman, 2008).
- “The anger, over the telephone how it was told. I found it very overwhelming and very frightening as well.” (Father 1b: Pieters et al., 2011)

Unprepared for results

- “I don’t have much knowledge of all this. From my perspective, the term [nuchal fold screening] is negative. Of course, it is there to evaluate your risk status but in fact I know so little. I do not even know what it tells you.” (Gottfredsdóttir et al., 2008).
 - “For example, there was some test that I could not attend because I had a lot of work, and I also was not overly upset about missing it. I said to her: “I came to the ultrasound scans, but I do not feel the need to come to a routine check up.” So she got really upset” (Saul: Ivry and Teman, 2008)
 - “I had work to do and I could not leave it, and she is the one who takes care of these things, that’s why she told me to rest assured.” (Jesus: Markens et al., 2003).
 - “It’s hard with my job to get time off, and we really need the money as things are tight anyway. The only option if I want to be involved in her appointments is to take holiday but she would rather I saved this time for after the
-

baby is born . . . because of this she takes her mum instead (to prenatal appointments)". (Pete: Reed, 2011)

- “And if we did have a Down’s baby, what would that mean to our life? I think that is almost a neglected side of it all because all the while, we never had anybody to say ‘do you know what it is like to have a Down’s baby?’ (M9: Carroll et al., 2012).
-

APPENDIX 2.1 INTERVIEW SCHEDULE

(Prompts in italics)

How are you?

Would you like to tell me a little about your situation at the moment?

Married/single/living with partner

Working?

How is your baby's mother?

Can you tell me about the pregnancy so far?

How have things changed since you found out you're going to have a child?

Day-to-day?

How has the experience been for you so far?

How has it changed your day to day life?

How are you feeling about the pregnancy?

What do you know about the screening tests the mother will be offered?

Do you know what their purposes will be?

Do you know what processes there will be?

Can you tell me about the mother's screening appointments so far?

In your view, how involved do you feel you should be in screening?

How do you feel like you will be involved? (Attendance, making decisions, getting information from midwives and sonographers, finding information for yourself, supporting the mother).

How involved do you want to be in screening?

What do you feel will affect you getting involved in screening?

How do you feel about these factors?

How have you made decisions relating to the pregnancy so far?

(Decision-making refers to which screening tests to take up, whether prenatal diagnosis is accepted, discussions about having a child with a genetic condition)

How have you felt about the decision-making?

How have you felt about the way you've made decisions?

How much do you feel you want to be a part of the decisions that need to be made about the pregnancy?

What kind of information have you found about screening?

Did you use this information?

Where did you get this information?

What kind of information have you given the mother?

What kind of information has she given to you?

To what extent do you feel that that information was enough?

Ideally, what would you like to gain from the screening appointments?

What are your expectations about what the screening process will be like?

What information do you feel you want?

What would you like healthcare professionals to do?

What, if anything, would you like to see change in the future for prospective fathers?

In the healthcare field or elsewhere? What advice would you have for other men in your situation?

APPENDIX 2.2

INTERVIEW STUDY: SAMPLE INVITATION LETTER



UNIVERSITY OF
BIRMINGHAM

Investigating Men's Involvement in Antenatal Screening

Hello

I would like to invite you to take part in a research study which is looking at how involved men are in screening during pregnancy. This research has been organised and funded by the University of Birmingham.

We'd like to find out about women's views on men's involvement in pregnancy screening. You have been chosen because you have recently become a mum or because you are 2 or more months pregnant, which usually means you will have been offered some pregnancy screening tests.

The research will involve an interview, during which you can share your opinions, ideas and experiences of the father's involvement in the screening tests you have been offered.

Taking part is voluntary. Your decision whether to take part or not will not affect your pregnancy care in any way.

I have enclosed some more information about why the research is being done and what it would involve for you. If you are interested in taking part, please fill in the reply form and post it in the envelope provided – no stamp is required.

Please contact me if anything is unclear. If you would like any of this information sent in large print, please let me know. If you have any difficulties that you feel might affect you taking part, please feel free to contact me if you would like to.

Best wishes,

Sandi Dheensa

tel 0121 414 8549

email SX954@bham.ac.uk

APPENDIX 2.3

INTERVIEW STUDY: SAMPLE INFORMATION SHEET

1. What is the purpose of the study?

Pregnancy screening usually involves scans and blood tests that help to see whether the fetus is healthy. The study is being conducted because we do not know much about what men think and feel about screening.

2. What will I have to do if I take part?

You will have an interview about your involvement in pregnancy screening. The main focus will be the pregnancy, your relationship, the healthcare staff and how you feel about these topics as a man. Each interview will last between 1 and 2 hours, but you can stop and have a break at any time. We could also do the interview in a few stages if you prefer.

You can choose between a telephone interview where I'd call you, a face-to-face interview in your home, or an online interview over email or Windows Live Messenger (the new version of MSN Messenger) or Messenger for Mac. I can provide you with instructions on how to download and remove this from your computer if necessary. You will be given an email address and password specifically for the interview. Telephone and face-to-face interviews will be audio-recorded. The text from online interviews will be recorded and saved.

3. How will my information be used?

Your opinions and ideas will be pooled and analysed with those from around 11 other men and pregnant women. The issues I find from the all interviews I arrange will be written up in various articles and reports for my university studies. The findings will also be reported back to the NHS to highlight where improvements in care are needed.

4. Will my taking part in the study be kept anonymous and confidential?

Yes.

Any information that may identify you – for example, your name - will be removed from your interview transcript (the written copy of your interview). After these details have been removed, only my supervisors (listed at the end of this information sheet) and other authorised individuals from The University of Birmingham, regulatory authorities or the NHS trust will see the transcript. In other words, no personal information about you will be given out. All information will be kept confidential. Any quotations I use from the interviews in articles and reports will be anonymous.

All the personal information I have about you, such as your name and age, will be destroyed after the project is completed.

You will not be contacted for anything that does not relate to this research. The information I gather from the research will not be used for any other purposes besides this project. Your details will not be passed on to any third parties.

If you want to see your interview transcript, you should contact me in writing and it will be sent to you within a 40-day period.

5. What are the downsides and benefits of taking part?

Depending on your personal circumstances, you may find some of the questions asked in the interview upsetting, but you will be free to skip any questions you do not wish to answer (see question 6 for more details). Also, taking part in the research will take up some of your time, but please remember that it will give you a chance to express your own opinions, ideas and experiences. You can say where you think improvements are needed in involving men in pregnancy care.

6. What will happen if I don't want to carry on with the study?

You can decide to leave the study at any time, even partway through an interview. If you wish to reschedule or cancel an interview, please let me know. You can ask for any information you have provided to be destroyed and therefore not used for any articles or reports. This will not affect the mother's pregnancy care. If for any unforeseen circumstances, you are unable to withdraw the information you have provided in the interview, your information will be used in the research but any personal details you provide will be destroyed.

7. What if I have questions about the research?

For specific information about this research project, please contact me or one of my supervisors – contact details are in the box below. If you have any general queries or concerns about research in the NHS, please contact the Patient Advice and Liaison Service (PALS) on 0800 917 2855 between Monday to Friday 9.00 – 17.00, or via email on PALS@sbpct.nhs.uk. Information about PALS can be found on their website; www.pals.nhs.uk.

8. What should I do if I wish to take part in the interview?

Please fill out the reply form and post it in the postage-paid envelope provided (no stamp required). The interview will be arranged **after you send back the attached reply form, at a time suitable for you.**

If you are not interested in taking part in this interview but you would like to take part in some follow up research in a few months, please contact me for more information.

Chief Investigator: Sandi Dheensa Tel: [REDACTED] [REDACTED]	Supervisor: Dr Alison Metcalfe Tel: 0121 414 2666 a.m.metcalfe@bham.ac.uk	Supervisor: Dr Bob Williams Tel: 0121 414 7148 r.a.williams.1@bham.ac.uk
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For more information on The University of Birmingham School of Health and Population Sciences, please see <http://www.haps.bham.ac.uk/> or call on 0121 414 3244

APPENDIX 2.4

INTERVIEW STUDY: SAMPLE REPLY FORM

If you would like to take part in this study, please fill out this form and return it in the freepost envelope provided, which is addressed to me (Sandi). I will then contact you to arrange an interview.

This information will be confidential – information you provide on this slip or during the interview will NOT be passed on to your health professionals.

Are you over 16?

☐ YES ☐ NO

Would you prefer an interview:

☐ In person ☐ By telephone ☐ By email ☐ Via Windows Live messenger

What days are best for you to take part in an interview?

Are there any dates when you are not available for an interview?

Please provide your contact details so I can arrange an interview with you:

Name:

Home number:

Mobile number:

Email:

Address:

How would you prefer me to contact you to arrange your interview?

☐ Telephone ☐ Email ☐ Text message ☐ Other _____

If you would prefer me to telephone you, when would be the best time/days to contact you?

Is your partner/spouse also taking part in this study?

☐ YES ☐ NO ☐ DON'T KNOW

APPENDIX 2.5

INTERVIEW STUDY: SAMPLE CONSENT FORM

1. I confirm that I have read the information sheet dated 04/11/10 Version 3 and understand what the research will involve.
2. I have had the chance to ask questions and have had my questions answered fully.
3. I understand that face-to-face and telephone interviews will be audio recorded, and that the text from online interviews will be recorded and saved.
4. I understand that taking part in this research is voluntary and I am free to withdraw at any time without giving a reason.
5. I understand that all the answers I give will be made anonymous and will be kept confidential.
6. I understand that my answers will be looked at by the main researcher (Sandi Dheensa) and may be looked at by her supervisors (Alison Metcalfe and Bob Williams) or other authorised researchers at the university. All this data will be anonymous – any personal information will be removed. I give permission for these individuals to have access to my data.
7. I understand that relevant sections of my clinical records and interview data collected during the study may be looked at by individuals from regulatory authorities or from the NHS trust where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records.
8. I understand that the results from the research may be published or presented to the NHS.
9. I agree to take part in the above study.

Please ask any questions you have about the research before you sign the form

Name of participant:

Signed:

Name of person taking consent: Sandi Dheensa

Signed:

Date:

If you would like a summary report of what is found in this research, when it is

complete, please contact me: Sandi Dheensa: 0121 414 8549 Email: SD954@bham.ac.uk

APPENDIX 3.1

ROUND 1 PRETESTING QUESTIONNAIRE

Men's involvement in pregnancy:

This questionnaire looks at your experiences of pregnancy. I am currently testing out this questionnaire to see how it can be improved, so I am interested in what you think about the questionnaire itself, rather than the answers you give.

What to do

(1) Please circle your responses.

(2) Use the space below each question if you would like to explain your answer

(3) Write down any comments/suggestions you have about the questionnaire and ways that it could be improved – **you can write these comments/suggestions anywhere on the paper.**

For example, if there are any words I've used that are unclear, please point them out.

If you have any questions, please ask!

1. I make sure to interact with the baby, for example by talking to it

All the time

A lot of the time

Sometimes

Hardly ever

Never

2. I feel love towards baby

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

3. I feel emotionally committed to the baby

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

4. I do not want to bond with the baby in case something goes wrong in the pregnancy

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

5. I've noticed personality characteristics about the growing baby

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

6. I feel like I know the baby already

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

7. The fact that I'm going to be a dad doesn't feel real

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

8. I have been imagining myself caring for and nurturing the baby

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

9. I don't know how I'm going to feel about being a dad

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

10. I worry that when the baby is born, I will not be able to bond with it

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

11. I feel uneasy about the baby

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

12. I do not feel an emotional bond to the baby

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

13. I am worried about what family traits will be passed on to the baby

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

14. I am worried about whether any family illnesses will be passed on to the baby

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

15. I know that when the baby is born, I will love him/her

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

16. I feel that spending time with and caring for the baby will create a bond between us

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

17. I have been imagining that the baby will look like me

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

18. I feel like the baby is a part of me

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

19. I have been imagining how the baby will have a similar personality to me

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

20. The fact that the growing baby is made of my genes is something I think about

All the time

A lot of the time

Sometimes

Hardly ever

Never

21. I wonder which of my genes will be passed on to the baby

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

22. I have been thinking about how I will be carrying on the family by having the baby

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

23. I would find it difficult to bond with a baby who didn't have my genes

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

24. I feel close to the baby already because it has my genes

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

25. I feel that having a genetic link to the baby will create bond between us

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

26. I don't understand how my genes will affect the baby

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

27. I find it difficult to imagine the way the baby will be like me and the mother

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

28. I think the kind of person the baby grown up to be depends on:

Completely genes

Genes and a bit of upbringing

Somewhere in between

Upbringing and a bit of genes

Just upbringing

29. Thinking out about the genetic screening tests on offer during pregnancy is

Very important to me

Important

Neither

Not very important

Not at all important

30. Reading about the genetic screening tests on offer during pregnancy is Very important to me

Important

Neither

Not very important

Not at all important

31. I want to be involved in screening to make sure the baby has no illnesses

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

32. Being involved in screening decisions is

Very important

Important

Neither

Not very important

Not at all important

33. If you're making decisions about screening, it should be a joint decision

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

34. In terms of decisions my partner makes about how she gives birth:

I want to make the decision

I would want us to discuss and make a decision together

I'd want to discuss it together but for her to make the final decision

I want her to decide

I don't know

35. In terms of decisions my partner makes about screening and outcomes:

I want to make the decision

I would want us to discuss and make a decision together

I'd want to discuss it together but for her to make the final decision

I want her to decide

I don't know

36. I feel that as the father, I have as much right as the mother to make decisions about screening

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

37. If my partner and I disagreed about screening, I feel like it could strain our relationship

Strongly agree

Agree

Uncertain

Disagree

Strongly disagree

38. If my partner and I disagreed about screening tests, I would want...

- ...her to make the final decision
- ...her to consider my opinion, but to make the final decision herself
- ...us to talk about it together until we came to an agreement
- ... to decide what to do myself
- ...the doctors and nurses to decide what to do

39. In reality, if my partner and I disagreed about screening tests:

- She would make the final decision
- We would discuss our opinions together, but ultimately she would make the final decision herself
- We would talk about it together until we came to an agreement
- I would make the final decision
- We would let the medics would decide

40. It is important for me to attend screening appointments so I can get all of my questions answered

- Strongly agree
- Agree
- Uncertain
- Disagree
- Strongly disagree

- Were there any questions that it was difficult for you to answer? Please write down the number of the question and the reason why it was difficult in the space below.
- Were there any answers where you were unsure about your answer? Please write down the number of the question and the reason why you were unsure below.
- How do you feel about the response options given (e.g. strongly agree, agree, neutral)? Are there some ways in which you think they could be improved?
- How did you feel about answering the questions?
- Were there any questions you did not feel happy about answering? Why?
- Please add any other comments suggestions you have about the questionnaire.

