MATERNAL FETAL ATTACHMENT DURING TEENAGE PREGNANCY

By

Lize Olivier

Thesis presented in partial fulfilment of the requirements

for the degree of

Master of Education in Educational Psychology

in the Faculty of Education

at

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Supervisor: Mrs Charmaine Louw

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DECLARATION

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ABSTRACT

The significant attachment relationship between a mother and her child has been found already beginning to develop during pregnancy and is known as Maternal Fetal Attachment (MFA). This exclusive and unique prenatal attachment relationship develops with the progression of pregnancy and is the strongest during the third trimester of pregnancy. A strong MFA relationship has been found to promote healthy prenatal and postnatal outcomes for the pregnant mother and her unborn baby. Research about the contextual and emotional influences on MFA during adult pregnancy is known but little is known about the factors influencing this important relationship during teenage pregnancy. Teenage pregnancy alters the normal developmental course of the adolescent, because she is emotionally and intellectually not ready yet to become a parent. Teenage pregnancy is a global dilemma with most research focusing on prevention. There is a great need for more research to be done to assist pregnant teenagers to form healthier prenatal attachment relationships with their unborn babies by working from an attachment theory framework in order to promote better health outcomes for the pregnant teenagers and their infants, especially in developing countries such as South Africa.

The methodology of this study can be described as a qualitative multiple case study design within an interpretive paradigm. Using purposive sampling, three pregnant teenagers in the third trimester of pregnancy, attending a high school in the Western Cape were selected. The methods of data collection included semi-structured individual interviews, a semi-structured focus group interview and collages. Qualitative content analysis was used to analyse the data of each case, as well as for a cross case analysis.

The findings from this multiple case study indicated that the development of MFA during teenage pregnancy differs from MFA during adult pregnancy. One of the main contrasts was the emotions the pregnant teenager experienced through the different pregnancy stages, especially in the first and second trimester of pregnancy. The development of strong MFA was evident in the third trimester of the participants' pregnancies. Similarly to adult pregnancy social support, ultrasound images and fetal movements enhanced the development of MFA. The social support received from parents, the baby's father, the paternal grandparents, friends, and the inclusive school were the most pertinent contributing factors to the development of MFA. In this case study the participants' mothers played a primary role in their development of MFA.

OPSOMMING

Dit is bevind dat die beduidende gehegtheidsverhouding tussen 'n ma en haar kind reeds tydens swangerskap ontwikkel en dit staan bekend as Moeder-Fetale Gehegtheid (MFG). Hierdie eksklusiewe en unieke prenatale gehegtheidsverhouding ontwikkel met die verloop van swangerskap en is die sterkste in die derde trimester van swangerskap. Daar is bevind dat 'n sterk MFG verhouding bevorder gesonde prenatale en postnatale uitkomste vir die swanger moeder en haar baba. Navorsing oor die kontekstuele en emosionele invloede op MFG tydens volwasse swangerskap is bekend, maar min is bekend oor die faktore wat hierdie belangrike verhouding tydens tienerswangerskappe beïnvloed. Dit verander die normale verloop van die adolessent se ontwikkeling, want sy is emosioneel en intellektueel nog nie gereed om 'n ouer te word nie. Dit is 'n wêreldwye dilemma en die meeste navorsing fokus op die voorkoming daarvan. Daar is egter 'n groot behoefte aan meer navorsing binne 'n gehegtheidsteoretiese raamwerk om swanger tieners te help om gesonder prenatale gehegtheidsverhoudings met hul ongebore babas te vorm, en om beter gesondheidsuitkomstes vir die swanger tieners en hul babas te bevorder, veral in ontwikkelende lande soos Suid-Afrika.

Die metodologie van hierdie studie kan beskryf word as 'n kwalitatiewe meervoudige gevallestudie ontwerp binne 'n interpreterende paradigma. Deur middel van doelgerigte steekproefneming is drie swanger tieners in die derde trimester van swangerskap uit ‘n Wes-Kaapse hoërskool gekies. Die data-insamelingsmetodes het semi-gestruktureerde individuele onderhoude, 'n semi-gestruktureerde fokusgroep-onderhoud en collages ingesluit. Kwalitatiewe inhoudsanalise is gebruik om die data van elke geval, sowel as vir 'n kruisgeval, te ontleed.

Die bevindinge van hierdie meervoudige gevallestudie het daarop gedui dat die ontwikkeling van MFG in tienerswangerskappe verskil van MFG tydens volwasse swangerskap. Een van die belangrikste kontraste was die emosies wat die swanger tiener ervaar gedurende die verskillende stadiums van swangerskap, veral gedurende die eerste en tweede trimester. Die ontwikkeling van 'n sterk MFG was duidelik in die derde trimester van swangerskap teenwoordig by die deelnemers. Net soos tydens volwasse swangerskap verbeter sosiale ondersteuning, ultraklankbeelde en fetale bewegings die ontwikkeling van MFG. Die sosiale ondersteuning wat ontvang word van ouers, die baba se pa, die vaderlike grootouers, vriende, en die inklusiewe skool was die mees pertinente bydraende faktore tot die ontwikkeling van MFG. In hierdie gevallestudie het die moeders van die deelnemers ‘n primêre rol in hul ontwikkeling van MFG gespeel.

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This work is dedicated to:

My heavenly Father, my parents, my husband and children.

For your unconditional love and support.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

The significant attachment relationship between a mother and her infant as conceptualized by Bowlby (1958) has been increasingly recognized over the past 20 years to already starting to develop before birth (Alhusen, 2008). The unique attachment relationship that is formed during pregnancy, between the pregnant mother and her unborn infant, especially noticeable during the third trimester of pregnancy, is known as Maternal Fetal Attachment (MFA). The purpose of this qualitative multiple case study was to explore how MFA developed during the pregnancies of three adolescents. The findings of this inquiry could contribute to a broadening of the limited, existing knowledge base about MFA during teenage pregnancy in order to create better prenatal intervention strategies to assist pregnant teenagers in developing a strong attachment relationship with their unborn babies. Strong MFA is crucial for the prenatal and postnatal wellbeing of the teenage mother and her infant.

This chapter presents an introduction to this study. It commences with providing the background and context of the study, first globally and then locally. The research problem will be explained next. Resulting from the identified research problem, the purpose of the research will proceed, followed by the research questions. Then the research approach consisting of the research design, research paradigm and research methodology will be discussed. The context of the study, selection of the participants and the role of the researcher form part of the research methodology, after which the data collection methods and data analysis will be briefly stated. Lastly, a clarification of the most pertinent terminology used during the dissertation will be provided. The chapter will conclude with the structure of the presentation that will follow.

1.2 BACKGROUND AND CONTEXT OF THE STUDY

Teenage pregnancy is a global dilemma. It is estimated that globally, sixteen million infants are born to adolescent girls aged 15-19 years, and about one million infants are born to adolescent girls younger than 15 years per annum (World Health Organization [WHO], 2014). The majority of teenage pregnancies occur in developing countries with low- and middle income groups. Insufficient prenatal care leads to the global incidence of the highest number of premature births and low birth weight of infants of teenage mothers (United Nations Children's Fund [UNICEF], 2008). Prenatal and perinatal difficulties are the second reason of mortality for pregnant teenagers aged 15-19 worldwide. What is more, the infants of pregnant teenagers have a considerably greater chance of dying in contrast to infants born to mothers aged 20-24 (WHO, 2014).

In South Africa the Basic Education Report on the 2009/2010 annual surveys for ordinary schools reported that “45 276 learners were reportedly pregnant in 2009”. Most of these pregnant teenagers in 2009 happened to be in grades 10 and 11 and a considerable great amount of pregnant teenagers were reportedly also in grades 7, 8 and 9 (Department of Basic Education [DoBE] n.d. p. 29). The emphasis of health care initiatives is to prevent teenage pregnancy; however, there is not enough research done to assist pregnant teenagers to form healthier prenatal attachment relationships with their unborn babies by working from an attachment theory framework in order to promote better health outcomes for the pregnant teenagers and their infants (Feldman, 2012).