APPENDIX 3.2

ROUND 2 PRETESTING QUESTIONNAIRE

Men's experiences of pregnancy:

(1) Please circle your responses.

(2) Use the space below each question if you would like to explain your answer.

(3) Write down any comments/suggestions you have about the questionnaire and ways that it could be improved – you can write these anywhere on the paper. For example, if the question is difficult to understand, or if the options I've given you for your answers could be made better, please say!

The questions that are marked with an arrow (➔) will not be included in the final copy of the questionnaire – they are included here to help me see what you think about the main questions I'm asking. You can skip any questions you do not want to answer.

1. I have been interacting with the unborn baby

- a) Very often
- b) Often
- c) Sometimes
- d) Hardly ever
- e) Never

➔ Can you tell me what ideas came to your mind when you answered this question?

2. I love the unborn baby

- a) Not at all
- b) Uncertain
- c) A little
- d) Quite strongly
- e) Strongly

➔ Can you tell me what you think about the options for your answers?

3. I feel committed to the unborn baby

- a) Strongly agree
- b) Agree
- c) Uncertain
- d) Disagree
- e) Strongly disagree

➔ What does the word “committed” mean to you?

4. I’ve been noticing personality characteristics about the unborn baby

- a) I haven’t noticed any
- b) I’m not sure
- c) I’ve noticed a few
- d) I’ve noticed some
- e) I’ve noticed a lot

➔ If you answered c), d) or e), can you say what kind of personality characteristics you thought about?

5. I feel like I know the unborn baby already

- a) I know him/her very well
- b) I know him/her well
- c) Uncertain
- d) I don’t know him/her well
- e) I don’t know him/her very well at all

➔ Can you tell me what ideas came to your mind when you answered the question?

6. In terms of how it feels that I'm going to be a dad (or if this isn't your first baby, be a dad again), it feels

- a) Very unreal
- b) Unreal
- c) Not sure
- d) Real
- e) Very real

➔ Can you tell me a little more about your answer?

7. I imagine myself caring for and nurturing the unborn baby

- a) Very often
- b) Often
- c) Sometimes
- d) Hardly ever
- e) Never

8. I not sure how I will feel about being a dad (or being a dad again)

- a) Strongly disagree
- b) Agree
- c) Uncertain
- d) Agree
- e) Strongly agree

➔ Can you tell me what ideas came to your mind when your answer?

9. I feel uneasy about being a dad (or being a dad again)

- a) Strongly agree

- b) Agree
- c) Uncertain
- d) Disagree
- e) Strongly disagree

➔ So I can see whether this question is clear, can you say what 'uneasy' means to you?

10. Regarding my feelings to the unborn baby:

- a) I feel a very strong bond
- b) I feel a strong bond
- c) The bond is still developing
- d) I don't quite feel a bond
- e) I don't feel a bond at all

➔ So I can see whether this question is clear, can you say what 'bond' means to you?

11. I worry about bonding with the unborn baby in case something goes wrong in the pregnancy

- a) Very often
- b) Often
- c) Sometimes
- d) Hardly ever
- e) Never

➔ Can you say a little bit more about your answer?

12. I worry that I will not be able to bond with the baby when it's born

- a) Very often
- b) Often
- c) Sometimes
- d) Hardly ever
- e) Never

13. I think about what family traits will be passed on to the unborn baby during the pregnancy

- a) Very often
- b) Often
- c) Occasionally
- d) Rarely
- e) Very rarely

➔ Can you tell me what ideas came to your mind when you answered the question?

14. I worry about whether any family illnesses will be passed on to the unborn baby

- a) Never
- b) Hardly ever
- c) Sometimes
- d) Often
- e) Very often

➔ Can you tell me what ideas came to your mind when you answered this?

15. Spending time with and caring for the baby when it's born will create a bond between us

- a) Definitely
- b) Probably
- c) Uncertain
- d) Probably not
- e) Definitely not

16. I imagine ways that the unborn baby will look like me and the mother

- a) Never
- b) Hardly ever
- c) Sometimes
- d) Often
- e) Very often

➔ Can you give me some examples of what you thought about when you answered this question?

17. I feel like the unborn baby is a part of me

- a) I feel this way very much
- b) I feel this way
- c) Uncertain
- d) I don't feel this way much
- e) I don't feel this way at all

➔ Can you say a little more about your answer?

18. I imagine ways in which the unborn baby will have a similar personality to me and the mother

- a) Very often
- b) Often
- c) Sometimes
- d) Hardly ever
- e) Never

➔ Can you tell me what you thought about when you answered this question?

19. The fact that the growing baby is made of my genes is something I think about

- a) Never
- b) Hardly ever
- c) Sometimes
- d) Often
- e) Very often

➔ So I can see whether this question is clear, can you say what 'genes' means to you?

20. I think about which of my genes will be passed on to the unborn baby

- a) Very often
- b) Often
- c) Sometimes
- d) Hardly ever
- e) Never

➔ Can you tell me what you thought about when you answered this question?

21. I think about how I will be carrying on the family by having the baby
- a) Never
 - b) Hardly ever
 - c) Sometimes
 - d) Often
 - e) Very often
22. I would find it difficult to bond with a baby who didn't have my genes
- a) Strongly disagree
 - b) Disagree
 - c) Uncertain
 - d) Agree
 - e) Strongly agree
- ➔ Can you say a little more about your answer?
23. I feel close to the unborn baby already because I know it has my genes
- a) Strongly agree
 - b) Agree
 - c) Not sure
 - d) Disagree
 - e) Strongly disagree
24. I feel that having a genetic link to the baby will create bond a between us
- a) Strongly disagree
 - b) Disagree
 - c) Uncertain
 - d) Agree
 - e) Strongly disagree

➔ What do you think will create a bond between you and the baby when it's born?

25. When thinking about how my genes will affect the baby

- a) I completely understand
- b) I moderately understand
- c) I understand a little
- d) I'm not sure
- e) I don't know

26. I think the kind of person the baby grown up to be depends on:

- a) Completely genes
- b) Genes and a bit of upbringing
- c) Somewhere in between
- d) Upbringing and a bit of genes
- e) Just upbringing

The next few questions are about pregnancy screening tests. These tests are offered to pregnant women to check whether the unborn baby is healthy. The tests normally involve blood tests and ultrasound scans. For a small number of people, the screening tests show that the baby **might** be at a higher risk than normal of having a condition like Down syndrome. If this happens, then you may be offered more tests. These screening tests are all optional – some people choose not to have them.

➔ Can you say how much of the above information you knew already?

27. Getting information about the screening tests on offer during pregnancy is
- a) Very important to me
 - b) Important
 - c) I don't know
 - d) Not very important
 - e) Not at all important
28. I feel that as the father, I have as much right as the mother to make decisions about whether to have screening tests
- a) Strongly agree
 - b) Agree
 - c) Uncertain
 - d) Disagree
 - e) Strongly disagree
- ➔ Can you briefly explain why?
29. Regarding decisions about which screening tests to have:
- a) I want to make the decisions on my own
 - b) I would want me and the mother to make a decision together
 - c) I'd want to discuss it with the mother, but for her to make the final decision
 - d) I want her to decide on her own
 - e) I don't know
30. If the screening results suggested the baby might have a medical issue:
- a) I want to make the decision about what to do on my own
 - b) I would want me and the mother to make a decision together 4
 - c) I'd want to discuss it with the mother, but for her to make the final decision about what to do
 - d) I want her to decide on her own
 - e) I don't know

31. If the baby's mother and I disagreed about whether to have screening tests, I feel like it could strain our relationship

- a) Strongly disagree
- b) Disagree
- c) Uncertain
- d) Agree
- e) Strongly agree

32. I feel that it is important that I attend the appointments for the screening tests

- a) Very important to me
- b) Important
- c) I don't know
- d) Not very important
- e) Not at all important

➔ Can you briefly explain why?

- Were there any questions that it was difficult for you to answer? Please write down the number of the question and the reason why it was difficult in the space below.
- Were there any questions you did not feel happy about answering? Why?
- Are there some ways that the options for your answers could be improved? Do you feel like you could find the right answer for you?
- Are there some ways that you think the presentation of the questionnaire could be improved (for example, the way the writing looks, and the amount of space you have to write in)?
- Please add any other comments suggestions you have about the questionnaire.

APPENDIX 3.3

ROUND 3 PRETESTING QUESTIONNAIRE

Men's experiences of pregnancy

(1) Please circle your responses.

(2) Use the space below each question if you want to explain your answer.

(3) Write down any comments/suggestions you have about the questionnaire and ways that it could be improved – you can write these anywhere on the paper. For example, if the question is difficult to understand, or if the options I've given you for your answers could be made better, please say!

The questions that are marked with an arrow (➔) will not be included in the final copy of the questionnaire – they are included here to help me see what you think about the main questions I'm asking. **You can skip any questions you do not want to answer.**

1. I talk to the unborn baby

f) Very often

g) Often

h) Sometimes

i) Hardly ever

j) Never

k) Other (please give more information) _____

➔ Can you tell me what ideas came to your mind when you answered this question?

2. I feel love towards the unborn baby

f) Not at all

g) Uncertain

h) A little bit

i) Quite strongly

j) Strongly

k) Other (please give more information) _____

➔ Can you tell me what you think about these options for your answers (a, b, c, d or e)?

3. I feel committed to the unborn baby

f) Strongly agree

g) Agree

h) Uncertain

i) Disagree

j) Strongly disagree

k) Other (please give more information) _____

➔ What does the word “committed” mean to you?

4. I am starting to notice the unborn baby’s behaviours

a) Strongly agree

b) Agree

c) Uncertain

d) Disagree

e) Strongly disagree

f) Other (please give more information) _____

➔ If you answered c) d) or e), can you say what kind of personality characteristics you thought about?

5. In terms of how it feels that I’m going to be a dad (or if this isn’t your first baby, be a dad again), it feels

f) Very unreal

g) Unreal

h) Not sure

i) Real

j) Very real

Other (please give more information) _____

➔ Can you tell me a little more about your answer?

6. I imagine myself caring for and nurturing the unborn baby
- f) Very often
 - g) Often
 - h) Sometimes
 - i) Hardly ever
 - j) Never
 - k) Other (please give more information) _____
7. I'm unsure how I will feel about being a dad (or being a dad again)
- f) Strongly disagree
 - g) Disagree
 - h) Uncertain
 - i) Agree
 - j) Strongly agree
 - k) Other (please give more information) _____
- ➔ Can you tell me what ideas came to your mind when your answer?
8. I feel don't feel ready for being a dad (or being a dad again)
- f) Strongly agree
 - g) Agree
 - h) Uncertain
 - i) Disagree
 - j) Strongly disagree
 - k) Other (please give more information) _____
9. Regarding my feelings to the unborn baby:
- f) I feel a very strong bond

- g) I feel a strong bond
- h) The bond is still developing
- i) I don't quite feel a bond
- j) I don't feel a bond at all
- k) Other (please give more information) _____

➔ So I can see whether this question is clear, can you say what 'bond' means to you?

10. I worry that I will not be able to bond with the baby when it's born

- f) Very often
- g) Often
- h) Sometimes
- i) Hardly ever
- j) Never
- k) Other (please give more information) _____

11. I think about what family genes will be passed on to the unborn baby

- a) Very often
- b) Often
- c) Occasionally
- d) Rarely
- e) Very rarely
- f) Other (please give more information) _____

Can you say what the word 'genes' means to you?

12. I think about what family traits will be passed on to the unborn baby

- f) Very often
- g) Often
- h) Occasionally
- i) Rarely

j) Very rarely

k) Other (please give more information) _____

➔ Can you tell me what the word 'traits' means to you?

13. I think about whether any family illnesses will be passed on to the unborn baby People might get never and there are no illnesses mixed up...

f) Never

g) Hardly ever

h) Sometimes

i) Often

j) Very often

k) There are no illnesses in my family that I know of

➔ Can you tell me a little more about your answer?

14. I imagine ways that the unborn baby will look like me and the mother

a) Never

b) Hardly ever

c) Sometimes

d) Often

e) Very often

f) Other (please give more information) _____

➔ Can you give me some examples of what you thought about when you answered this question?

15. The fact that the growing baby is made of my genes is something I think about

a) Never

b) Hardly ever

c) Sometimes

- d) Often
- e) Very often
- f) Other (please give more information) _____

➔ So I can see whether this question is clear, can you say what 'genes' means to you?

16. I feel like the unborn baby is a part of me

- a) I feel this way very much
- b) I feel this way
- c) Uncertain
- d) I don't feel this way much
- e) I don't feel this way at all
- f) Other (please give more information) _____

➔ Can you say a little more about your answer?

17. I imagine ways in which the unborn baby will have a similar personality to me and the mother

- a) Very often
- b) Often
- c) Sometimes
- d) Hardly ever
- e) Never
- f) Other (please give more information) _____

➔ Can you tell me what you thought about when you answered this question?

18. I think about which of my genes will be passed on to the unborn baby

- a) Very often
- b) Often

- c) Sometimes
- d) Hardly ever
- e) Never
- f) Other (please give more information) _____

➔ Can you tell me what you thought about when you answered this question?

19. I think about how the unborn baby is carrying on my family

- a) Never
- b) Hardly ever
- c) Sometimes
- d) Often
- e) Very often
- Other (please give more information) _____

20. I feel close to the unborn baby already because I know it has my genes

- a) Strongly agree
- b) Agree
- c) Not sure
- d) Disagree
- e) Strongly disagree

21. I feel that having a genetic link to the baby will create bond a between us

- a) Strongly disagree
- b) Disagree
- c) Uncertain
- d) Agree
- e) Strongly agree
- f) Other (please give more information) _____

➔ Can you say what the word 'genetic' means to you here?

22. When thinking about how my genes will affect the baby

- a) I completely understand
- b) I moderately understand
- c) I understand a little
- d) I'm not sure
- e) I don't know
- f) Other (please give more information) _____

23. I think the kind of person the baby grown up to be depends on

- a) Completely genes
- b) Genes and a bit of upbringing
- c) Somewhere in between
- d) Upbringing and a bit of genes
- e) Just upbringing
- f) Other (please give more information) _____

The next few questions are about pregnancy screening tests. These tests are offered to pregnant women to check whether the unborn baby is healthy. The tests normally involve blood tests and ultrasound scans. For a small number of people, the screening tests show that the baby **might** be at a higher risk than normal of having a condition like Down syndrome. If this happens, then you may be offered more tests. These screening tests are all optional – some people choose not to have them.