Teenage pregnancy alters the normal developmental course of the adolescent, because she is emotionally and intellectually not ready yet to become a parent (Feldman, 2012). The pregnant teenager needs to adjust to the role of becoming a mother whilst also grappling with the psycho-social and physical changes of the adolescent developmental phase (Rowe, Wynter, Steele, Fisher & Quinlivan, 2013). Consequently pregnant teenagers may be at risk for not developing a sufficient attachment relationship with their unborn infants (Rowe et al., 2013).

The concept Maternal Fetal Attachment (MFA) has first been defined through the work of Cranley (1981, p. 181) as “the extent to which women engage in behaviours

that represent an affiliation and interaction with their unborn child". Building on Cranley's work Müller asserted that MFA does not only entail behaviours that are engaged in, but also the pregnant mother's "thoughts and fantasies" about her fetus as part of the MFA construct (Brandon, Pitts, Denton, Stringer & Evans, 2009, p. 207). An Australian researcher, John Condon (1993), proposed a multidimensional model of MFA and asserted that the central experience of MFA is based on love for the unborn baby that grows during pregnancy (Brandon et al., 2009; Condon, 1993). Sandbrook and Adamson-Macedo (2004) described MFA as an exclusive relationship that is enriched by the social support that the mother receives. This special relationship between a pregnant mother and her unborn child is unique, multi-faceted and developmental and lays the foundation for the postnatal attachment between mother and infant (Sandbrook, 2009).

The theory of human attachment originated from the work of John Bowlby (1951, 1958) and provided the theoretical framework for this study. Bowlby (1951) asserted that an affectionate on-going close bond with an attachment figure such as the mother or mother figure, especially during infancy and early childhood, is vital for the future healthy psychological development of the child. In addition, he stated that it should be a mutually enjoyable and gratifying experience for both the mother figure and the child. In Bowlby's research the importance and impact that these close relationships with significant others have on the healthy lifelong emotional development of the person were central (Bowlby, 1977).

The pregnant mother's attachment relationship with her unborn baby plays a vital role in the prenatal and even postnatal development of the child (Maas, Vreeswijk, de Cock, Rijk & Van Bakel, 2012). Mothers, who are closely attached to their infants before birth, change their lifestyle and behaviours significantly to protect the unborn infant from harm, which assist the women to adapt to the role of becoming a mother (Alhusen, Gross, Hayat, Woods & Sharps, 2012a; Brandon et al., 2009; Feldman, 2012; Rowe et al., 2013). Lindgren (2001) specifies that a strong MFA relationship has been associated with healthy behaviours during pregnancy; these include the abstinence from harmful substances, a healthy diet, adequate sleep and exercise, using a seatbelt, obtaining prenatal care and seeking information about pregnancy, childbirth, and infant care. What is more, the National Scientific Council on the

Developing Child (2007, p. 2) states “a healthy environment beginning in the prenatal period allows the full potential of the genetic plan for the brain to be expressed”; however, “an adverse prenatal environment can actually alter the genetic plan for the brain.” A poor MFA relationship has been associated with fetal and child abuse (Brandon et al., 2009).

Postnatally, a strong MFA relationship has been found to be a protective factor against postpartum depression (Priel & Besser, 1999; Brandon et al., 2009). In contrast, a poor MFA relationship has been related to postpartum anxiety and -depression (Brandon et al., 2009). The quality of the prenatal relationship is thus related to the quality of the postnatal relationship. In addition, MFA researchers indicate that more studies regarding aspects influencing the growth of MFA during pregnancy are essential as this is closely related to postnatal attachment (Maas et al., 2012).

To conclude, strong MFA is essential for the wellbeing of the pregnant mother and her unborn baby as it significantly impacts on the wellbeing of mother and child (Rowe et al., 2013), which leads to the research problem of this study.

1.3 THE RESEARCH PROBLEM

MFA has important implications for women and their unborn babies worldwide (Canella, 2005). However, the majority of studies are conducted in the United States on American women; therefore, to determine cultural differences in MFA, as well as a better understanding from different racial and ethnic perspectives, studies need to be performed in different nations, especially developing countries (Brandon et al., 2009). “A strong limiting factor of current knowledge is the large gap in existing research with diverse populations” (Brandon et al., 2009, p. 216). What is more, there is a shortage of international literature about MFA during teenage pregnancy (Feldman, 2012; Rowe et al., 2013).

Research about the contextual and emotional influences on MFA during adult pregnancy is known but little is known about the factors influencing this important relationship during adolescent pregnancy (Rowe et al., 2013). Similarly, in developing countries such as South Africa, limited research has been done about MFA during

teenage pregnancy. The researcher could only find one other study done about this topic locally. Most research done in South Africa regarding teenage pregnancy focusses on the prevention thereof (Rangiah, 2012).

The MFA relationship that develops particularly during teenage pregnancy can be expected to be influenced by the cognitive and psychosocial developmental stage and social circumstances of the pregnant teenager and therefore may differ from adult pregnancy (Rowe et al., 2013). It can be expected that there are more risk factors impacting on the MFA relationship during teenage pregnancy because of the sensitive developmental stage the pregnant teenager is in. It is therefore imperative that more research must be done to understand how the MFA relationship develops during teenage pregnancy and to identify risk factors impacting on the MFA relationship as well as possible moderating factors. Gabriel (2003) concludes in her South African masters' dissertation *The relationship between social support and prenatal attachment in adolescent pregnancy* that further research about MFA during teenage pregnancy is implied and essential. Correspondingly, Sandbrook (2009) recommends that further qualitative and quantitative research studies are needed with pregnant teenagers. The importance of MFA, the high incidence of teenage pregnancy worldwide and the limited local research led to the purpose of this study.

1.4 THE PURPOSE OF THE STUDY

The purpose of this qualitative case study was to explore and describe how the unique MFA relationship between three pregnant teenagers and their unborn babies developed during their pregnancies. The primary focus was on the development of the attachment relationship of the pregnant teenager with her unborn baby, not on the prevention of teenage pregnancy. This study could contribute to a deeper understanding of the unique Maternal Fetal Attachment relationship that develops during teenage pregnancy between the pregnant teenager and her unborn baby. A deeper understanding could lead to the early identification of risk factors during teenage pregnancy that may harm the development of the essential MFA relationship and consequently the postnatal attachment relationship, as well as the wellbeing of the teenage mother and her infant.

Subsequently further knowledge about MFA during teenage pregnancy could also contribute to the design of intervention programmes for pregnant teenage mothers in South Africa to enhance MFA (Brandon et al., 2009). The importance of such intervention programmes is confirmed by Shieh, Kravitz and Wang (2001) who contend that intervention programmes can positively influence the development of MFA both for pregnant women that have weak MFA as well as for pregnant women that are uninformed about its importance. In addition, intervention programmes need to be developed to counter the detrimental intergenerational cycles of insecure attachment and to assist mothers to adjust to the role of being a mother (Brandon et al., 2009).

In conclusion, the long term goal of this research was to contribute to the body of existing knowledge about MFA during teenage pregnancy. This can lead to the design of appropriate intervention programmes and support groups can be established for pregnant teenage mothers.

1.5 THE RESEARCH QUESTIONS

According to Johnson and Christensen (2008) research questions provide guidance to source meaningful data about the phenomenon that is explored. Furthermore, research questions are acquired and refined throughout the research process (Gibson & Brown, 2009).

The primary aim of this study was to explore the following:

How Does MFA Develop During Teenage Pregnancy?

The subquestions that guided the investigation were:

- *How do pregnant teenagers describe their emotions about their pregnancies and unborn babies during their pregnancies?*
- *How do pregnant teenagers describe the lifestyle changes they made and the health behaviours they incorporated during their pregnancies?*
- *How do pregnant teenagers describe their experiences of fetal movements and ultrasound images?*

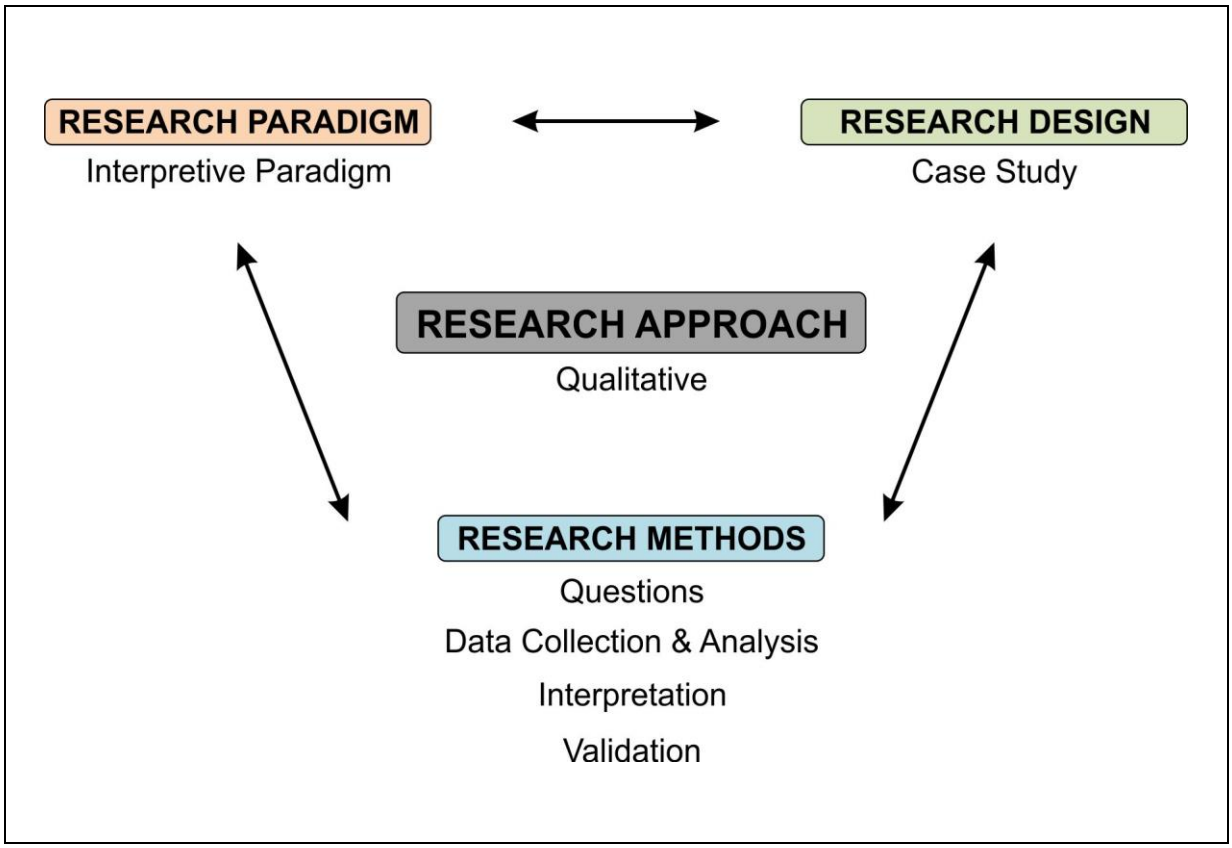
- *How do pregnant teenagers describe their MFA behaviours, thoughts and fantasies towards their unborn babies?*
- *How do pregnant teenagers describe the social support they receive during their pregnancies?*

The nature of the research problem and the purpose of this study led to the following research approach:

1.6 THE RESEARCH APPROACH

The research approach consists of the research strategies and techniques used throughout the research process narrowing down comprehensive ideas into particular research methods (Creswell, 2014, see table 1.1) A qualitative research approach was followed during this study. During qualitative research data is collected in a daily life context where the research problem occurs and the qualitative researcher is involved and central in the research study (Creswell, 2014). Using table 1.1 below as a guide, the aspects of the research approach followed in this study are discussed in the sub-sections below. The research paradigm provides a framework wherein the research questions, research design and research methods should be suitable and logical (Durrheim, 2006).

Table 1.1: A framework for research (Adapted from Creswell, 2014, p. 5)



1.6.1 Research paradigm

The research paradigm is the fundamental viewpoint or theoretical stance of the researcher from which a research study is conducted (Durrheim, 2006). Creswell (2014, p. 5) prefers to describe the research paradigm as the researcher's "philosophical worldview". This research study adopted a qualitative case study approach within an interpretive paradigm. Within the interpretive research paradigm the meaning that the participant denotes to events is being studied. Johnson and Christensen (2008, p. 395) describe the purpose of a phenomenological study as gaining an understanding of the "life-world" of the participants and their unique understanding of it. Thus the researcher aimed to explore how three pregnant teenagers described their constructed meanings regarding the development of an MFA relationship with their unborn babies during their pregnancies. The research paradigm will be discussed in more depth in chapter 3, section 3.3.

1.6.2 Research design

The research design of a study is based on the study's research question that the researcher wishes to investigate (Mouton, 2001). Thus, it consists of designing a strategy to best answer the research question (Mouton, 2001). As previously stated this study employed a qualitative research design.

A multiple case study design was chosen as a design in order to address the research problem and to answer the research questions. The case study design lends itself to a *bounded* in-depth exploration of an experience and the interrelated circumstances in which it occurs (Creswell, 2014; Henning, Van Rensburg & Smit, 2004; Yin, 1993). A case study can be bounded according to different criteria (Baxter & Jack, 2008). This case study was bounded or formed a closed system regarding "time" and "activity" (Creswell, 2014, p. 241). The aim of a case study is to do an in depth description of a phenomenon within its context. In this study the development of MFA during teenage pregnancy formed the central component of the investigation which the researcher studied (Yin, 1993). The "unit of analysis" in case study research is crucial, as it forms the bounded system of the case (Yin, 1993, p. 10). The research design has been briefly outlined; a more in depth discussion will be done in chapter 3, section 3.4. In accordance with the research design the researcher took the following course of action:

1.6.3 Research methodology

The research methodology of a study can be compared to the practical construction of a residence and the decisions and procedures this entails in order to fulfil the original design of the residence (Mouton, 2001). The research methodology involves the logical, organized and precise implementation of the research design (Mouton, 2001). As described above, qualitative research methodology consists of particular research procedures that will be discussed in this section. The qualitative researcher is compared by Denzin and Lincoln (2008, p. 5) to a "quiltmaker" that uses a variety of leftover pieces of materials together to create something unique and worthwhile. A more in-depth discussion of the research methodology will follow in chapter 3, section 3.5.

1.6.3.1 Context of the study

According to Yin (1993) a case study design is suitable when the occurance being investigated is interrelated with the context in which it occurs. MFA during teenage pregnancy cannot be studied without considering the context in which it develops. Firstly, one has to consider the adolescent developmental phase of the pregnant teenager. Secondly, one has to consider the wide range of externally and internally embedded determinants that could influence the development of MFA for this population, especially her closest attachment relationships with significant persons during her pregnancy. The context of the study will be discussed further in chapter 3, section 3.5.1.

1.6.3.2 Selection of the participants

According to Yin (1993, p. 21) a multiple case study must adhere to the “replication logic”. This means that a small number of cases are selected in order to duplicate the findings (Yin, 1993). Therefore, three pregnant teenagers aged 15 to 17 years in their third trimester of pregnancy were considered to be information-rich sources to form a bounded multiple case study in order to do an in-depth study about the unit of analysis. Gestation has been found to be consistently strongly correlated with the development of MFA (Rowe et al., 2013), and thus formed part of the selection criteria of the study. This will be further discussed in chapter 3, section 3.5.2.

1.6.3.3 Role of the researcher

The researcher herself was pregnant in 2012 and so became interested in MFA. Whilst doing her practical work in this setting she started to wonder how MFA develops during teenage pregnancy with all its challenges, especially for school going pregnant teenagers.

In qualitative research the researcher is central to the research process (Creswell, 2014). The researcher had to be aware of her own subjective perspectives during all the phases of the study. The researcher recognized her potential bias and possible limited understanding of the life-world of the participants because of cultural, educational, developmental and socio-economic differences. However, by having this awareness, the researcher became more concentrated about being sensitively

empathetic to form a deeper understanding of the experiences of the three participants. (see chapter 3, section 3.5.1.1). To gain such an in-depth understanding, multiple data collection methods had to be used.