➔ Can you say how much of the above information you knew already?

24. Getting information about the screening tests on offer during pregnancy is

- a) Very important to me
- b) Important
- c) I don't know

- d) Not very important
- e) Not at all important
- f) Other (please give more information) _____

25. I feel that as the father, I have as much right as the mother to make decisions about whether to have screening tests

- a) Strongly agree
- b) Agree
- c) Not sure
- d) Disagree
- e) Strongly disagree
- f) Other (please give more information) _____

➔ Can you briefly explain why?

26. Regarding decisions about which screening tests to have

- a) I want to make the decisions on my own
- b) I would want me and the mother to make a decision together
- c) I'd want to discuss it with the mother, but for her to make the final decision
- d) I want her to decide on her own
- e) I don't know
- f) Other (please give more information) _____

27. If the screening results suggested the baby might have a medical issue

- a) I want to make the decision about what to do on my own
- b) I would want me and the mother to make a decision together
- c) I'd want to discuss it with the mother, but for her to make the final decision about what to do
- d) I want her to decide on her own
- e) I don't know
- f) Other (please give more information) _____

28. If the baby's mother and I disagreed about whether to have screening tests, I feel like it could strain our relationship

- a) Strongly disagree
- b) Disagree
- c) Uncertain
- d) Agree
- e) Strongly agree
- f) Other (please give more information) _____

29. I feel that it is important that I attend the appointments for the screening tests

- a) Very important
- b) Important
- c) I don't know
- d) Not very important
- e) Not at all important
- f) Other (please give more information) _____

➔ Can you briefly explain why?

- Were there any questions that it was difficult for you to answer? Please write down the number of the question and the reason why it was difficult in the space below.
- Were there any questions you did not feel happy about answering? Why?
- Are there some ways that the options for your answers could be improved? Do you feel like you could find the right answer for you?
- Are there some ways that you think the presentation of the questionnaire could be improved (for example, the way the writing looks, and the amount of space you have to write in)?
- Please add any other comments suggestions you have about the questionnaire

APPENDIX 3.4

ROUND 4 PRETESTING QUESTIONNAIRE

Men's experiences of pregnancy: Instructions

With this project, we aim to get a better idea of what men think and feel during pregnancy.

- Some questions ask you to circle your response, and some ask for a short, written answer.
- If you are unsure about which response to give to a question, the first response you think of is often the best one.
- Please answer on your own, about your own views and feelings
- **Please also write down any comments/suggestions you have about the questionnaire and ways that it could be improved.** You can anywhere on the paper, and there is also space for you to do this at the end. For example, if the question is difficult to understand, or if the options I've given you for your answers could be made better, please say!

Q1. I think about what parts of me will be passed on to the unborn baby

Very often Often Sometimes Rarely Never

Q2. Can you say a little bit more about your answer to Q1?

Q3. I think about what family traits will be passed on to the unborn baby

Very often Often Sometimes Rarely Never

Q4. What does the word 'traits' mean to you?

Q5. Who do you personally think about when you see the word 'family'?

Q6. I worry that I will not be able to bond with the baby when it's born

Very often Often Sometimes Rarely Never

Q7. What does the word 'bond' mean to you?

Q8. The fact that the growing baby is made of my genes is something I think about

Very often Often Sometimes Rarely Never

Q9. What does the word 'genes' mean to you?

The questions over the page will be about pregnancy screening tests. These tests are offered to pregnant women to check whether the unborn baby is healthy. The tests normally involve blood tests and ultrasound scans. For a small number of people, the screening tests show that the baby **might** be at a higher risk than normal of having a condition like Down syndrome. If this happens, then you may be offered more tests. These screening tests are all optional – some people choose not to have them.

Q10. Can you say how much of the above information you knew already?

Q11. I feel that it is important that I attend the appointments for the screening tests

Strongly agree Agree Not sure Disagree Strongly disagree

Q13. I feel that as the father, I have as much right as the mother to make decisions about whether to have screening tests

Strongly agree Agree Not sure Disagree Strongly disagree

Q14. Can you give a bit of explanation for your answer to Q13?

Q15. If the mother I disagreed on decisions about screening, I'd want the mother to make the final decision

Strongly agree Agree Not sure Disagree Strongly disagree

Q16. If the mother I disagreed on decisions about screening, I'd want me and the mother to talk until we came to some kind of agreement

Strongly agree Agree Not sure Disagree Strongly disagree

Q17. I don't mind whether I am involved in the screening appointments as long as the mother is happy

Strongly agree Agree Not sure Disagree Strongly disagree

Q18. I don't mind whether I am involved in decisions about screening as long as the baby's mother is happy

Strongly agree Agree Not sure Disagree Strongly disagree

Q19. I have strong opinions about what to do if the unborn baby was at-risk of a condition like Down syndrome

Strongly agree Agree Not sure Disagree Strongly disagree

Q20. Any decision about screening for the unborn baby should be a joint decision, between me and the mother

Strongly agree Agree Not sure Disagree Strongly disagree

Q21. Being involved in the screening appointments and discussions about screening is part of being a good father

Strongly agree Agree Not sure Disagree Strongly disagree

Q22. Being involved in the screening appointments and discussions about screening is part of being a good husband / boyfriend

Strongly agree Agree Not sure Disagree Strongly disagree

Q23. Have you had a scan already today? Yes ☐ No ☐

Q24. Have you felt the unborn baby move yet? Yes ☐ No ☐

Q25. Before doing this questionnaire, did you have an interest in, or some knowledge about, genes and genetics? Yes ☐ No ☐

If yes, could you give a bit more detail in the space below?

Q26. Please name three ways that this questionnaire could be improved:

1)

2)

3)

APPENDIX 3.5

PILOTING QUESTIONNAIRE

Men's experiences of pregnancy

- With this project, we are hoping to get a better idea of what men think and feel during pregnancy.
 - Please read each statement and circle the answer that comes closest to how you feel.
 - If you are unsure about which response to give to a question, the first response you think of is often the best one.
 - Please answer on your own, about your own views and feelings
-

Q1. I talk to the unborn baby

Very often Often Sometimes Rarely Never

Q2. I imagine myself caring for and nurturing the unborn baby

Very often Often Sometimes Rarely Never

Q3. I imagine ways that the unborn baby will look like me and the mother

Very often Often Sometimes Rarely Never

Q4. The fact that the growing baby is made of my genes is something I think about

Very often Often Sometimes Rarely Never

Q5. I think about what parts of me will be passed on to the unborn baby

Very often Often Sometimes Rarely Never

Q6. I think about how I've mixed my genes with another person by having this baby

Very often	Often	Sometimes	Rarely	Never
------------	-------	-----------	--------	-------

Q7. I think about how the unborn baby is carrying on my family

Very often	Often	Sometimes	Rarely	Never
------------	-------	-----------	--------	-------

Q8. I feel emotionally distant to the unborn baby

Very often	Often	Sometimes	Rarely	Never
------------	-------	-----------	--------	-------

Q9. I think about what family genes will be passed on to the unborn baby

Very often	Often	Sometimes	Rarely	Never
------------	-------	-----------	--------	-------

Q10. I worry that I will not be able to bond with the baby when it's born

Very often	Often	Sometimes	Rarely	Never
------------	-------	-----------	--------	-------

Q11. I think about whether any family illnesses could be passed on to the unborn baby

Very often	Often	Sometimes	Rarely	Never
------------	-------	-----------	--------	-------

Q12. I think about what family traits will be passed on to the unborn baby

Very often	Often	Sometimes	Rarely	Never
------------	-------	-----------	--------	-------

Q13. I feel unattached to the unborn baby

Always	Often	Sometimes	Rarely	Never
--------	-------	-----------	--------	-------

Q14. I feel a sense of commitment to the unborn baby

Always	Often	Sometimes	Rarely	Never
Q15. I'm not sure how I feel about being a dad (or being a dad again)				
Strongly agree	Agree	Not sure	Disagree	Strongly disagree
Q16. I feel prepared for being a dad (or being a dad again)				
Strongly agree	Agree	Not sure	Disagree	Strongly disagree
Q17. I feel a bond to the unborn baby				
Always	Often	Sometimes	Rarely	Never
Q18. It feels real that I'm going to be a dad (or be a dad again)				
Strongly agree	Agree	Not sure	Disagree	Strongly disagree
Q19. I feel like the unborn baby is a part of me				
Strongly agree	Agree	Not sure	Disagree	Strongly disagree
Q20. Seeing how the baby looks similar to me will help me to bond with it				
Strongly agree	Agree	Not sure	Disagree	Strongly disagree
Q21. I understand how genetic things affect the baby				
Strongly agree	Agree	Not sure	Disagree	Strongly disagree
Q22. I think genes are really important for how the baby will turn out				
Strongly agree	Agree	Not sure	Disagree	Strongly disagree

Q23. I feel that having a genetic link to the baby will create bond a between us

Strongly agree Agree Not sure Disagree Strongly disagree

The next few questions are about pregnancy screening tests. These tests are offered to pregnant women to check whether the unborn baby is healthy. The tests normally involve blood tests and ultrasound scans. For a small number of people, the screening tests show that the baby **might** be at a higher risk than normal of having a condition like Down syndrome. If this happens, then you may be offered more tests. These screening tests are all optional – some people choose not to have them.

Q24. I feel that it is important that I attend the appointments for the screening tests

Strongly agree Agree Not sure Disagree Strongly disagree

Q25. I don't mind whether I am involved in decisions about screening as long as the mother is happy

Strongly agree Agree Not sure Disagree Strongly disagree

Q26. I feel that as the father, I have as much right as the mother to make decisions about whether to have screening tests

Strongly agree Agree Not sure Disagree Strongly disagree

Q27. If the mother I disagreed on decisions about screening, I'd want the mother to make the final decision

Strongly agree Agree Not sure Disagree Strongly disagree

Q28. If the mother I disagreed on decisions about screening, I'd want us to talk until we came to some kind of agreement

Strongly agree Agree Not sure Disagree Strongly disagree

Q29. I don't mind whether I am involved in the screening appointments as long as the mother is happy

Strongly agree Agree Not sure Disagree Strongly disagree

Q30. I have strong opinions about what to do if the unborn baby was at-risk of a condition like Down syndrome

Strongly agree Agree Not sure Disagree Strongly disagree

Q31. Any decision about screening for the unborn baby should be a joint decision, between me and the mother

Strongly agree Agree Not sure Disagree Strongly disagree

Q32. Being involved in the screening appointments and discussions about screening is part of being a good father

Strongly agree Agree Not sure Disagree Strongly disagree

Q33. Being involved in the screening appointments and discussions about screening is part of being a good husband / boyfriend

Strongly agree Agree Not sure Disagree Strongly disagree

Q34. Have you had a scan already today? Yes ☐ No ☐

Q35. Have you felt the unborn baby move yet? Yes ☐ No ☐

Q36. Please name some ways that this questionnaire could be improved:

Background questions

I am asking the below questions just to make sure I am speaking to men from a variety of backgrounds. **You can skip any questions you don't want to answer.** All of the information you give will be kept confidential and will be kept separate from your answers on the questionnaire.

1. What's your age? _____
2. What's your ethnicity? _____
3. Have you got any other children? Yes ☐ No ☐ If yes, how old are they?

4. Are you currently employed? Yes ☐ No ☐ I am a student ☐ I am self employed ☐
5. If you are employed, what is your occupation? _____
6. If you are not employed, what was your last occupation? _____
7. Do you supervise anyone at work? (or if you are currently unemployed, did you supervise anyone at your last job?) Yes ☐ No ☐
8. How many people work at your place of work? (or if you are currently unemployed, how many people worked at your last place of work?) 1 – 24 ☐ 25 or over ☐
9. What is your highest level of education? _____
10. What's your relationship status? Married ☐ Living with partner ☐ In a relationship (not living with partner) ☐ Single ☐
11. What your baby's mother's age? _____
12. How many weeks pregnant is the mother? (give a rough idea if you are unsure) _____
13. Did you attend the first midwife appointment (known as the "booking appointment")? Yes ☐ No ☐ Don't know ☐ Haven't had it yet ☐
14. Have you had a scan today? Yes ☐ No ☐
15. Did you attend the 12-week scan? Yes ☐ No ☐ Don't know ☐ Haven't had it yet ☐
16. Did you attend the 20-week scan? ? Yes ☐ No ☐ Don't know ☐ Haven't had it yet ☐
17. Did all of the results so far come back normal? Yes ☐ No ☐ Don't know ☐ If you answered no, can you give a bit more detail?
18. Have you attended antenatal classes? Yes ☐ No ☐ Don't know ☐ Haven't had any yet ☐
19. Have you felt the unborn baby move yet? Yes ☐ No ☐

If you'd like information about the research findings, please leave me your name and contact details here:

APPENDIX 3.6

ROUND 5 PRETESTING QUESTIONNAIRE

Men's experiences of pregnancy

- With this project, we are hoping to get a better idea of what men think and feel during pregnancy.
- Please read each statement and the answers, and circle the answer that comes closest to how you feel.
- If you are unsure about your answer, the first answer you think of is probably the best one.
- **This questionnaire should be filled out by the expectant dad. Please answer on your own! ☺**
- Answer in relation to how you've been feeling **for the past two weeks**

Q1a. I've thought about how the baby is our flesh and blood

Very often	Often	Sometimes	A bit, but not much	Not really
------------	-------	-----------	---------------------	------------

Q1b: What does 'flesh and blood' mean to you?

Q2a. I've thought about what physical parts of me will be passed on to the unborn baby

Very often	Often	Sometimes	A bit, but not much	Not really
------------	-------	-----------	---------------------	------------

Q2b: What physical parts have you thought about?

Q3a. I have felt attached to the unborn baby

I've felt completely attached all the time	I've felt attached most of the time	I've felt a bit attached	Not yet, but I know I will when he/she's born	I haven't felt attached yet
--	-------------------------------------	--------------------------	---	-----------------------------

Q3b: What does 'attached' mean to you?

Q4a. I've felt committed to the unborn baby

I've felt completely	I've felt	I've felt committed	I've felt committed at	I've haven't really
----------------------	-----------	---------------------	------------------------	---------------------

committed all the time	committed most of the time	quite often	times	felt committed yet
------------------------	----------------------------	-------------	-------	--------------------

Q4b: What does 'committed' mean to you?