1.6.3.4 Data collection and data analysis

A key feature of qualitative research is that data is collected using various methods and different types of data (Creswell, 2014). In addition, Yin (1993) states that because of the contextual density, data collection will probably be from various data sources. According to Willis (2007) a qualitative study makes use of data collection methods such as semi-structured interviews, observations and document analysis as these methods allow understanding of how people interpret the world around them. The researcher made use of semi-structured individual interviews in order to explore how the participants constructed and gave meaning to the attachment relationship with their unborn infant. A semi-structured focus group interview was also conducted after the individual interviews with the three participants. The themes that were identified in the literature guided the interview schedules of both types of interviews (see chapter 3, sections 3.6.3 and 3.6.4).

Recognising the highly personal and unique experience of this significant relationship between the mother and unborn infant, the researcher chose to also make use of a non-directive method of data collection. The participants each had to create a collage through which they could express deep-seated thoughts and feelings about their attachment relationship with their unborn baby, as well as their experiences of pregnancy. The collages were analysed by accumulating and identifying themes by focusing on the signs and symbols as well as text in the data, thus by making use of content analysis (Gibson & Brown, 2009). In order to not negate the role of personal constructed meanings, the researcher also held individual interviews with the two participants who made collages in order for them to clarify (see chapter 3, section 3.6.5).

Data analysis was done through the 5-step approach described by Terre Blanche, Durrheim and Kelly (2006). The individual and focus group interviews were transcribed verbatim and the data was organised and coded extracting concepts, themes and categories (see chapter 3, section 3.7).

1.7 CLARIFICATION OF TERMINOLOGY/DEFINITIONS

1.7.1 Maternal Fetal Attachment

Maternal Fetal Attachment (MFA) refers to the attachment that the pregnant mother forms with her unborn baby during pregnancy (Brandon et al., 2009). This attachment relationship normally increases during the pregnancy. Certain determinants (discussed in the next chapter) influence the development thereof. MFA behaviours, thoughts and fantasies have been identified in the literature which is visible when a strong attachment relationship between the pregnant mother and her unborn baby has been formed (Brandon et al., 2009). Social support has been found to play a significant role in the development of MFA (Maas et al., 2012). See chapter 2, section 2.3 for a detailed discussion of MFA.

1.7.2 Attachment theory

Attachment theory was originally conceptualized by John Bowlby (1951), and later jointly developed by him and Mary Ainsworth (Ainsworth & Bowlby, 1991). Bowlby (1977, p. 201) describes the concept attachment theory as “the propensity of human beings to make strong affectional bonds to particular others and of explaining the many forms of emotional distress and personality disturbance, including anxiety, anger, depression and emotional detachment, to which unwilling separation and loss give rise”. Furthermore, Bowlby (1977) argues that the most probable function of attachment behaviours is protection against predators. A secure attachment relationship with the mother or primary caregiver, especially during early childhood, is vital for healthy psychological development throughout the lifespan. An in depth discussion of Attachment theory is done in chapter 2, section 2.2.

1.7.3 Adolescent/teenager

“A person aged between 13 and 19 years” (Oxford Dictionary [Online], 2014). The words adolescent and teenager were used interchangeably during this study referring to a person between the ages of 13 and 19 years. See chapter 2, section 2.4.1 for a further detailed discussion of relevant aspects during the adolescent developmental phase.

1.7.4 Teenage pregnancy

"Teenage pregnancy is defined as a teenage girl, usually within the ages of 13-19, becoming pregnant" (UNICEF, 2008, p. 1). See chapter 1, section 1.2 for important facts regarding teenage pregnancy, worldwide and in South Africa.

1.7.5 Fetus/unborn baby/infant

The medical definition of fetus, also spelled foetus, is "an unborn or unhatched vertebrate especially after attaining the basic structural plan of its kind; specifically: a developing human from usually two months after conception to birth" (Merriam Webster Dictionary [Online], 2014). During the study the terms fetus and unborn baby/infant were used interchangeably referring to a developing human before birth.

1.7.6 Prenatal/antenatal

Prenatal/Antenatal refers to the period before birth as indicated in the Oxford Dictionary [Online] (2014): "Before birth; during or relating to pregnancy: 'prenatal development'".

1.7.7 Postnatal

Postnatal refers to the period after birth and is also sometimes referred to as the postpartum period (Oxford Dictionary [Online], 2014).

1.8 STRUCTURE OF THE PRESENTATION

Chapter 1 Introduction

In this introductory chapter the researcher aimed to present the background, rationale, purpose and research design of the study. The researcher also attempted to clarify key concepts that were used throughout the study.

Chapter 2 Literature Review

The literature review focused on the most important aspects researched which pertained to this study, keeping the research questions in mind throughout the review. The review commenced with a brief overview of attachment theory as

theoretical framework of the study, followed by a discussion of Maternal Fetal Attachment during adult pregnancy. Factors discussed under this section were the origin of the theory, the determinants of MFA and lastly the importance of MFA. Subsequently the review presented research done about MFA during teenage pregnancy, the focus area of this study. This was done by giving a brief overview of relevant adolescent developmental aspects providing a context to the study.

Chapter 3 Research Design and Methodology

The research design and -methodology employed for this study were described in this chapter. The research questions led the researcher to work from within a qualitative interpretive paradigm; this motivated the choice of research design and research methodology.

Chapter 4 Research Presentation and Findings

In chapter 4 the researcher presented and discussed the findings of the study according to the themes and categories that emerged through the data analysis of the three data collection methods. The findings of each case were presented individually, followed by a cross case analysis. The findings of the cross case analysis were discussed and compared with the existing literature.

Chapter 5 Concluding Remarks, Limitations and Recommendations

The researcher reviewed the research questions in the light of the study conducted. The limitations and strengths of the study were reviewed and recommendations for future research avenues, which could be explored, were made. The researcher concluded this chapter with a personal reflection on her own meaning making of the research journey during this study.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter provides an overview of the relevant research and the theoretical framework underpinning this study. According to Henning et al. (2004) the literature review serves to contextualise the research and it provides a basis from which to discuss and interpret the findings of this research study, positioning them within the already existing body of knowledge.

Attachment theory serves as the central theoretical framework and foundation from which this study can be contextualized. Pertinent aspects of this substantial theory will be discussed, briefly focusing on the origins of this theory and discussing facets that are relevant to this study. Building on that, the theory of Maternal Fetal Attachment will be reviewed; emphasis will be placed on the origins of MFA, the development of MFA and the importance of MFA. The chapter will then concentrate on the focal point of this study, namely the development of MFA during teenage pregnancy. It is important that this is understood within the context of the adolescent developmental phase and, therefore, a brief overview will be given about key aspects of psycho-social adolescent development. To summarize and conclude the literature review, the researcher will aim to stipulate how the above mentioned theory fits together to contextualize this study.

The following section will commence and focus on attachment theory as theoretical framework for this study.

2.2 ATTACHMENT THEORY

Attachment theory has been applied

> *"to every human developmental stage, every type of human relationship, to religious devotion, and even to organizational management. Seldom can a theory boast this breadth of application, not to mention leap across medical, psychological, social, and business disciplines"* (Brandon et al., 2009, p. 201).

2.2.1 Origins of Attachment Theory

Attachment theory originated mainly through the work of John Bowlby (1907-1990) and Mary Ainsworth (1913-1999) (Ainsworth & Bowlby, 1991; Bretherton, 1992). Their mutual interest and research about the theory of attachment lead to a 40 year old research partnership and working relationship. During their careers they worked together but also at times in different locations, researching various aspects of attachment theory (Ainsworth & Bowlby, 1991). Both researchers had a keen interest in the important role that early interaction between children and their parents has on their personality development (Ainsworth & Bowlby, 1991). The researchers regarded attachment theory as an ethological approach to personality development (Ainsworth & Bowlby, 1991).

John Bowlby was the first to present a coherent model of the process by which the bond between mother and infant develops and the functions that this bond serve (Bretherton, 1992). John Bowlby (1977) defined attachment theory as a way to understand the innate biological tendency of individuals to form intense attachments with significant others. He continued explaining that when involuntary separation and loss of the attachment figure happens it can be the cause of psychological distress and -disorders. Bowlby also had a keen interest in various other scientific disciplines such as ethology, cybernetics, information processing, developmental psychology, psychoanalysis, neurophysiology, developmental biology and embryology (Bowlby, 1977; Bretherton, 1992). Consequently he used important concepts and principles from these disciplines to deepen his understanding of human attachment relationships (Bowlby, 1977; Bretherton, 1992). To illustrate, Bowlby compared prenatal biological principles in psychology on evidence from embryology. He argued

that according to embryology research, growth and developmental delays are caused by pathology in the embryo's environment that is similar to those that have been identified before as being caused by genetic abnormalities (Bowlby, 1951). Thus, he places the emphasis on the importance of the in utero environment on the healthy development of the fetus; this emphasis is also the onset of the development of MFA which will be discussed in the next section of this chapter.

Another related discovery by Bowlby (1977) was his comparison of certain sensitive periods during human development to those in embryology. He explained that harmful processes during certain sensitive stages of embryo development had more severe consequences than at other times of the development of the embryo, regardless of the nature of the damaging agent. Applied to attachment theory it indicates that a person is more vulnerable to the detrimental effects of certain events such as maternal deprivation during sensitive periods of human development. This concept is also applicable to the prenatal development of the infant.

Equally important is Mary Ainsworth's contributions to attachment theory. She contributed the very important concepts such as the primary caretaker or attachment figure as a secure base, from which the infant can explore his environment, if he feels secure enough (Bretherton, 1992). In addition, she also contributed the concept of maternal sensitivity towards the infant's needs, and its role in the type of attachment pattern that consequently develops (Bretherton, 1992). These concepts were found as a result of two major research projects namely the Ganda and Baltimore projects (Ainsworth & Bowlby, 1991; Bretherton, 1992). Mary Ainsworth is especially known for her research called the Strange Situation Test, which formed part of the Baltimore project (Ainsworth & Bowlby, 1991; Bretherton, 1992). A brief overview of these two projects is given below.

Ganda project

Mary Ainsworth conducted a research project whilst living in Uganda with her husband. Her research consisted of a sample of 28 breastfed babies and their mothers, living in nearby villages. She used an interpreter to assist her with her research. For nine months she did home visits to the families every two weeks. During these visits she conducted interviews with the mother and observed the family

and household members' interaction with the infant. The focus was primarily on the mother's behaviour and reactions towards her infant. The interview themes centred on the mother's caretaking practices and the infant's development (Ainsworth & Bowlby, 1991). In concurrence with Bowlby, the findings of this research study were in sharp contrast to the traditional psycho-analytical views of infant development in which the infant is viewed as "a passive, recipient, narcissistic infant in the oral phase" (Ainsworth & Bowlby, 1991, p. 337). Instead, Ainsworth was struck by how the babies would actively search for physical bodily contact with the mother during certain conditions. She found that this need for close proximity to the mother was especially pertinent when the mother moved away from the infant, left the infant alone for a short time, or when the infant was scared, hurt or hungry (Ainsworth & Bowlby, 1991).

Based on these observations, Ainsworth conceptualized that the mother is a secure base providing the child with a feeling of safety, and when the child feels safe and secure he can explore his environment (Ainsworth & Bowlby, 1991). In addition, she identified three different attachment patterns in which the infants behaved towards the mother and called these "securely attached, insecurely attached, and non-attached" (Ainsworth & Bowlby, 1991, p. 337). The securely attached infants rarely cried, unless the mother left or was about to leave. The insecurely attached infants cried often even when the mother was present. The last group of infants were the youngest of the groups and behaved non-attached. These infants were often left alone by their mother for long periods at a time and the mothers of these infants were also mostly unresponsive to their needs (Ainsworth & Bowlby, 1991). However, Ainsworth explained later that the behaviour of the seemingly non-attached group of infants might have been due to their young age and that their attachment style was yet to fully develop (Ainsworth & Bowlby, 1991). In the context of additional research Ainsworth realised that the three groups reflected how sensitively the mother behaved towards her infant's needs (Ainsworth & Bowlby, 1991). Consequently the mothers were rated in terms of their sensitivity towards their infants. Some mothers could provide much detailed information about their infant and were rated as highly sensitive. In contrast, other mothers were not so attuned to their infants and thus could not provide the same quality of information as the first group (Bretherton,

1992). Through this research study Ainsworth realised the merit of Bowlby's attachment theory (Ainsworth & Bowlby, 1991).

Baltimore project

Mary Ainsworth and her husband left Uganda in 1955, and moved to Baltimore. Ainsworth started a new research project with the help of a research assistant, Barbara Wittig. Ainsworth located 15 infant-mother pairs. They visited the families from the 3rd to 54th week after the infant's birth. The visits were made every 3 weeks and each visit lasted for 4 hours. The research was conducted from 1963-1967, and consisted of observation and informal discussions with the mother. An additional eleven more mother-infant pairs were included in the study (Ainsworth & Bowlby, 1991).

The well-known Strange Situation Test (Ss) formed part of the Baltimore project. This test consisted of a 20 minute laboratory situation which was introduced to the mother-baby pair at the end of the baby's first year. This experiment was used to make a brief assessment of the attachment between the mother and infant. In addition, the longitudinal observation of the mother's behaviour was correlated with the infant's attachment pattern and the development thereof. Ainsworth published the findings of both the home visits as well as the strange situation from 1969 in a series of articles (Ainsworth & Bowlby, 1991).

The aims of the Strange Situation Test (Ss) was firstly to observe the degree to which the infant could use the mother as a secure base to explore a strange setting without overwhelming fear of the unfamiliar; during this stage of the test the mother was still present. Secondly, the researchers wanted to observe the degree of attachment behaviour and the seizing of exploration when the infant was distressed. The frightening conditions were created by the gradual entering of a stranger into the strange situation, after three minutes the mother would leave unobtrusively and return again after three minutes. The infant's reactions to the separation from the mother and upon their reunion were investigated. The researchers focused particularly on the infant's behaviour during the reunion period with the mother (Ainsworth & Bell, 1970). "This test was the first attempt to scientifically capture the activation of attachment system behaviours between mother and child" (Brandon et

al., 2009, p. 202). However, based on the results of the Strange Situation Test, Ainsworth and Bell (1970) warned that every attached mother-infant dyad is qualitatively unique and thus the strength of the attachment should not be quantified.

The findings of the Ganda and Baltimore projects led to two important conceptual discoveries. Firstly, the identification of three attachment patterns in infants (Bretherton, 1992) and secondly, it revealed the significant influence of the maternal behaviour on the development of the infant's attachment style (Brandon et al., 2009). The degree to which the mother behaved with sensitivity and was attuned to the infant's needs and emotions directly influenced the type of attachment pattern that formed. Sensitive caregiving consisted of attentively being attuned to the baby's signals of distress, to correctly understand these signals and promptly reacting appropriately before the infant became too distressed (Brandon et al., 2009).

The momentous research findings of Bowlby and Ainsworth contributed to a well-defined understanding of the development of attachment during infancy.

2.2.2 The development of attachment

2.2.2.1 Attachment and attachment figures

An attachment is defined by Ainsworth and Bell (1970, p. 50) "as an affectional tie that one person or animal forms between himself and another specific one - a tie that binds them together in space and endures over time". An attachment can be recognized when the person or animal aims to establish some form of closeness to the attachment figure. This behaviour falls on a continuum, depending on the circumstances, from seeking close physical contact on the one hand to only interaction with the attachment figure on the other end of the spectrum (Ainsworth & Bell, 1970). According to attachment theory, the attachment develops from birth onwards, with certain critical periods of development during infancy. In the light of current research on Maternal Fetal Attachment the researchers expanded the attachment development period to even before birth (Brandon et al., 2009; Laxton-Kane & Slade, 2002; Maas et al., 2014a).