Q5a. I've felt sure about my feelings about being a dad (or being a dad again)

I've felt completely sure	I've felt mostly sure	I've had some mixed feelings, but mostly I'm sure	I've felt quite confused	I've felt very confused
---------------------------	-----------------------	---	--------------------------	-------------------------

Q5b. What do you think about the options for your answers in the above questions?

Q6. I understand how my genes (my DNA) might affect the baby

I understand completely	I think I understand	I'm not sure	I don't think I understand	I don't really understand
-------------------------	----------------------	--------------	----------------------------	---------------------------

Q7a. I feel that sharing my genes (my DNA) with the baby will create a bond between us

I strongly agree	I mostly agree	I'm not sure	I don't agree	I don't agree at all
------------------	----------------	--------------	---------------	----------------------

Q7b. What do genes/DNA mean to you?

Q8a. At the moment, I think the mother feels a stronger emotional link to the baby than me

I strongly agree	I mostly agree	I'm not sure	I don't agree	I don't agree at all
------------------	----------------	--------------	---------------	----------------------

Q8b: Can you explain your answer for the above question?

The next few questions are about pregnancy screening tests. These tests are offered to pregnant women to check whether the unborn baby is healthy. The tests normally involve blood tests and ultrasound scans. For

a small number of people, the screening tests show that the baby **might** be at a higher risk than normal of having a condition like Down syndrome. If this happens, then you may be offered more tests. These screening tests are all optional – some people choose not to have them.

Q9a. It is important that men go to the appointments for the screening tests

I strongly agree	I mostly agree	I'm not sure	I don't agree	I don't agree at all
------------------	----------------	--------------	---------------	----------------------

Q9b: Please explain your answer:

Q10a. I personally want to go to the screening appointments

I strongly agree	I agree	I'm not sure	I don't agree	I don't agree at all
------------------	---------	--------------	---------------	----------------------

Q10b: Please explain your answer:

Q11a. As the dad, I think I should know a bit about the screening tests offered in pregnancy

I strongly agree	I mostly agree	I'm not sure	I don't agree	I don't agree at all
------------------	----------------	--------------	---------------	----------------------

Q11b: Please explain your answer:

Q12a. Spending some time talking to the mother about screening is important to me

It's very important to me	It's important to me	It's a little important to me	It's not that important to me	It's not important to me at all
------------------------------	-------------------------	----------------------------------	----------------------------------	------------------------------------

Q12b: Please explain your answer:

Q13a. I'd only want information about screening if something was wrong with the baby

I strongly agree	I agree	I'm not sure	I don't agree	I don't agree at all
------------------	---------	--------------	---------------	----------------------

Q13b: Please explain your answer:

Q14a. I'd rather let midwives' tell me about screening than find information on my own

I strongly agree	I agree	I'm not sure	I don't agree	I don't agree at all
------------------	---------	--------------	---------------	----------------------

Q14b: Please explain your answer:

Q15a. I'd rather have a shorter appointment, even if it meant getting less information about screening from midwives

I strongly agree, (shorter appointment)	I agree	I'm not sure	I don't agree	I don't agree at all, (more information)
---	---------	--------------	---------------	---

Q15b: Please explain your answer:

Q16a. I've wondered whether we should bother with the screening tests

I've wondered this a lot	I've wondered this quite a lot	I've wondered this a bit	I haven't really wondered this	I haven't wondered this at all
---------------------------------	---------------------------------------	---------------------------------	-----------------------------------	-----------------------------------

Q16b: Please explain your answer:

Q17a. Men's only role in screening is to support women

I strongly agree	I agree	I'm not sure	I don't agree	I don't agree at all
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Q17b: Please explain your answer

APPENDIX 4.1

FINAL QUESTIONNAIRE ADMINISTRATION: SAMPLE INFORMATION SHEET

Information about pregnancy screening research

1. What is the purpose of the study?

Pregnancy screening usually involves scans and blood tests that help to see whether an unborn child is healthy. The study is being conducted because we do not know much about what expectant fathers think and feel about pregnancy and pregnancy screening.

2. What will I have to do if I take part?

You will be asked to fill in a questionnaire about your experiences of pregnancy. You can skip any questions you do not want to answer. If for any reason you are unable to do the questionnaire now, you can fill it in and post it in the enclosed freepost envelope.

3. How will my information be used?

Your opinions and ideas about the questionnaire will be pooled and analysed with those from around 11 other men to allow me to see whether any questions should be kept, removed or changed. Findings will also be written up for medical and health journals, and the NHS will be notified of any necessary improvements.

4. Will my taking part in the study be kept anonymous and confidential?

Yes. Any information that may identify you, for example, your age/ethnicity, will be kept separate to your questionnaire.

After your details have been removed, only my supervisors, other authorised individuals from University of Birmingham, regulatory authorities or the NHS trust will see the questionnaire.

Any record of the personal information you give to me, such as your age, will be destroyed once the project is completed. Your details will not be passed on to any third parties, you will not be contacted for anything that does not relate to this research, and the information I gather from the research will not be used for any other purposes besides this project.

If you wish to see the questionnaire and results of the research, you should contact me and it will be sent to you within a 40-day period. **5. What are the downsides and benefits of taking part?**

Depending on your personal circumstances, you may find some of the questions asked in the questionnaire upsetting, but you will be free to skip any questions you do not wish to answer (see question 6 for more details). Also, taking part in the research will take up some of your time, but please remember that it will give you a chance to express your own opinions, ideas and experiences.

6. What will happen if I don't want to carry on with the study?

You can skip any questions you do not want to answer. You can also decide to leave the study at any time, even partway through. After you take part, you can ask for any information you have provided to be withdrawn and therefore destroyed without being used for any articles or reports. This will not affect the mother's pregnancy care. If for any unforeseen circumstances, you are unable to withdraw the information you have provided, your information will be used in the research but any personal details you provide will be destroyed.

7. What if I have questions about the research?

For specific information about this research project, please contact me or one of my supervisors – contact details are below. If you have any general queries or concerns about research in the NHS, please contact, the Patient Advice and Liaison Service (PALS) on 0800 917 2855 between Monday to Friday 9.00 – 17.00, or via email on PALS@sbpct.nhs.uk. Information about PALS can be found on their website; www.pals.nhs.uk.

8. What should I do if I wish to take part?

Please fill out the questionnaire and hand it back to Sandi when you are finished.

Researcher: Sandi Dheensa

■ e | 0121|414|8549

|Email ■ SX ■ 954@bham ■ ■ ■

Supervisors to the research:

- Professor Alison Metcalfe Tel: 020 7848 3828 alison.metcalfe@kcl.ac.uk
- Dr Bob Williams Tel: 0121 414 7148 r.a.williams.1@bham.ac.uk

For more information on The University of Birmingham School of Health and Population Sciences, please see <http://www.haps.bham.ac.uk/> or call on 0121 414 3244

APPENDIX 4.2

FINAL QUESTIONNAIRE ADMINISTRATION: SAMPLE DEMOGRAPHIC QUESTIONS

I am asking the below questions just to make sure I am speaking to men from a variety of backgrounds. **You can skip any questions you don't want to answer.** All of the information you give will be kept confidential and will be kept separate from your answers on the questionnaire.

20. What's your age? _____
21. What's your ethnicity? _____
22. Have you got any other children? Yes ☐ No ☐ If yes, how old are they?

23. Are you currently employed? Yes ☐ No ☐ I am a student ☐ I am self employed ☐
24. If you are employed, what is your occupation? _____
25. If you are not employed, what was your last occupation? _____
26. Do you supervise anyone at work? (or if you are currently unemployed, did you supervise anyone at your last job?) Yes ☐ No ☐
27. How many people work at your place of work? (or if you are currently unemployed, how many people worked at your last place of work?) 1 – 24 ☐ 25 or over ☐
28. What is your highest level of education? _____
29. What's your relationship status? Married ☐ Living with partner ☐ In a relationship (not living with partner) ☐ Single ☐
30. What your baby's mother's age? _____
31. How many weeks pregnant is the mother? (give a rough idea if you are unsure) _____
32. Did you attend the first midwife appointment (known as the "booking appointment")? Yes ☐ No ☐ Don't know ☐ Haven't had it yet ☐
33. Have you had a scan today? Yes ☐ No ☐
34. Did you attend the 12- week scan? Yes ☐ No ☐ Don't know ☐ Haven't had it yet ☐
35. Did you attend the 20-week scan? ? Yes ☐ No ☐ Don't know ☐ Haven't had it yet ☐
36. Did all of the results so far come back normal? Yes ☐ No ☐ Don't know ☐ If you answered no, can you give a bit more detail?
37. Have you attended antenatal classes? Yes ☐ No ☐ Don't know ☐ Haven't had any yet ☐
38. Have you felt the unborn baby move yet? Yes ☐ No ☐

If you'd like information about the research findings, please leave me your name and contact details here:

APPENDIX 4.3

FINAL QUESTOINNIRE ADMINISTRATION: SAMPLE CONSENT FORM

1. I confirm that I have read the information sheet dated 19/08/11 Version 8 and understand what the research will involve.
2. I have had the chance to ask questions and have had my questions answered fully
3. I understand that taking part in this research is voluntary and I am free to withdraw at any time without giving a reason
4. I understand that all the answers I give will be made anonymous and will be kept confidential
5. I understand that my answers will be looked at by the main researcher (Sandi Dheensa) and may be looked at by her supervisors (Alison Metcalfe and Bob Williams) or other authorised researchers at the university. All this data will be anonymous – any personal information will be removed. I give permission for these individuals to have access to my data.
6. I understand that relevant sections of the data collected during the study may be looked at by individuals from regulatory authorities or from the NHS trust where it is relevant to my taking part in this research. All this data will be anonymous – any personal information will be removed. I give permission for these individuals to have access to my data.
7. I understand that the results from the research may be published or presented to the NHS
8. I agree to take part in the above study. Please ask any questions you have about the research before you sign the form

Name of participant:

Signed:

Name of person taking consent: Sandi Dheensa

Signed:

Date:

If you would like a summary report of what is found in this research|when it is

complete, please contact me: Sandi Dheensa: [REDACTED]

[REDACTED]XD954@bham.ac.uk

APPENDIX 5: EXPLANATION OF STATISTICAL TESTS USED IN CHAPTER 8

A5.1 Some basic terms: type 1 error, Type 2 error and *P*-values

In order to explain how two or more variables are related, statistical techniques are used to build a model of a concept to try and predict how the concept might operate in the real world, under different conditions. In the current study, a model was built of men's prenatal paternal identity and child-schema to see how it would change in relation to men's demographics and their views on screening.

Type 1 error is when there is assumed to be a difference in the populations when there is none.

Type 2 error is not detecting a difference when there is one. A result of a statistical test is usually only accepted when there is a 5% (0.05) or less chance that the result was a chance finding. In other words, the probability of a Type1 error should be 5% or less. The chance level is also called a p-value or an alpha level. The smaller it is the better fit the model is to the data. Where the p-value is less than 0.05, the test statistic is deemed to be 'significant'.

The maximum acceptable level for Type 2 error is usually 20% (0.2). If the chance of missing an effect that exists is 0.2, then the probability of detecting an effect is 0.8. A test should therefore have 80% power of detecting an effect. The way power was calculated is presented in section 8.2.3. The larger the test statistic (i.e. the result of the statistical test), the less likely it is to have occurred by chance. Effect sizes are a way to judge how big a significant effect is.

A5.2 Exploratory Factor Analysis

The data were subject to Exploratory Factor Analysis, a process which reduces the data into groups of variables, or factors, which can be explained by some latent (immeasurable) construct. It aims to show which items on the scale correlate highly with each other, but not highly with any other items on the scale, thus reducing the correlation matrix down to its underlying dimensions (Field, 2005). EFA thereby creates a mathematical model from the data, revealing latent variables (i.e. the variables that underpin PICS and ‘screening views’) that cause the manifest variables (i.e. the items) to co-vary, i.e. i.e. the amount two variables vary together. The variance each item shares with other items is separated from its unique variance and error variance. EFA was thus useful to identify the variables that came together to form prenatal paternal identity and child-schema, and the variables that came together to form men’s views on screening. When a factor analysis is conducted, a pattern matrix is constructed, which illustrates the contribution each item makes to each factor. If factors are seen as axes on a graph, then the loadings are the coordinates on the graph. Therefore, those items with higher loadings have a stronger relationship with that factor. Since factor analysis is used to identify latent variables, the way factors that emerge can itself say something about the underlying structure of prenatal paternal identity and child-schemata.

There are an infinite number of factor loading matrices that could account for the variances and covariances between variables. Rotation is a technique used in EFA, whereby the results of the initial analysis are analysed further in order to find the simplest factor loading matrix. That is, one where each variable has a high loading on one factor, and low loadings on the others. (Field, 2005; Preacher and Maccallum, 2003). In orthogonal rotation, factors are

restricted so that they are independent and uncorrelated. In oblique rotation, factors are allowed to correlate. Preacher and MacCallum suggest that oblique rotations should be used unless there is reason to believe factors are independent. An oblique rotation was thus used for the items on the PICS scale. Two types of oblique rotation are promax, which is useful for very large datasets (Field, 2005) and direct oblimin, which was used for the present dataset.

Three statistics can be used to ensure sampling for EFA is adequate and correlation patterns are not too diffuse. Diffusion of correlations would mean EFA is an inappropriate analysis to apply, since it is based on identifying clusters of correlations. First, there is Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. This statistic is the ratio of the sum of partial correlations and the sum of usual correlations. Partial correlations are correlations where three variables share variance with each other. If there are lots of partial correlations, it means that few variables contribute unique variance, and instead lots of variance is shared between groups of variables. Using partial correlation calculation, the amount of unique variance one variable contributes to an outcome variable can be calculated, while ‘partialling out’ the effect of the other variable. In an EFA it is desirable to have a larger number of usual correlations than partial correlations, because EFA aims to identify clusters of variables, which would be difficult if all the variables overlapped with each other. A KMO statistic can be calculated for each variable, and for the variables overall. A KMO statistic closer to 1 is desirable, and would indicate that there are more usual correlations than partial correlations.

Second, there is Bartlett’s test of sphericity, which checks whether the correlation matrix looks similar to an identity matrix. An identity matrix is one where each variable correlates

well only with itself, while correlations to other variables are near zero. A significant Bartlett's test shows that how well variables correlate with other variables.

Third, a matrix called an 'anti-image matrix' is checked. This matrix contains a KMO statistic for each individual variable on the diagonal of the matrix. The diagonal elements should therefore be above 0.5 or higher. The off-diagonal elements should be close to zero, to indicate that partial correlations between the variables were small.

A5.3 Mann Whitney

This test compares participants from two different groups on a variable. It is a non-parametric test, meaning it can be used on data that are not normally distributed, such as data that are skewed. It involves ranking each participant's score on a variable, so that the lowest score is given a rank of 1, and the next score a rank of 2, et cetera. The sum of the ranks is taken for each group, which is then used to calculate U , the test statistic.

A5.4 Correlations

Correlation is the measure of linear relationship between two variables. When two variables are related, changes in one variable should be met with similar changes in the other variable, in the same or directly opposite way.

A5.5 Regression

Regression is a way of predicting an outcome based on one or more predictor variables. A linear model (a model based on a straight line) is fitted to the data, and is used to predict

outcome values from predictor values. The simplest model of the data is to use the mean of one variable to predict the value of another variable. In the current study, the mean value of men's score on the screening scale might be plotted on the x-axis of a graph to find the value of the PICS, but this would be a very inaccurate model by which to make predictions, because the outcome would be the same whether men scored high or low on the screening scale. A better linear model is therefore sought. There are many lines that could be fit to the data, and therefore many potential models. For example, a line might be fit to the data using all of the predictor variables to build the model, and another line might be fit using some of the predictor variables. To find the one that fits best, calculus is used to find the lines where there is the smallest amount of error (i.e. the difference between the actual data points and the regression line). The line where there is the smallest amount of error is deemed the line of best fit. The line can be depicted by the below equation:

$$Y_i = (b_0 + b_1x_i) + e_i$$

The beta values, b_0 and b_1 , are estimated. B_0 is the intercept of the line. B_1 denotes the gradient of the line. A positive gradient indicates a positive relationship between the variables, a negative indicates a negative relationship. X_i is participant i 's score on the predictor variable. Each beta value (which shows how much the y changes for 1 unit change in x) should be significantly different from 0 if the model is any good. Different values of the predictor variable are fit into the equation to try and predict the outcome (Y_i). The terminology is that X "predicts" Y ; however it cannot be concluded without longitudinal research whether X "causes" Y .

The regression model gives us various other statistics: r^2 , the F ratio, standard error, standardised betas and t-statistic. Some of these statistics are to do with variance, which is the average amount the data varies from the mean. The r^2 is defined by Field (2005, p.149) as “the amount of variance in the outcome explained by the model relative to the amount of variance that there was in the first place”. The r^2 shows the size of the relationship. The F ratio is a ratio of the amount the model has improved prediction of the outcome, against the level of inaccuracy that remains in the model. A larger F ratio means better model. The SE is average error. The standardised betas show how many standard deviations the outcome changes if the predictor variable changes by one standard deviation. The t-statistic tells us whether each variable is significantly different from zero. Various assumptions must be met for a regression analysis to be used, including no multicollinearity (there should not be a strong correlation between predictor variables), homoscedasticity (meaning the residuals at each level of the predictor variable should be constant), independent errors (residual terms should be uncorrelated for any two observations) and normally distributed errors (Field, 2005).

REFERENCE LIST

- Abraham, C., Sheeran, P., & Henderson, M., (2011) Extending social cognition models of health behaviour. *Health Education Research: Theory and Practice*, 26, 624-637.
- Aday, L., & Cornelius, J. L. (2006). *Designing And Conducting Health Surveys: A Comprehensive Guide*. San Francisco: Jossey-Bass
- Ahman, A., Lindgren, P. & Sarkadi, A., (2011). Facts first, then reaction-Expectant fathers' experiences of an ultrasound screening identifying soft markers. *Midwifery*. (in press)
- Ahmed, S., Green, J., & Hewison, J. (2005). Antenatal thalassaemia carrier testing: women's perceptions of "information" and "consent". *Journal of Medical Screening*, 12 (2), 69-77.
- Ahmed, S., Bryant, L. D., Tizro, Z., & Shickle, D. (2012a). Interpretations of informed choice in antenatal screening: a cross-cultural, Q-methodology study. *Social science & medicine*, 74(7), 997-1004. Elsevier Ltd.
- Ahmed, S., Bryant, L. D., Tizro, Z., & Shickle, D. (2012b). Is advice incompatible with autonomous informed choice? Women's perceptions of advice in the context of antenatal screening: a qualitative study. *Health expectations : an international journal of public participation in health care and health policy*, 1-10.
- Ainsworth, M. D. S., & Bell, S. M. (1970). Attachment, exploration, and separation: Illustrated by the behavior of one-year-olds in a strange situation. *Child Development*, 41, 49-67
- Aite, L; Zaccara, A; Mirante, Nahom, A; Trucchi, A; Capolupo, I., & Bagolan, P. (2011). Antenatal diagnosis of congenital anomaly: a really traumatic experience? *Journal of Perinatology*, 31. 12 760-763.
- Alhusen, J. L., Gross, D., Hayat, M. J., Woods, A. B. & Sharps, P. W. (2012). The influence of maternal-fetal attachment and health practices on neonatal outcomes in low-income, urban women. *Research in Nursing and Health*, 35,112-120
- Allen, S. M., & Hawkins, A. J. (1999). Maternal gatekeeping: Mothers' beliefs and behaviours that inhibit greater father involvement in family work. *Journal of Marriage and Family*, 61, 199-212.
- Arendell, T. (1997). Reflections on the Researcher-Researched Relationship: A Woman Interviewing Men. *Qualitative Sociology*, 20 (3), 341-368.
- Armstrong, V., & Harcombe, J., (2008). Antenatal screening. The UK NHS Antenatal Screening Programmes: policy and practice. *InnovAiT*, 1(8), 579-588.
- Astolfi, P., De Pasquale, A., Zonta, L.A. (2004). Late paternity and stillbirth risk. *Human Reproduction*, 19 (11), 2497-2501
- Aune, I., & Moller, A. (2012) 'I want a choice, but I don't want to decide': a qualitative study of pregnant women's experiences regarding early ultrasound risk assessment for chromosomal anomalies. *Midwifery*, 28, 14-23.
- Ayling, R., & Mewse, A.J. (2009). 'Evaluating Internet interviews with gay men', *Qualitative Health Research*, 19, 566-576.
- Barry, A. A., Smith, J. Z., Deutsch, F. M., & Perry-Jenkins, M. (2011). Fathers' involvement in child care and perceptions of parenting skill over the transition to parenthood . *Journal of Family*

Issues, 32 (11), 1500–1521.

Belloc, S., Cohen-Bacrie, P., Benkhalifa, M., Cohen-Bacrie, M., De Mouzon, J., Hazout, & A., Ménézo, Y. (2008). "Effect of maternal and paternal age on pregnancy and miscarriage rates after intrauterine insemination". *Reproductive Biomedicine Online*, 17 (3), 392–7.

Bielawska-Batorowicz, E., & Kossakowska-Petrycka, K. (2006). Depressive mood in men after the birth of their offspring in relation to a partner's depression, social support, fathers' personality and prenatal expectations. *Journal of Reproductive and Infant Psychology*, 24(1), 21-29.

Birmingham City Council (2005). *2001 Population Census Birmingham: Health and Care*. Birmingham, Birmingham City Council.

Bjerke, T. N. (2010). When my eyes bring pain to my soul, and vice versa: facing preconceptions in email and face-to-face interviews. *Qualitative Health Research*, 20 (12) 1717–1724.

Björklund, U., Marsk, A., Levin, C., & Öhman, S. G. (2012). Audiovisual information affects informed choice and experience of information in antenatal Down syndrome screening--a randomized controlled trial. *Patient education and counseling*, 86(3), 390–395.

Bowden, A., Fox-Rushby, J. A., Nyandieka, L. and Wanjau, J. (2002). Methods for pre-testing and piloting survey questions: illustrations from the KENQOL survey of health-related quality of life. *Health Policy and Planning*, 17 (3), 322 – 330.

Bowlby, J. (1969). *Attachment and loss Volume I: Attachment*. New York: Basic Books.

Bronte-Tinkew, J., Ryan, S., & Carrano, J. (2007). Resident fathers' pregnancy intentions, prenatal behaviors, and links to involvement with infants. *Journal of Marriage*, 69, 977-990.

Brooks, G. R. & Silverstein, L. B. (1995). Men in Families: Old Constraints, New Possibilities. In R. F. Levant and W. S. Pollock (Eds.) *A New Psychology of Men*. (pp 252 – 280). New York: Basic Books.

Browner, C. H., & Preloren, H. M., (1999). Male partners' role in Latinas' amniocentesis decisions. *Journal of Genetic Counseling*, 8 (2), 85-108.

Bryant, A. (2009). Grounded Theory and Pragmatism: The Curious Case of Anselm Strauss. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 10(3), Art. 2. Retrieved from <http://nbn-resolving.de/urn:nbn:de:0114-fqs090325>

Burnard, P. (1994). The telephone interview as a data collection method. *Nurse Education Today*, 14, 67-72

Butera, K. J. (2006). Manhunt: The Challenge of Enticing Men to Participate in a Study on Friendship. *Qualitative Inquiry*, 12(6), 1262-1282.

Cabrera, N. J., Fagan, J., & Farrie, D. (2008). Explaining the long reach of fathers' prenatal involvement on later paternal engagement. *Journal of Marriage and the Family*, 70(5), 1094-1107.

Cannon, E. A., Schoppe-Sullivan, S. J., Mangelsdorf, S. C., Brown, G. L., & Sokolowski, M. S. (2008). Parent characteristics as antecedents of maternal gatekeeping and fathering behaviour. *Family Process*, 47, 501-519.

Carkhuff, R. R. (1969). *Helping and human relations: a primer for lay and professional helpers*. New York: Holt, Rinehart and Winston.

- Carr, E.C., & Worth, A. (2001). The use of the telephone interview for research. *Northern Territory Research*, 6, 511–524.
- Carroll, F. E., Owen-Smith, A., Shaw, A., & Montgomery, A. A. (2012). A qualitative investigation of the decision-making process of couples considering prenatal screening for Down syndrome. *Prenatal diagnosis*, 32(1), 57–63.
- Charmaz, K. (2000). Grounded theory. Objectivist and Constructivist Methods. In N. K. Denzin, and Y. S. Lincoln (Eds.) *Handbook of Qualitative Research (2nd edition)*. (pp 509-535). Thousand Oaks: Sage
- Chin, R., Hall, P., & Daiches, A. (2011). Fathers' experiences of their transition to fatherhood: a metasynthesis. *Journal of Reproductive and Infant Psychology*, 29, 4-18.
- Chiu, R. W. K., Canor, C. R., & Lo, Y.M. D. (2009). Non-invasive prenatal diagnosis by single molecule counting technologies. *Trends in Genetics* 25 (7), 324-331.
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112 (1), 155–159
- Collins, D. (2003). Pretesting survey instruments: An overview of cognitive methods. *Quality of Life*, 12, 229 – 238.
- Coalition of Men and Boys. (2009). *Man Made: Men, masculinities and equality in public policy*. Retrieved from <http://www.comab.org.uk>
- Condon, J. T. (1985). The Parental-Foetal Relationship - a Comparison of Male and Female Expectant Parents. *Journal of Psychosomatic Obstetrics and Gynaecology*, 4, 271–284.
- Condon, J.T. (1993). The assessment of antenatal emotional attachment: Development of a questionnaire instrument. *British Journal of Medical Psychology*, 66, 167–183.
- Condon, J. T., & Corkindale, C. J. (1997). The assessment of depression in the postnatal period: a comparison of four self-report questionnaires. *Australian & New Zealand Journal of Psychiatry*, 31(3), 353-359.
- Connell, R.W. (2005). *Masculinities*. (2nd edition), Cambridge, UK: Polity
- Connell, R. W. (2000). *The men and the boys*. Berkeley: University of California Press.
- Conrad P. (2002). Genetics and behavior in the news: dilemmas of a rising paradigm. In J., Alper, C., Ard, A., Asch, J., Beckwith, P., Conrad, L., Geller. (Eds.) *The Double Edged Helix*, (pp. 58–79). Johns Hopkins University Press: London
- Corbin, J., & Strauss, A. (2008). *Basics of Qualitative Research* (3rd ed.). London: Sage.
- Costigan, C. L., & Cox, M. J., (2001). Fathers' participation in family research: Is there a self-selection bias? *Journal of Family Psychology* 15, 706-720.
- Creswell, J. W. (2009) *Research Design: Qualitative, Quantitative and Mixed Methods Approaches (3rd edition)*. Sage: London
- Creswell, J. W., & Plano-Clark, V. (2007) *Designing and Conducting Mixed Methods Research*. London: Sage.
- Crotty, M (1998) *The Foundations of Social Research: Meaning and Perspective in the Research Process*, London, Sage
- Department of Business, Innovation and Skills, (2011). Modern Workplaces Consultation.

London, DBIS Available from <http://c561635.r35.cf2.rackcdn.com/11-699-consultationmodern-workplaces.pdf> (accessed 08.06.11).

Department for Children, Schools and Families/Department of Health, (2009). *Getting Maternity Services Right for Pregnant Teenagers and Young Fathers*, (revised edition). London, DCSF/DH, Available from <https://www.education.gov.uk/publications/standard/publicationdetail/page1/DCSF-00673-2009> (accessed 08.06.11).

Department of Health, (2009a). *Healthy Lives, Brighter Futures – The Strategy for Children and Young People's Health*. London, DH, Available from https://www.education.gov.uk/publications/standard/arc_SOP/Page8/285374a (accessed 08.06.11).

Department of Health, (2009b). *The Healthy Child Programme*. London, SH. Available from http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_107563 (accessed 08.06.11).

Dewey, J. (1917). The need for a recovery of philosophy. In J. Dewey (Ed.), *Creative intelligence: Essays in the Pragmatic Attitude*. New York: Henry Holt & Co. 3-69.

Dillard, A. J., Ferrer, R. A., Ubel, P. A., Fagerlin, A. (2012) Risk perception measures' associations with behavior intentions, affect, and cognition following colon cancer screening messages. *Health Psychology*, 31(1), 106-113

Dixon-Woods, M., Booth, A., & Sutton, A. J., (2007). Synthesising qualitative research: a review of published reports. *Qualitative Research* 7, 375-422.

Dixon-Woods, M., Shaw, R. L., Agarwal, S., & Smith, J. A., (2004). The problem of appraising qualitative research. *Quality and Safety in Healthcare* 13, 223-225.

Doan, H. M. & Zimmerman, A. (2003). Conceptualizing prenatal attachment: Toward a multidimensional view. *Journal of Prenatal and Perinatal Psychology and Health*, 18(2), 109-130.