During normal infant development, infants typically become attached to a primary caretaker during the first eight months of life (Shaver & Hazan, 1994). The primary

attachment figure is usually the mother of the infant but does not necessarily need to be the infant's mother. Ainsworth (1979) states that infants discriminate very carefully when they choose an attachment figure between all the people whom they know and have regular contact with. Infants do not have many attachment figures and not all relationships with others are attachments (Ainsworth, 1979). Also, not all attachment figures have equal importance for the infant - there is a hierarchy consisting of a primary attachment figure and secondary attachment figures (Ainsworth, 1979; Bowlby, 1969; Shaver & Hazan, 1994). Infants can derive pleasure and security from their different attachment figures; however, when the baby is distressed he/she will prefer a primary attachment figure (Ainsworth, 1979). Although more than one attachment figure might be available, the infant will still consistently prefer to seek proximity to the primary attachment figure (Ainsworth, 1979; Shaver & Hazan, 1994). The daily interaction between the infant and attachment figure establishes the attachment. Ainsworth (1979) found that physical contact between the primary caregiver and infant is just as important as face-to-face interaction, especially during the first few months of life. Ainsworth (1979) also emphasized that the quality of the mother's interaction with the infant while she holds him is more important than the frequency of holding him.

2.2.2.2 Attachment behaviour

Humans have an innate drive to form a secure attachment with other humans; this drive is established by distinct attachment behaviour systems and has a "biological function" (Bowlby, 1977, p. 204). The purpose of these behaviours is to stay close to a primary attachment figure that can provide protection (Ainsworth, 1979; Bowlby, 1977). Attachment behaviour is pertinent from birth until the end of the third year, after which it gradually lessens. Although attachment behaviour is especially evident during early childhood, this behaviour continues through the human lifespan. Certain conditions activate and terminate attachment behaviour systems. Attachment behaviour can be activated due to biological needs of the child such as hunger or fatigue or external circumstances especially those causing fear (Bowlby, 1977). Typical attachment behaviours identified include smiling, crying, calling, following, clinging, approaching and sucking (Ainsworth & Bell, 1970; Bowlby, 1958). To terminate this behaviour the child needs to be touched and/or cuddled by the mother

figure and will cling to her (Bowlby, 1977). When attachment behaviour is strongly activated, the child will cease to explore his environment. However, when the infant experiences a renewed sense of security in the close presence of an attachment figure, it can provide the necessary sense of safety that enables renewed exploratory behaviours, even in strange situations (Ainsworth, 1979). During adulthood these behaviours become visible when the person feels distressed, ill or frightened. The attachment patterns in adults are influenced by interrelated factors such as the person's age, sex, circumstances as well as the attachment patterns that formed with primary attachment figures during early child development (Bowlby, 1977). One wonders whether these attachment behaviours may be activated during teenage pregnancy?

A child's attachment to the mother or primary caretaker is fairly stable over time; however, his attachment behaviour varies depending on the situation (Ainsworth, 1979). When the mother accepts the attachment behaviour, it leads to healthy development in the infant and a secure attachment relationship, but the rejection of this behaviour can lead to emotional difficulties (Bowlby, 1958). In addition, the child's unfulfilled need for love and care is usually the cause of anger and anxiety that reflect the child's fear and uncertainty about the continuous availability of the parents (Bowlby, 1977).

The manner in which the attachment figure responds to the child's needs leads to certain attachment patterns/styles.

2.2.2.3 Attachment patterns/styles

Three main attachment patterns of behaviour were identified through Ainsworth's Strange Situation Test, and infants were classified as belonging to group A, B or C (Ainsworth, 1979) (see table 2.1).

Table 2.1: Main attachment patterns (Adapted from Ainsworth (1979, p. 932))

SS-EPISODES	GROUP A ANXIOUSLY AVOIDANT ATTACHMENT	GROUP B SECURE ATTACHMENT	GROUP C ANXIOUS ATTACHMENT
PRE-SEPARATION EPISODES	Indifferent	Use mothers as a secure base	Already some signs of anxiety
SEPARATION EPISODES	Rarely cry	Attachment behaviour greatly intensified; exploration diminishes and likely to be distressed	Intensely distressed
REUNION EPISODES	Avoid the mother; mingling proximity-seeking and avoidant behaviours/ ignoring the mother	Seek contact with the mother; proximity, interaction with mother	Ambivalent towards the mother; seeking and resisting close contact with the mother
MOTHER'S EVERYDAY BEHAVIOUR TOWARDS INFANT	Angry, rejecting, aversion to bodily contact with infant	Sensitive caregiving	Reacts inconsistently to baby's needs
INFANTS EVERYDAY BEHAVIOUR	No differential behaviour to the mother	Cried little and seemed content to explore in the presence of mother	Cried frequently, even when held by their mothers, explored little

Secure Attachment

In her research studies, Ainsworth (1979) found the mothers of the securely attached group of infants consistently responded in more sensitive ways to their needs as opposed to the mothers of the infants in the other two anxiously attached groups. The infants of such sensitive mothers formed an internal working model of their mother as someone whom they could approach and who responded sensitively to their needs; this enabled them to become internally secure themselves (Ainsworth, 1979). Secure attachment forms a secure base that enables a child to explore his environment and to return to the mother when he experiences distress such as tiredness or fear, knowing that his needs will be fulfilled (Bowlby, 1977). According to Bowlby (1977) the most important parameter of the parents' role that pervades all relationships is the degree to which parents acknowledge and value their children's necessity for a secure base, and adapting their actions towards their children to meet this inherent need.

When parents provided children with such a secure base and a secure attachment pattern is established, it positively influences their future development (Ainsworth, 1979). Securely attached one-year-olds acted more compliant, displayed more positive behaviour towards their mothers and other adults and were less inclined to act aggressively. They displayed more competence and empathy during social interaction with peers; during free play they explored for longer and with more intense interest. They were also more enthusiastic and persistent in solving problems, and better able to ask and to receive assistance from their mothers in these situations. Other qualities that were noted were that they were more inquisitive, self-motivated and resilient. In addition, they performed better on developmental and language development assessments (Ainsworth, 1979). A secure attachment pattern persists in adulthood. During adulthood the secure base is mostly family of origin or a new family that the person has created for himself. A person will normally go away from loved ones for increasing lengths of time but will always return (Bowlby, 1977). Bowlby (1977, p. 204) asserted that "anyone who has no such base is rootless".

Anxious Attachment

An anxious attachment pattern develops in infants of whom the primary attachment figure responds to their needs with indifference, insensitivity, rejection and not in a timeous manner. As a result of the unfulfilled security needs, such an infant becomes anxious. Because the attachment figure does not serve as a secure base that is approachable and responsive to the infant's needs, he does not know what to expect from the parent (Ainsworth, 1979). An anxious attachment pattern can also form as a result of prolonged separation periods from the parents, such as being in hospital or institution (Bowlby, 1977). The developmental consequences of anxious attachment noted by Ainsworth (1979) were that infants with this type of attachment style became more readily upset and frustrated, were less resilient and capable to perform tasks, compared with securely attached infants. Furthermore, an anxious attachment pattern may lead to a child, adolescent or adult to live in constant anxiety that they may lose their attachment figure and, therefore, has difficulty to form healthy attachment relationships with others (Bowlby, 1977).

Avoidant Attachment

According to Ainsworth (1979) mothers of infants with an avoidant attachment style harbours a deep-seated aversion to physical contact with their infants and often rejected and acted with anger towards their infants. It was found that they portrayed much less affection to their infants than the other two groups of attachment patterns (Ainsworth, 1979). These infants experience intense inner conflict when their attachment behaviour is highly activated. They have the acute need to approach the attachment figure but innately know that their needs will be met with anger and rejection so they must suppress this need. Because of the mother's previous dismissive reactions in similar situations, the infant resorts to avoidance of the mother. The avoidance behaviour is a defence mechanism to protect themselves against the anger and anxiety the infant experiences in these situations. By avoiding the mother the infant can at least be in a bearably safe distance from her (Ainsworth, 1979). As a consequence of the mother's emotional and physical negligence and rejection behaviour towards the infant, he becomes aggressive, noncompliant and

avoidant. Of the three groups of attachment patterns, infants within the avoidant attached category were found to be the most aggressive (Ainsworth, 1979).