Donmoyer, R., 1990. Generalizability and the single case study. In Eisner, E W., Peshkin, A. (Eds.), *Qualitative inquiry in education: The continuing debate*, New York, Teachers College Press, pp 175-200.

Dormandy et al (2010) Antenatal screening for haemoglobinopathies in primary care: a cohort study and cluster randomised trial to inform a simulation model. The Screening for Haemoglobinopathies in First Trimester (SHIFT) trial. *Health Technology Assessment*, 14 (20).

Dormandy, E., Michie, S., Hooper, R., & Marteau, T. M. (2006). Informed choice in antenatal Down syndrome screening: a cluster-randomised trial of combined versus separate visit testing. *Patient education and counseling*, 61(1), 56-64.

Dormandy, E., Michie, S., Hooper, R., & Marteau, T. M. (2005). Low uptake of prenatal screening for Down syndrome in minority ethnic groups and socially deprived groups: a reflection of women's attitudes or a failure to facilitate informed choices? *International Journal of Epidemiology*, 34(2), 346-352

Dormandy, E, Hooper, R., Michie, S., & Marteau, T. M. (2002). Informed choice to undergo prenatal screening: a comparison of two hospitals conducting testing either as part of a routine visit or requiring a separate visit. *Journal of medical screening*, 9(3), 109-114.

- Downe, S., (2008). Metasynthesis: a guide to knitting smoke. *Evidence Based Midwifery* 6 (1), 4-8.
- Downe, S., Finlayson, K., Walsh, D., Lavender, T., 2009. 'Weighing up and balancing out': a meta-synthesis of barriers to antenatal care for marginalised women in high-income countries'. *British Journal of Obstetrics and Gynaecology* 116 (4), 518-529.
- Draper J., (2003). Men's passage to fatherhood: An analysis of the contemporary relevance of transition theory. *Nursing Inquiry*, 10 (1), 66-78.
- Draper, J. (2002). "It's the first scientific evidence": men's experience of pregnancy confirmation. *Journal of advanced nursing*, 39 (6), 563-570.
- Dheensa, S., Metcalfe, A., & Williams, R. (2012). Men's experiences of antenatal screening: A metasynthesis of the qualitative research. *International Journal of Nursing Studies*. (In press)
- Draper, H., & Ives, J., (2010). *Should we strive to involve men in a meaningful way during pregnancy? Rethinking men's involvement in antenatal care*. Paper presented at 'Pregnancy and pregnancy planning in the new parenting culture' two-day seminar. University of Kent, Canterbury. Available from <http://www.parentingculturestudies.org/seminar-series/seminar5/papers-ppt/JonIves%20HeatherDraper.ppt>. (accessed 22.02.11).
- Duckworth, A., & Chertok, I. R. A. (2012) Review of perinatal partner-focused smoking cessation interventions. *MCN The American Journal of Maternal Child Nursing*, 37, 174-181.
- Dudgeon, M. R., & Inhorn, M. C., 2004. Men's influences on women's reproductive health: medical anthropological perspectives. *Social Science and Medicine*, 59, 1379-139.
- Dula, A. (1994). African American suspicion of the healthcare system is justified: what do we do about it? *Cambridge Quarterly of Healthcare Ethics*, 3, 347 – 357.
- Ekberg, M. (2007). Maximizing the benefits and minimizing the risks associated with prenatal genetic testing. *Health, Risk & Society*, 9(1), 67–81.
- Ekelin, M., Crang-Svalenius, E., & Dykes, A.-K. (2004). A qualitative study of mothers' and fathers' experiences of routine ultrasound examination in Sweden. *Midwifery*, 20(4), 335-344.
- Ekelin, M., Crang-Svalenius, E., Nordstrom, B., & Dykes, A.-K., (2008). Parents' experiences, reactions and needs regarding a nonviable fetus diagnosed at a second trimester routine ultrasound. *Journal of Obstetric, Gynecologic, and Neonatal Nursing* 37, 446-454.
- Ettore, E. (2002). *Reproductive genetics, gender and the body*. London: Routledge
- Eurenius, K., Axelsson, I., Gallstedt-Fransson, I., & Sjoden, P. O. (1997). Perception of information, expectation and experiences among women and their partners attending a second-trimester ultrasound scan. *Ultrasound, Obstetrics & Gynaecology*, 9, 86-90;
- Fagan, J. and Barnett, M. (2003). The Relationship Between Maternal Gatekeeping, Paternal Competence, Mothers' Attitudes About the Father Role, and Father Involvement. *Journal of Family Issues*, 24 (8), 1020-1043.
- Field, A. (2005). *Discovering Statistics Using SPSS*. London: Sage
- Finch, J. and Mason, J. (1993), *Negotiating Family Responsibilities*, London: Routledge.
- Finfgeld, D. L., (2003). Metasynthesis: the state of the art – so far. *Qualitative Health Research*, 13 (7), 893-904.

- Finn, M. and Henwood, K., (2009). Exploring masculinities within men's identificatory imaginings of first-time fatherhood. *British Journal of Social Psychology*, 48(3), 547-562.
- Flouri, E. (2008). Fathering and adolescents' adjustment: The role of father's involvement, residence and biology status. *Child: Care, Health & Development*, 34, 152-161
- Flouri, E., & Buchanan, A. (2003a). The role of father involvement and mother involvement in adolescents' psychological well-being . *British Journal of Social Work* , 33 (3), 399-406.
- Flouri, E.. (2005). Father ' s involvement and psychological adjustment in Indian and white British secondary school age children, *Child and Adolescent Mental Health*, 10 (1), 32-39.
- Flouri, E., & Buchanan, A. (2003b). The Role of Mother Involvement and Father Involvement in Adolescent Bullying Behavior. *Journal of Interpersonal Violence*, 18(6), 634-644.
- Flouri, E., & Buchanan, A. (2003c). The role of father involvement in children ' s later mental health, *Journal of Adolescence*, 26 (1) 63-78.
- Flouri, E., & Buchanan, A. (2004). Early father's and mother's involvement and child's later educational outcomes, *Journal of Adolescence*, 26 (1) 63-78.
- Flykt, M., Lindblom, J., Punamäki, R. L., Poikkeus, P., Repokari, L., Unkila-Kallio, L. Vilska, S, Sinkkonen, J, Tiitinen, A, Almqvist, F & Tulppala, M. (2009). Prenatal expectations in transition to parenthood: former infertility and family dynamic considerations. *Journal of Family Psychology*, 23 (6), 779-89.
- Fontes, T. O., O'Mahoney, (2008). In-depth interviewing by Instant Messaging. *Social Research Update*, 53, <http://sru.soc.surrey.ac.uk/SRU53.pdf>
- Fox-Wasylyshyn, S., & El-Masri, M. M. (2005). Focus on Research Methods Handling Missing Data in Self-Report Measures. *Research in Nursing & Health*, 28(6), 488–495.
- France, E. F., Locock, L., Hunt, K., Ziebland, S., et al. (2012). Imagined futures: how experiential knowledge of disability affects parents' decision making about fetal abnormality. *Health Expectations : An International Journal of Public Participation in Health Care and Health Policy*, 15(2), 139–56.
- Fransen, M. P., Schoonen, M. H. M. H. J. D., Mackenbach, J. P., Steegers, E. A. P., de Koning, H. J., Laudy, J. A. M., Galjaard, R.-J., Looman, C. W. N., Essink-Bot, M.-L. & Wildschut, H. I. J. (2011), Ethnic differences in participation in prenatal screening for Down syndrome: A register-based study. *Prenatal Diagnosis*, 30, 988–994
- Freimuth, V. S., Quinn, S. C., Thomas, S. B., Cole, G., Zook, E., & Duncan, T. (2001). African Americans' views on research and the Tuskegee Syphilis study *Social Science & Medicine*, 52 (5), 797-808
- Fuller J. (1990). Early pattern of maternal attachment. *Health Care of Women International*, 11, 433–446
- Garcia, E., Timmermans, D. R. M., & van Leeuwen, E., (2008). Rethinking autonomy in the context of prenatal screening decision-making. *Prenatal Diagnosis*, 28, 115-120.
- Gardner, M. J. and Altman, D. G. (1986) Confidence intervals rather than p-values: estimation rather than hypothesis testing. *British Medical Journal*, 283, 600–602.
- Gaunt, R. (2008). Maternal gatekeeping. Antecedents and consequences. *Journal of Family*

Issues, 29, 373-395.

Gender Equality Duty (2007) *Code of Practice England and Wales*. London. Equal Opportunities Commission

Genesoni, L., & Tallandini, M. A. (2009). Men's psychological transition to fatherhood: an analysis of the literature, 1989–2008. *Birth: Issues in Perinatal Care*, 36, 305–318

George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference. 11.0 update*. Boston: Allyn & Bacon

Gerner, L. (2006). Exploring prenatal attachment: Factors that facilitate paternal attachment during pregnancy. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 66 (7-B), 3934.

Glaser, B. (2002). Conceptualization: On theory and theorizing using grounded theory. *International Journal of Qualitative Methods*, 1 (2). Article 3. Retrieved from <http://www.ualberta.ca/~ijqm/>

Glaser, B. (1992). *Emergence vs. Forcing: Basics of Grounded Theory Analysis*. California.: Sociology Press.

Goldberg, H. (2009). The sex in the sperm: male infertility and its challenges to infertility in an Israeli-Jewish context. In M. Inhorn, T. Tjørnhøj-Thomsen, H. Goldberg and M. la Cour Mosegaard (Eds.) *Reconceiving the second sex: men, masculinity and reproduction*, 305-327. Berghahn: USA

Gottfredsdóttir, H., Björnsdóttir, K., Sandall, J., 2009b. How do prospective parents who decline prenatal screening account for their decision? A qualitative study. *Social Science and Medicine* 69, 274-277.

Gottfredsdóttir, H., Sandall, J., Björnsdóttir, K., 2009a. ‘This is just what you do when you are pregnant’: a qualitative study of prospective parents in Iceland who accept NT screening. *Midwifery* 6, 711-720.

Gough, B., (1997). Time, identity and ideology: a discourse analysis of ordinary talk. *Time and society*, 6 (2/3), 213-236.

Graesser, A.C., Cai, Z., Louwerse, M., & Daniel, F. (2006). Question Understanding Aid (QUAID): A web facility that helps survey methodologists improve the comprehensibility of questions. *Public Opinion Quarterly*, 70, 1-20.

Green J. M., Hewison, J., Bekker, H. L., Bryant, L. D., Cuckle, H. S., 2004. Psychosocial aspects of genetic screening of pregnant women and newborns: a systematic review. *Health Technology Assessment*, 8 (33), 117-128.

Green, J. M. (1999). Commentary: what is this thing called “control”? *Birth*, 26 (1), 51–2.

Gregory, A., & Milner, S. (2011). What is “New” about Fatherhood?: The Social Construction of Fatherhood in France and the UK. *Men and Masculinities*, 14(5), 588–606.

Han, S. (2009). Making room for Daddy. Men’s “belly talk” in the contemporary United States. In M. Inhorn, T. Tjørnhøj-Thomsen, H. Goldberg and M. la Cour Mosegaard (Eds.) *Reconceiving the second sex: men, masculinity and reproduction*, 305-327. USA : Berghahn

Hannes, K., Lockwood, C., & Pearson, A., (2010). A comparative analysis of three online appraisal instruments’ ability to assess validity in qualitative research. *Qualitative Health*

Research, 20 (12), 1736–1743.

Hardey, M. (2002). Life beyond the screen: Embodiment and identity through the Internet. *Sociological Review*, 50(4), 571-585.

Henderson, L. R. (1999). A survey of teenage pregnant women and their male partners in the Grampian region. *British journal of family planning*, 25(3), 90-92.

Heyman, B., Hundt, G., Sandall, J., Spencer, K., et al. (2006). On being at higher risk: a qualitative study of prenatal screening for chromosomal anomalies. *Social science & medicine*, 62(10), 2360–2372.

Higgs, J. and Titchen, A. (1998). Research and Knowledge. *Physiotherapy*, 84 (2), 72 – 80.

Hildingsson, I., & Sjöling, M., (2011). Fathers' experiences of support during pregnancy and the first year following childbirth-findings from a Swedish regional survey. *Journal of Men's Health* 8 (4), 258-266.

Hirai, K., Shiozaki, M., Motooka, H., Arai, H., Koyama, A., Inui, H. & Uchitomi, Y. (2008). Discrimination between worry and anxiety among cancer patients: development of a brief cancer-related worry inventory. *Psycho-oncology*, 17 (2), 1172-1179.

Hjelmstedt, A., Widstrom, A. M, & Collins, A. (2007). Prenatal attachment in Swedish IVF fathers and controls. *Journal of Reproductive and Infant Psychology*, 24 (4), 296-307.

Holmes, L. E., Finegold, P., Starling, I., Dack, K., Hall, A., Worthington, J., Harris, J., Read, A. P., Donnai, D., Middleton Price, H. R. *Influencing how genetics is taught in UK secondary schools: The Nowgen Schools Genomics Programme*. Poster presented at European Society for Human Genetics Conference, Gothenberg, Sweden.

Homish, G. G., Eiden, R.D., Leonard, K.E., & Kozlowski, L.T. (2012) Social-environmental factors related to prenatal smoking. *Addictive Behaviours*, 37(1), 73-7.

Humphreys, L., Cappelli, M., Hunter, A. G. W., Allanson, J., & Zimak, A. (2003). What is the significance of the attendance by the partner at genetic counseling for advanced maternal age? *Psychology, Health & Medicine*, 8(3), 265-278.

Hunt, N., & McHale, S. (2007). A practical guide to the e-mail interview. *Qualitative health research*, 17(10), 1415-1421.

Ives, J., Draper, H., Pattison, H., & Williams, C. (2008). Becoming a father/refusing fatherhood: an empirical bioethics approach to paternal responsibilities and rights. *Clinical Ethics*, 3(2), 75–84.

Ivry, T., & Teman, E., (2008). Expectant Israeli fathers and the medicalised pregnancy: ambivalent compliance and critical pragmatism. *Culture, Medicine and Psychiatry* 32, 358-385.

Jabine, T., Straf, M., Tanur, J., & Tourangeau, R. (1984). *Cognitive Aspects of Survey Methodology: Building a Bridge Between the Disciplines*. Washington, DC: National Academy Press.

Jaques, A. M., Bell, R. J., Watson, L., & Halliday, J. L. (2004). People who influence women's decisions and preferred sources of information about prenatal testing for birth defects, (December 2003), 233-238.

Jensen, L. A., Allen, M. N. (1996). Metasynthesis of qualitative findings. *Qualitative Health Research* 6 (4), 553-560.

- Jowett, A., Peel, E., & Shaw, R. (2011). Online interviewing in psychology: reflections on the process, *Qualitative Research in Psychology*, 8 (4), 354-369
- Katz-Rothman, B. (1994). *The tentative pregnancy: Amniocentesis and the sexual politics of motherhood*. New York, NY: Pandora.
- Kazmer, M. M., & Xie, B. (2008). Qualitative interviewing in internet studies : Playing with the media, playing with the method, *Information, Communication and Society*, 11 (2) 37-41.
- Kelle, U. (2005). "Emergence" vs. "Forcing" of Empirical Data? A Crucial Problem of "Grounded Theory" Reconsidered. *Forum Qualitative Sozialforschung / Forum: Qualitative*, 6(2), Art. 27
- Kemp, J., Davenport, M., & Pernet, A., (1998). Antenatally diagnosed surgical anomalies: the psychological effect of parental antenatal counseling. *Journal of Pediatric Surgery* 33 (9), 1376-1379.
- Kenen, R., Smith, A. C., Watkins, C., & Zuber-Pittore, C., (2000). To use or not to use: male partner's perspectives on decision-making about prenatal diagnosis. *Journal of Genetic Counselling* 9 (1), 33-45.
- Kitzinger, J. (1994). The methodology of Focus Groups: the importance of interaction between research participants. *Sociology of Health & Illness*, 16(1), 103-121.
- Kline, P. (1999). *Handbook of Psychological Testing*. London: Routledge.
- Kline, P. (2000). *A Psychometrics Primer*. Exeter: Free Association Books.
- Kobbeltvedt, T., & Wolff, K. (2009). The Risk-as-feelings hypothesis in a theory-of-planned-behaviour perspective. *Judgment and Decision Making*, 4(7), 567-586.
- Konotey-Ahulu (2010). Reply to antenatal screening for sickle cell and thalassaemia. Retrieved from <http://www.bmj.com/content/341/bmj.c5132.abstract/reply 15/10/10>.
- Kraemer, H., Mintz, J., Noda, A., Tinklenberg, J., & Yesavage, J.A., (2006). Caution regarding the use of pilot studies to guide power calculations for study proposals. *Archives of General Psychiatry*. 63 (5), 484-489.
- Krosnick, J. A., & Alwin, D. F. (1987). An evaluation of a cognitive theory of response order effects in survey measurement. *Public Opinion Quarterly*, 51, 201-219
- Kuhn, T. S. (1996). *The Structure of Scientific Revolutions (3rd edition)*. University of Chicago Press: London
- Kukulu, K., Buldukoglu, K., Keser, I., Simsek, M., Mendilcioğlu, I., & Lüleci, G. (2006). Psychological effects of amniocentesis on women and their spouses: importance of the testing period and genetic counselling. *Journal of Psychosomatic and Obstetric Gynaecology* 27, 9-15.
- Kulas, J. T., Stachowski, A. A., & Haynes, B. A. (2008). Middle response functioning in Likert-responses to personality items. *Journal of Business and Psychology*, 22, 251-260.
- Kuppermann M, Learman LA, Gates E, *et al.* 2006. Beyond race or ethnicity and socioeconomic status: predictors of prenatal testing for Down syndrome. *Obstetrics & Gynecology*, 107(5), 1087–1097.
- Kvale, S. (1996). *Interviews: An Introduction to Qualitative Research Interviewing*. Thousand Oaks CA: Sage Publications.
- Lawler, S. (2008). *Identity: Sociological perspectives*. Cambridge: Polity.

- Lawson, K. L., & Turriff-Jonasson, S. I. (2006). Maternal serum screening and psychosocial attachment to pregnancy. *Journal of psychosomatic research*, 60(4), 371–8.
- Levant, R. F. (1998). Desperately seeking language: Understanding, assessment, and treating normative male alexithymia. In W.S. Pollack & R. F. Levant (Eds.), *New psychotherapy for men* (pp. 35-56). New York, NY: Wiley
- Lewis, J. & Kattmann, U. (2004). Traits, genes, particles and information: Re-visiting students' understanding of genetics. *The International Journal of Science Education*, 26(2), 195-206.
- Lincoln, Y. S., & Guba, E. G., (1985). *Naturalistic Inquiry*. Newbury Park, CA: Sage Publications.
- Lo, Y. M. D., Tsui, N. B. Y., Chiu, R. W. K., Lau, T. K., Leung, T. N., Heung, M. M. M., Gerovassili, A., Jin, Y., Nicholaides, K. H., Cantor, C. R., & Ding, C., (2007). Plasma placental RNA allelic ratio permits noninvasive prenatal chromosomal aneuploidy detection. *Nature Medicine* 13, 218-223.
- Locock, L. & Kai, J., (2008). The influence of faith and religion and the role of religious and community leaders in prenatal decisions for sickle cell disorders and thalassaemia major. *British Journal of General Practice*, 58 (548), 161-168.
- Locock, L., & Alexander, J. (2006). “Just a bystander”? Men’s place in the process of fetal screening and diagnosis. *Social science & medicine*, 62(6), 1349-59.
- Louwe, S., Todd, R. W., and Jimakorn, P. (2011). Active listening in qualitative research interviews. Proceedings of the International Conference: *Doing Research in Applied Linguistics*, 21-22 April 2011, Bangkok.
- Loewenstein, G., Weber, E. U., Hsee, C. K., & Welch, N. (2001). Risk as feelings. *Psychological Bulletin*, 127(2), 267–286.
- Lozano, L., Garcia-Cueto, E. & Muniz, J. (2008), Effect of the number of response categories on the reliability and validity of rating scales, *Methodology*, 4 (2), 73-79.
- Lundgren I., & Wahlberg, V. (1999) The experience pregnancy: a hermeneutical/phenomenological study. *Journal of Perinatal Education*, 3, 12-20.
- Lupton, D. & Barclay, L. (1997) *Constructing Fatherhood: Discourses and Experiences*, London: Sage.
- Mann, C. & Stewart, F. 2003. Internet interviewing. In J. A. H. a. J. F. Gubrium (Ed.), *Interviewing women. In Inside interviewing: New lenses, new concerns* (pp. 33-53). London: Sage.
- Markens, S., Browner, C. H., & Preloran, H. M., (2003). “I’m not the one they’re sticking the needle into”: Latino couples, fetal diagnosis, and the discourse of reproductive rights. *Gender and Society*, 17 (3), 462-481.
- Markham, A. N. (1998) *Life Online: Researching Real Experience in Virtual Space.*, vol. 6, Walnut Creek, CA. Ethnographic alternatives book series
- Marsiglio, W. (2008). Understanding men's prenatal experience and the father involvement connection: Assessing baby steps. *Journal of Marriage and Family*, 70, 1108-1113.
- Marsiglio, W., & Hutchinson, S. (2004). *Sex, men, and babies: Stories of awareness and responsibility*. New York, NY: New York University Press.

- Mason, M. (2010). 'Sample Size and Saturation in PhD Studies Using Qualitative Interviews' [63 paragraphs], *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*, 11/3, art. 8, <http://nbnresolving.de/urn:nbn:de:0114-fqs100387>
- Mason, J. (2008). Tangible Affinities and the Real Life Fascination of Kinship. *Sociology*, 42 (1), 29-45.
- Maxcy, S. J. (2003). Pragmatic threads in mixed methods research in the social sciences: The search for multiple modes on inquiry and the end of the philosophy of formalism. In A. Tashakkori & C. Teddlie (Eds.). *Handbook of Mixed Methods in Social and Behavioral Research*. Thousand Oaks, CA: Sage Publications.
- Maxwell, S., Brameld, K., Bower, C., Dickinson, J. E., Goldblatt, J., Hadlow, N., Hewitt, B., Murch, A., Murphy, A., Stock, R. & O'Leary, P. (2011). Socio-demographic disparities in the uptake of prenatal screening and diagnosis in western Australia. *Australian And New Zealand Journal Of Obstetrics And Gynaecology*, 51, 9–16
- McAllister, M. (2002). Predictive genetic testing and beyond: a theory of engagement. *Journal of Health Psychology*, 7(5), 491–508.
- McAllister, M., Wood, A. M., Dunn, G., Shiloh, S., & Todd, C. (2011). The Genetic Counseling Outcome Scale: a new patient-reported outcome measure for clinical genetics services. *Clinical genetics*, 79(5), 413–24.
- McBride, B. A., Brown, G. L., Bost, K. K., Shin, N., Vaughan, B., & Korth, B. (2005). Paternal identity, maternal gatekeeping and father involvement. *Family Relations*, 54, 360-372.
- McConnell-Henry, T, Chapman, Y & Francis, K 2011, 'Member checking and Heideggerian phenomenology: a redundant component', *Nurse Researcher*, vol. 18, no. 2, pp. 28-37.
- Meyer-Bahlburg, H. F. L., and Steel, J. L. (2003). Using the parents as a source of information about the child: with special emphasis on the Sex Problems Scale of the Child Behaviour Checklist. In J. Bancroft (Ed.) *Sexual Development in Children*. Indiana: Kinsey Institute
- Miall, C. E., & March, K. (2005). Community attitudes toward birth fathers' motives for adoption placement and single parenting. *Family Relations*, 54(4), 535-546.
- Michie, S., Dormandy, E., & Marteau, T. M., (2004). Increasing screening uptake amongst those intending to be screened: the use of action plans. *Patient Education and Counseling*, 55 (2), 218-222
- Miller, E., & Webb, L. (2011). Active listening and attending: communication skills and the healthcare environment. In L. Webb (Ed). *Nusing: Communication skills in practice*. Oxford: Oxford University Press.
- Miller, T. (2011). *Making sense of fatherhood: Gender, caring and work*. Cambridge University Press: Cambridge
- Mitchell, L. M. & Georges, E. (1997). Cross-cultural cyborgs: Greek and Canadian women's discourses on fetal ultrasound. *Feminist Studies* 23 (2): 373-401
- Morgan, D. L. (2007). Paradigms lost and pragmatism regained: Methodological **implications** of combining qualitative quantitative methods. *Journal of Mixed Methods Research*, 1 (1), 48 – 76.

- Nazaré, B., Fonseca, A., Gameiro, S., Canavarro, M. C., et al. (2011). Amniocentesis due to advanced maternal age: the role of marital intimacy in couples' decision-making process. *Contemporary Family Therapy*, 33(2), 128–142.
- Nelkin, D., & Lindee, M. S. (2004). *The DNA Mystique: The Gene as a Cultural Icon*. Michigan: University of Michigan Press.
- Newton, B., Rothlingova, Z., Gutteridge, R., LeMarchand, K., & Raphael, J. H., (2011). No room for reflexivity? Critical reflections following a systematic review of qualitative research. *Journal of Health Psychology*. (In press)
- NHS Choices (2012) Chorionic Villus Sampling. Available from <http://www.nhs.uk/conditions/Chorionic-Villus-sampling/Pages/Introduction.aspx> (accessed 06.11.12).
- NHS Choices (2010) Down's syndrome. Available from <http://www.nhs.uk/Conditions/Downs-syndrome/Pages/Causes.aspx> (accessed 06.11.12).
- NHS Choices (2010) Down's syndrome diagnosis Available from <http://www.nhs.uk/Conditions/Downs-syndrome/Pages/Diagnosis.aspx>. (accessed 06.11.12).
- NHS Fetal Anomaly Screening Programme (2012a). *Trisomy 18 (also called Edwards' syndrome or T18) Information for health professionals*. Exeter: NHS Evidence
- NHS Fetal Anomaly Screening Programme (2012b). *Trisomy 13 (also called Patau's syndrome or T13) Information for health professionals*. Exeter: NHS Evidence
- NHS Fetal Anomaly Screening Programme (2011). *Screening for Down's syndrome UK NSC policy recommendations 2011-2014. Model of best practice*. Exeter: NHS Evidence
- NICE. (2008). *Antenatal care: Routine care for pregnant women*. London, RCOG Press.
- Noblit, G. W., & Hare, R. D., (1988). *Meta-ethnography: synthesising qualitative studies*. Sage, California.
- Novick, G (2008). Is there a bias against telephone interviews in qualitative research? *Research in Nursing & Health*, 31 (4), 391 - 398
- Ogle, J. P., Tyner, K. E., & Schofield-Tomschin, S. (2011). Watching Over Baby: Expectant Parenthood and the Duty to Be Well. *Sociological Inquiry*, 81(3), 285-309.
- Oliffe, J.L. (2010). Bugging the Cone of Silence with Men's Health Interviews. In [S. Robertson](#) & B. Gough (Eds), *Men, Masculinities and Health: Critical Perspectives*, (pp. 67-89). London, UK, Palgrave publishers.
- Office for National Statistics (ONS) (2012). Births in England and Wales by Parents' Country of Birth. Available from <http://www.ons.gov.uk/ons/rel/vsob1/parents--country-of-birth--england-and-wales/2011/sb-parents--country-of-birth--2011.html> (accessed 06.11.12).
- Office for National Statistics (ONS) (2011). Ethnic breakdown of England and Wales mapped. Available from <http://www.guardian.co.uk/news/datablog/interactive/2011/may/19/ethnic-breakdown-england-wales> (accessed 06.11.12)
- Onwuegbuzie, A. J., & Leech, N. L. (2007). Validity and qualitative research: an oxymoron? Quality & quantity. *International Journal of Methodology*, 41, 233–249
- Opdenakker, R. (2006) Advantages and Disadvantages of Four Interview Techniques in

Qualitative Research, *Forum Qualitative Research*, 7 (4) 11 – September.

Oppenheim, A. N. (2000). *Questionnaire Design, Interviewing and Attitude Measurement*. New York: Pinter Publications.

Oyserman, D., Elmore, K., Smith, G. (2012). Self, Self-Concept, and Identity. In M. R. Leary and J. P. Tangey (Eds.) *Handbook of self and identity*, 69-104

Parsons, E., & Atkinson, P. (1992). Lay constructions of genetic risk. *Sociology of Health & Illness*, 14(4), 437–455.

Peterson, A. (2001). Biofantasies: genetics and medicine in the print news media. *Social Science and Medicine*,

Piaget, J. (1928). *Judgment and Reasoning in the Child*. London: Routledge & Kegan Paul.

Pieters, J. J. P. M., Kooper, A. J. A., Eggink, A. J., Verhaak, C. M., Otten, B. J., Braat, D. D. M., Smits, A. P. T., & van Leeuwen, E., (2011). Parents' perspectives on the unforeseen finding of a fetal sex chromosomal aneuploidy. *Prenatal Diagnosis*, 31, 286-292.