Disorganized Attachment

These attachment patterns, identified mainly through Ainsworth's research projects, were applied directly to different life stages. However, these assumptions about the identified attachment patterns did not take contextual and cultural factors into account. Thus, attachment research also started to focus on samples in low socio-economic contexts in which conditions for parenting were not ideal when compared to typical middle class samples. This lead to the identification of a fourth attachment pattern namely disorganized attachment. The disorganized attachment pattern was identified to be more prevalent in samples within these contexts (Shaver & Mikulincer, 2010). A disorganized attachment style was identified after it became apparent that certain infants displayed attachment behaviour that was both disoriented and disorganized and could not be classified into one of the three attachment groups of the Strange Situation Test (Hesse & Main, 2000; Main & Solomon, 1990). Holmes (2004) stated that based on the physical as well as emotional symptoms that children with this attachment style have, they appeared to be tense and possibly deprived. According to Hesse and Main (2000), children with a disorganized attachment style were more likely to have been mistreated by their attachment figures, the majority of children that formed part of a research sample of mistreated children were found to have this kind of attachment style. The attachment figure to which the child should be able to turn to as a secure base when attachment behaviour is activated, is the threat and responsible for activating the attachment behaviour (Hesse & Main, 2000; Holmes, 2004). Also, in contrast with the other two insecure attachment styles the child cannot develop any consistent way to behave that will lessen the threat or cannot return to a form of emotional homeostasis and consequently creating a lot of anxiety and stress in the child (Hesse & Main, 2000; Holmes, 2004). According to Main mothers who have children with disorganized attachment styles have been identified as mothers who had experienced traumatic events which had not yet been resolved, as well as probably having a disorganized attachment style themselves (Hesse & Main, 2000; Holmes, 2004). In a longitidunal study it was found that disorganized infants were more likely to struggle with certain

mental disorders as well as criminality (Hesse & Main, 2000). Based on the attachment patterns developed during infancy, the individual forms an internal working model (Bowlby, 1973).

2.2.2.4 Internal working models

An internal working model includes the person's internal mental representation of himself and of attachment figures (Bowlby, 1988) These internal working models influence how the individual perceives events in his environment, how he sees himself, as well as how he perceives his thoughts regarding his future. The formation of an internal working model of the self as acceptable or unacceptable is a consequence of how acceptable the person experienced the self in the eyes of the attachment figure (Bowlby, 1973). An internal working model based on a secure attachment pattern creates a sense of self-worth in the individual, thus he feels worthy of helping himself and of being helped by others, in difficult circumstances. In addition, these individuals were found to be secure, self-reliant, trusting, co-operative and helpful towards others (Bowlby, 1977).

But if the individual experienced rejection and insensitive caregiving as is the case with the anxious, avoidant and disorganized attachment patterns, it is likely that the person formed an internal working model of himself as being unacceptable. Although developed in infancy, the internal working model alters and influences certain outlooks of the person throughout his lifespan (Brandon et al., 2009). Internal working models and attachment have been found to be intergenerational (Bretherton, 1992).

2.2.2.5 Intergenerational attachment

John Bowlby realised through his own observations, career experience and research, that psychological development in humans is formed in relationships with others. He considered negative experiences a child has in the family of origin as being the most pertinent cause of emotional distress in children. Therefore he insisted that the child cannot be viewed in isolation but must be viewed in the context of the family. In addition, he realised after numerous interviews with mothers that their attachment styles with their children were formed through their own childhood experiences (Bretherton, 1992).

Evidently Bowlby experienced that when he assisted mothers to identify and experience the emotions they experienced as a child in relationship with their own primary caregivers, and they understood and accepted these feelings, they were more able to give sensitive caregiving to their own children. They could better tolerate the negative emotions their children experienced. Bowlby often achieved great success in changing parents' behaviour towards their children when he interviewed parents about their own childhood experiences while their children were present. Bowlby had a keen interest in the way attachment relationships were carried over from one generation to another (Bretherton, 1992). There is a strong correlation between a person's attachment relationships with his own parents and his capacity to form attachment relationships with significant others later in his life (Bowlby, 1977; Bowlby, 1988). Consequently the manner in which clients deal with people who are close and significant to them may be influenced and coloured by their own childhood experiences with their parents (Bowlby, 1977). Supporters of attachment theory believe that many psychiatric disorders are rooted in variations of insecure attachment patterns and even, although rarely, the failure of the development of an attachment relationship. At the same time attachment theory as theoretical framework can also be used as a guide to address these disorders (Bowlby, 1977). One wonders to what extent prenatal attachment is intergenerational.

According to attachment theory the development of an attachment relationship between a mother and her child only commences after birth during the first year of the child's life. However, Laxton-Kane and Slade (2002) stated that in the past two decades researchers have started to acknowledge that attachment already begins during the prenatal period.

2.3 MATERNAL FETAL ATTACHMENT

Condon (1993, p. 168) stated that "From a theoretical perspective, parental-foetal attachment provides an opportunity to study the development of attachment in 'pure culture', uncontaminated by factors such as infant temperament and the complexities of the postnatal environment". This view is supported by Feldman (2007) who holds that the prenatal attachment between mother and fetus is the first phase of attachment during the lifespan of the human being.

2.3.1 Origins of Maternal Fetal Attachment

According to Maas et al. (2014a, p. 6) the onset of a mother's relationship with her child already commences during pregnancy, and it is known as "Maternal Fetal Attachment (MFA)". The concept of prenatal attachment originated when a few individuals became aware of the level of grief that mothers experience in the event of miscarriage, as well as the interaction between mother and baby evident directly after birth. In the light of attachment theory these behaviours made sense to them and therefore they understood it as attachment behaviour. Agreeing with Bowlby's attachment theory, and in contrast with the traditional psychoanalytic view, the three theorists, Deutsch, Bibring, and Benedeck in the late 1950s advanced the mother's experience of pregnancy. They stated that the pregnant woman increasingly perceives the fetus as a separate human being as the pregnancy develops, until she ultimately loves her unborn baby as part of herself as well as being separate from her (Brandon et al., 2009).

However, a formal theory of prenatal attachment was initiated mainly through the work of nurses (Brandon et al., 2009). The nurse Rubin laid the foundation for prenatal attachment by exploring women's attainment of the maternal role in her doctoral studies at the University of Chicago. In this research study Rubin identified four specific tasks women navigated before childbirth. The first task she identified was "seeking safe passage for self and baby"; secondly, "ensuring that the baby is accepted by self and significant others"; thirdly, "binding in" and lastly "giving of herself" (Rubin as cited in Brandon et al., 2009, p. 205). Although Rubin did not use the term attachment she did allude to the fact that an attachment develops during pregnancy as the pregnant woman becomes more aware of her unborn baby and its value to her (Brandon et al., 2009). The question arises how pregnant teenagers, in their specific developmental phases, value their unborn babies and their pregnancies and what meaning do they give to their relationship with their unborn babies.

Judith Lumley, a perinatal epidemiologist in Australia, conducted interviews with first time pregnant mothers at different stages of their pregnancies, and she found that prenatal attachment increases during the development of the pregnancy. She also found that ultrasound images of the fetus significantly enhanced and strengthened the attachment as the mother became aware of the baby as a separate person

(Brandon et al., 2009). These findings lead one to the questions of how prenatal attachment develops during teenage pregnancy and how ultrasound images influence the pregnant teenager's attachment to her unborn baby.

Another researcher psychologist, Leifer, at the Illinois Institute of Technology concluded that the pregnant woman matures during pregnancy because of the emotional challenges and new role formation that are required of her. In addition, Leifer proposed that personality plays a role during the maturation of the mother during pregnancy, and even predicted the psychological growth, not only during pregnancy but also in motherhood (Brandon et al., 2009). The question that arises is what the nature of the emotions is that the pregnant teenager experiences still being a child herself? What degree of maturation takes place in the pregnant teenager not due to normal adolescent development?

The first literature review of MFA was done by Mecca Cranley, who proposed a multidimensional model of MFA in her dissertation (Brandon et al., 2009). As noted in chapter 1, section 1.2, Cranley formulated the theoretical construct Maternal Fetal Attachment and was the first researcher to define the construct (Brandon et al., 2009). She defined prenatal attachment as "the extent to which women engage in behaviours that represent an affiliation and interaction with their unborn child" (Cranley, 1981, p. 181). This poses the question whether affiliation and interaction with the unborn baby will also be evident during teenage pregnancy.