Pilnick, A. & Zayts, O., (2012). "Let's have it tested first": choice and circumstances in decision-making following positive antenatal screening in Hong Kong. *Sociology of health & illness*, 34(2), pp.266–82.

Pini, B. (2005). Interviewing men. *Journal of Sociology*, 41(2), 201-216.

Plano Clark, V. L., Huddleston-Casas, C. A., Churchill, S. L., O'Neil Green, D., Garrett, A. L. (2008). Mixed Methods Approaches in Family Science Research. *Journal of Family Issues*, 29 (11), 1543-1566

Pleck, J. H., 1995. The Gender Role Strain Paradigm: An Update. In: Levant R. F., Pollock, W. S. (Eds.), *A New Psychology of Men*. New York, Basic Books, pp 11-33.

Pollock, P. H. & Percy, A. (1999). Maternal antenatal attachment style and potential foetal abuse. *Child Abuse & Neglect*, 23, 1345-1357

RAPID, 2012. How does NIPD work? Available from <http://www.rapid.nhs.uk/>. (accessed 06.11.12).

Rapp, R., (2000). *Testing women, testing the fetus: The social impact of amniocentesis in America*. New York, Routledge.

Reckase, M. D. (1990). Scaling techniques. In G. Goldstein and M. Hersen (eds.) *The Handbook of Psychological Assessment*, pp43 – 61.

Redline, C. D., and D. A. Dillman. (2002). The influence of alternative visual designs on respondents' performance with branching instructions in self-administered. *Social Science Computer Review*, 22, 111-127,

Redshaw, M. & Heikkila, K. (2010). *Delivered with care: a national survey of women's maternity care 2010*. National Perinatal Epidemiology Unit: University of Oxford.

Reed, K. (2012). *Gender and Genetics: The Sociology of the Prenatal*. London: Routledge

Reed, K. (2011). Making men matter: exploring gender roles in prenatal blood screening. *Journal of Gender Studies*, 20(1), 55-66.

Reed, K. (2009a). "It's them faulty genes again": women, men and the gendered nature of genetic

- responsibility in prenatal blood screening. *Sociology of health & illness*, 31(3), 343-359.
- Reed, K., (2009b). Fathers' involvement in antenatal screening: midwives views. *British Journal of Midwifery*, 17 (4), 218-222.
- Reeves, J., Gale, L., Webb, J., Delaney, R. and Cocklin, N. (2009). Focusing on young men: developing integrated services for young fathers. *Community Practitioner*, 82 (9), 18 – 21.
- Reid, B., Sinclair, M., Barr, O., Dobbs, F., & Crealy, G. (2009). A meta-synthesis of pregnant women's decision-making processes with regard to antenatal screening for Down syndrome. *Social science & medicine*, 69(11), 1561–1573.
- Reinharz, S., and S.E. Chase. (2003). Interviewing Women. In J. A. H. a. J. F. Gubrium (Ed.), *Interviewing women. In Inside interviewing: New lenses, new concerns* (pp. 73-90). London: Sage.
- Richter, K. (1997). Child care choice in urban Thailand: Qualitative and quantitative evidence of the decision-making process. *Journal of Family Issues*, 18(2), 174-204.
- Righetti, P. L. Dell'avano, M., Grigio, M., Nicolini, U. (2005). Maternal/paternal antenatal attachment and fourth-dimensional ultrasound technique: A preliminary report *British Journal of Psychology*, 96, (1), 129-137,
- Robertson, S. (2007). *Understanding Men and Health: Masculinities, Identity and Well-being*. Maidenhead: Open University Press.
- Robertson, S. (2006). Masculinity and reflexivity in health research with men. *Auto/Biography*, 14, 302-319.
- Robson, C. (2002). *Real world research*. Wiley-Blackwell: Oxford.
- Rorty, R. (1979). *Philosophy and the Mirror of Nature*. Princeton, NJ: Princeton University Press.
- Rowe, R., Puddicombe, D., Hockley, C., & Redshaw, M., (2008). Offer and uptake of prenatal screening for Down syndrome in women from different social and ethnic backgrounds. *Prenatal Diagnosis*, 28, 1245–1250.
- Royal College of Midwives. 2011. *Reaching out: Involving fathers in maternity care*. London, RCM
- Royal College of Obstetricians and Gynaecologists. (2010). *Termination of Pregnancy for Fetal Anomaly*. Sussex, RCOG
- Rust, J., & Golombok, S.(2009). *Modern Psychometrics: The Science of Psychological Assessment*. London: Routledge.
- Sandelowski, M. & Black, P. B., Mercer, R. T., Bergum, V., & Stainton, M. C. (1994). The epistemology of expectant parenthood. *Western Journal of Nursing Research*, 16, 601 – 622.
- Sandelowski, M., (1994). Separate, but less unequal: Fetal ultrasonography and the transformation of expectant mother/fatherhood. *Gender and Society*, 8, 230-245.
- Sandelowski, M., Docherty, S., & Emden, C., (1997). Focus on qualitative methods: Qualitative metasynthesis: issues and techniques. *Research in Nursing and Health* 20 (4), 365-371
- Santos, S., & Bizzo, N. (2005). From “new genetics” to everyday knowledge: Ideas about how genetic diseases are transmitted in two large Brazilian families. *Science Education*, 89(4), 564–576

- Scharf, M. & Mayseless, O. (2011). Buds of Parenting in Emerging Adult Males: What We Learned From Our Parents *Journal of Adolescent Research*, 26, 479-505
- Schoppe-Sullivan, S. J., Brown, G. L., Cannon, E. A., Mangelsdorf, S. C., & Sokolowski, M. S. (2008). Maternal gatekeeping, coparenting quality, and fathering behavior in families with infants. *Journal of Family Psychology*, 22, 389–398.
- Schwalbe, M.L. and Wolkomir, M. (2003). Interviewing men. In J. A. H. a. J. F. Gubrium (Ed.), *Interviewing women. In Inside interviewing: New lenses, new concerns* (pp. 33-53). London: Sage.
- Scott, P. J. & Briggs, J. S. (2009). A pragmatist argument for mixed methodology in medical informatics. *Journal of Mixed Methods Research*, 3 (3), 223 -241.
- Screening for Down's syndrome: UK NSC Policy recommendations 2011–2014 Model of Best Practice
- Seglow, R. and Canham, H. (1999). Intra-uterine life and the experience of birth. In D. Hindle and M. Vaciago (Eds). *Personality Development A Psychoanalytic Perspective*. New York: Routledge
- Sheldon, S. (2005). Fragmenting fatherhood: The regulation of reproductive technologies. *Modern Law Review*, 68 (4), 523-553.
- Shelton, J.F., Tancredi, D.J., Hertz-Picciotto, I. (2010). Independent and dependent contributions of advanced maternal and paternal ages to autism risk. *Autism Research*, 3(1), 30-39.
- Shuy, R.W. (2002). In-person versus telephone interviewing. In J.G. Gubrium & J.A. Holstein (Eds.), *Handbook of interview research: Context and method* (537–555). Thousand Oaks, CA: Sage.
- Siddiqui, A, & Hägglöf, B. (2000). Does maternal prenatal attachment predict postnatal mother-infant interaction? *Early human development*, 59(1), 13–25.
- Sjogren, B., (1992). Future use and development of prenatal diagnosis. Consumers' attitudes. *Prenatal Diagnosis*, 12 (1), 1-8
- Skirton, H., & Barr, O., (2009). Antenatal screening and informed choice: a cross-sectional survey of parents and professionals. *Midwifery* 26 (6), 596-602.
- Sooben, R. D., 2010. Antenatal testing and the subsequent birth of a child with Down syndrome: a phenomenological study of parents' experiences. *Journal of Intellectual Disabilities* 14:,79-94.
- Stainton, M. C. (1994). Commentary on the epistemology of expectant parenthood. *Western Journal of Nursing Research*, 16, 601 – 622.
- Stanford, D. D. (2002). The effect of fetal ultrasound imaging on parental fetal attachment and on dyadic attachment of the expectant couple. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 2 (9-B), 4238.
- Strauss, A. and Corbin, J. (1998). *Basics of Qualitative Research (2nd edition)*. London: Sage.
- Streiner, D. L., & Norman, G. (2008). *Health Measurement Scales*. Oxford: Oxford University Press
- Sturgis, P., Roberts, C. and Smith, P.(2011) Middle alternatives revisited: How the neither/nor response acts as a way of saying 'I don't know'. *Sociological Methods and Research (In Press)*
- Taylor, B. (2005). Whose baby is it? The impact of new reproductive technologies on kinship.

Human Fertility, 8 (3), 189-195.

Taylor, C. A., Shaw, R. L., Dale, J., French, D. P., 2011. Enhancing delivery of health behaviour change interventions in primary care: A meta-synthesis of views and experiences of primary care nurses. *Patient Education and Counseling* 85, 315-322.

Teddlie, C. and Tashakkori and A. (2003). Major issues and controversies in the use of mixed methods in the social and behavioural sciences. In A. Tashakkori and C. Teddlie (Eds.) *Handbook of Mixed Methods in Social and Behavioural Research*. London: Sage.

The Cochrane Collaboration (2012). Meta-analysis of continuous data. Retrieved from <http://www.cochrane-net.org/openlearning/html/modA1-5.htm>

The WHOQOL Group, Development of the WHOQOL-BREF Quality of Life Assessment, *Psychological Medicine*, 28 551-558, 1998.

Thomas, J., & Harden, A., (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology* 8, 45.

Tobin, G., Begley, C. (2004), "Methodological rigour within a qualitative framework", *Journal of Advanced Nursing*, Vol. 48 No.4, pp.388-96.

Tourangeau, R., Rips, L.J., & Rasinski, K. (2000). *The Psychology of Survey Response*. Cambridge: Cambridge University Press

Tsianakas, V., Atkin, K., Calnan, M. W., Dormandy, E., et al. (2012). Offering antenatal sickle cell and thalassaemia screening to pregnant women in primary care: a qualitative study of women's experiences and expectations of participation. *Health expectations : an international journal of public participation in health care and health policy*, 15(2), 115–25.

Ustunsoz, A, Guvenc, G., Akyuz, a, & Oflaz, F. (2010). Comparison of maternal-and paternal-fetal attachment in Turkish couples. *Midwifery*, 26(2), e1–9. Elsevier.

Van den Berg, M., Timmermans, D. R., Knol, D. L., van Eijk, J. T., de Smit, D. J., van Vugt, J. M. & van der Wal, G. (2008). Understanding pregnant women's decision making concerning prenatal screening. *Health Psychology*, 27 (4), 430-437.

Venville, G., Gribble, S. J., & Donovan, J. (2005). An exploration of young children's understandings of genetics concepts from ontological and epistemological perspectives. *Science Education*, 89(4), 614–633.

Villeneuve, C., Laroche, C., Lippman., Marrache, M. (1988). Psychological aspects of ultrasound imaging during pregnancy. *Canadian Journal of Psychiatry*, 33, 530-535.

Walsh, D., Downe, S., 2005. Metasynthesis method for qualitative research: a literature review. *Journal of Advanced Nursing*, 50 (2), 204-211.

Walsh, D., & Downe, S. (2006). Appraising the quality of qualitative research. *Midwifery*, 22 (2), 108-119.

Walsh, J. (2010). Definitions matter: if maternal-fetal relationships are not attachment, what are they? *Archives of women's mental health*, 13(5), 449–451.

Walter, F. M., Emery, J., Braithwaite, D., & Marteau, T. M. (2004). Lay understanding of familial risk of common chronic diseases : a systematic review and synthesis of qualitative research. *Annals of Family Medicine*, 2 (6), 583–594.

- Ward, L. (2005) Whose right to choose? The new genetics, prenatal testing and people with learning difficulties. In R. Bunton & A. Petersen (Eds.) *Genetic governance: Health, risk and ethics in the biotech era* London: Routledge.
- Weijters, B., Cabooter, E., & Schillewaert, N. (2010). The effect of rating scale format on response styles: The number of response categories and response category labels. *International Journal of Research in Marketing*, 27 (3) 236–247.
- Weinstein, N.D., Kwitel, A., McCaul, K.D., Magnan, R.E., Gerrard, M., & Gibbons, F.X., (2007). Risk perceptions: assessment and relationship to influenza vaccination. *Health Psychology*, 26, 146–151.
- Williams, C., Sandall, J., Lewandohundt, G., Heyman, Bob, Spencer, K. & Grellier, R. (2005) Women as moral pioneers? Experiences of first trimester antenatal screening. *Social Science and Medicine*, 61 (9), 1983-1992
- Williams, C., Alderson, P., & Farsides, B. (2007). Conflicting perceptions of the fetus: person, patient, “nobody”, commodity? *New Genetics and Society*, 20(3), 225 – 238.
- Williams, R. A. (2007). Masculinities fathering and health: the experiences of African-Caribbean and white working class fathers. *Social science & medicine*, 64(2), 338-349.
- Williams, R. A., Dheensa, S., & Metcalfe, A. (2011). Men’s involvement in antenatal screening: a qualitative pilot study using e-mail. *Midwifery*, 27(6), 861-866.
- Williams, R.A. (2007) Masculinities, fathering and health: the experiences of African-Caribbean and white working class fathers. *Social Science and Medicine*, 64 (2), 338-349
- Williams, S. (2008). What is Fatherhood? *Sociology*, 42(3), 487-502.
- Williams, K., & Umberson, D., (1999). Medical technology and childbirth: experiences of expectant mothers and fathers. *Sex Roles*, 41 (3-4), 147-168.
- Willis, G. B. (2005). *Cognitive Interviewing: a tool for improving questionnaire design*. Thousand Oaks, CA: Sage
- Wilson, M. E., White, M. A, Cobb, B., Curry, R., Green, D., & Popovich, D. (2000). Family dynamics, parental-fetal attachment and infant temperament. *Journal of Advanced Nursing*, 31(1), 204–210.
- Wright, C. (2009). *Cell-free fetal nucleic acids for non-invasive prenatal diagnosis: Report of the UK expert working group*. Cambridge, PHG foundation.
- Yarcheski, A., Mahon, N. E., Yarcheski, T. J., Hanks, M. M., et al. (2009). A meta-analytic study of predictors of maternal-fetal attachment. *International journal of nursing studies*, 46(5), 708–15.
- Zeanah, C., Carr, S., & Wolk, S. (1990). Fetal movements and the imagined baby of pregnancy: are they related? *Journal of Reproductive and Infant Psychology*, 8, 22–36.