Another researcher by the name of Müller was, however, of the opinion that Cranley's conceptualization of MFA was too focused on behaviours, that it was not comprehensive enough and that it omitted the thoughts and fantasies of the pregnant mother about her unborn baby demonstrating the development of MFA (Brandon et al., 2009). Müller's definition redefined the MFA relationship between the pregnant mother and her unborn baby simply as a distinct relationship (Brandon et al., 2009). In her conceptualization of MFA, Müller's theory resembles that of Bowlby's attachment theory as she stated that the pregnant woman possesses internal representations that were formed by her own experiences with her mother or attachment figure. Consequently these internal representations influenced her relationships with her family, partner, and friends as well as allowing her to make the

necessary adjustments during pregnancy and to form an attachment with her unborn baby (Brandon et al., 2009). Thus, Müller viewed MFA as being intergenerational.

An Australian researcher, John Condon, also found Cranley's work lacking (Brandon et al., 2009). Condon (1993) also proposes a multidimensional framework for attachment during pregnancy. He describes the essential experience of MFA as love that increases with the progression of pregnancy (Condon, 1993). Developing from this core love experience are five personal experiences which Condon describes as 'dispositions' or 'needs' that become visible in the parent's behaviour during pregnancy (MFA) (Condon, 1993, p. 169) (see table 2.2). Furthermore, Condon (1993) states that parents do not always express these needs through their behaviours during pregnancy.

Table 2.2: Hierarchical model of parental attachment (Adapted from Condon, 1993, p. 170)

Core attachment experience	Disposition	Need	Behaviour
LOVE	1st Disposition to know	Elaborate the characteristics of the image of the fetus	Information Seeking
	2nd Disposition to be with or interaction with fetus	Desire to interact with the fetus	Talking to the fetus and Stroking
	3rd Disposition to avoid separation or loss	Safeguarding against loss	Protective behaviours
	4th Disposition to protect	Protecting from harmful influences	Health behaviours
	5th Disposition to identify and gratify the needs of fetus	Altruistic quality: Needs of fetus becomes more important than own needs	Pleasing Behaviours

These prominent MFA researchers developed several MFA measuring instruments. The *Maternal Fetal Attachment Scale (MFAS)* was developed by Cranley based on her multidimensional model of MFA. This scale is used to identify five elements of MFA: Differentiation of self from the fetus, Interaction with the fetus, Attributing characteristics to the fetus, Giving of self, and Role-taking. The MFAS made quantitative studies with larger samples possible, and is used most frequently. Müller initially used Cranley's MFAS in her research and literature review, but found the results of the instrument questionable and conflicting (Brandon et al., 2009).

After further investigation Müller realised that participants often expressed their feelings about their unborn babies as well, instead of only engaging in behaviours as suggested by the five subscales of Cranley. Consequently Müller developed the *Prenatal Attachment Inventory (PAI)*, which is more focused on the affectionate personal relationship that develops during pregnancy between mother and child. Contrary to Cranley's MFAS the PAI did not consist of any subscales, but provided only a global score (Brandon et al., 2009). MFA behaviours measured by the PAI include mainly feelings about the baby such as excitement and love; thoughts about the baby such as wondering what the baby looks like, ascribing a personality to the baby, dreaming about the baby, its activities in utero and naming the unborn baby. It also includes interaction with the unborn infant such as enjoying and being aware of fetal movements and stroking and embracing of the stomach; speaking to the unborn baby and to others about him/her, also planning and preparation for example purchasing or creating things (Perlmutter, Touliatos & Holden, 2001). The question arises whether the pregnant teenager displays these attachment behaviours, thoughts and feelings too.

Sometime after the development of the PAI a research team challenged Müller's assertion that MFA was one-dimensional. The research team conducted a study with 171 Swedish women during their third trimester of pregnancy and found, in agreement with Cranley, that MFA consisted of an underlying dimensional structure. One explanation for their contrasting findings to those of Müller was that she did not only conduct her research in the third trimester of pregnancy but at different times during gestation. However, the literature pointed out that MFA increased during the course of pregnancy and was the strongest during the third trimester of pregnancy

(Brandon et al., 2009). Based on this view one of the selection criteria was that the participants in this study had to be in the third trimester of their pregnancy to enhance richer information about their experiences.

John Condon was dissatisfied with both Cranley's MFAS and Müller's PAI measuring instruments and consequently developed the *Maternal Antenatal Attachment Scale (MAAS)*. He believed that a distinction between the attitude towards the fetus and the attitude toward the pregnancy itself was necessary and was not adequately addressed in these instruments. The MAAS measuring instrument focuses on the thoughts and feelings about the baby only (Brandon et al., 2009). It would be interesting to know if there is a difference between the pregnant teenagers' attitude about the pregnancy and towards the unborn baby.

It was found that the father of the baby goes through a process of attachment with the unborn infant as well (Brandon et al., 2009; Maas, Vreeswijk, Rijk & Van Bakel, 2014b). Therefore, the researchers Condon and Cranley, amongst others, specifically did research about paternal attachment, and developed paternal fetal attachment measuring instruments as well (Brandon et al., 2009; Condon, 1993). According to Brandon et al. (2009) findings about the differences between maternal and paternal attachment have been inconsistent, perhaps due to the differences in measurement methods and instrumentation. In a recent study Maas et al. (2014b) found that first fathers who experienced pregnancy for the first time formed a stronger attachment to their unborn infants than fathers who already had a child/children; this may be because of the intensity of their experience of a pregnancy for the first time. One wonders to what extent the teenage father also forms an attachment with the unborn infant, since teenage pregnancy is mostly unplanned, and whether the level of maturity of the teenage father influences his feelings about his unborn child.

In view of the information presented in the above section, the question arises as to what behavioural signs of MFA the pregnant teenager will display and how this will change and develop during the pregnancy.

2.3.2 Determinants of MFA during adult pregnancy

Certain determinants influence the development of MFA (Doan & Zimmerman, 2008). A description of the most prominent and relevant determinants will be described in this section. Although the results of studies about the determinants are mostly inconsistent (Doan & Zimmerman, 2008) it is nevertheless important to gain a deeper understanding of these determinants; firstly to identify pregnant mothers who might be at risk of not developing adequate MFA, and secondly to design appropriate intervention strategies to assist these mothers to enhance their levels of MFA (Maas et al., 2014a). It is especially important to gain an understanding of determinants which influence the development of MFA during teenage pregnancy.

2.3.2.1 Gestation and MFA

The foremost and most consistently found determinant of MFA is gestation. MFA increases and develops with the progression of pregnancy and is the strongest during the third trimester of pregnancy (Alhusen, 2008; Brandon et al., 2009; Rowe et al., 2013; Mehran, Simbar, Shams, Ramezani-Tehrani & Nasiri, 2013; Sandbrook & Adamson-Macedo, 2004; Sandbrook, 2009; Yarcheski, Mahon, Yarcheski, Hanks & Canella, 2009). Most pregnant women experience attachment to their fetus becoming continuously stronger over time during pregnancy (Yarcheski et al., 2009). Therefore Yarcheski et al. (2009) suggested that health practitioners should only become concerned about inadequate levels of MFA in the third trimester of pregnancy, and also suggested that research studies of MFA should rather be directed to later stages of pregnancy. As was noted in section 2.3.1 based on the strong support for the notion that MFA increases with gestation and being the strongest during the third pregnancy trimester, one of the selection criteria of this study was that participants had to be in the third trimester of pregnancy.

2.3.2.2 Fetal movements

> *"Most pregnant women form a mental representation of the fetus, which is increasingly clear and recognizably human as pregnancy progresses and feelings of the desire to nurture and protect the fetus intensify as attachment grow, especially around the onset of fetal movements" (*Rowe et al., 2013, p. 327).

Equally important and related to gestation is the influence of fetal movements on MFA. The onset and increase of fetal movements as the pregnancy progresses has been found to have a strong influence on the development of MFA (Alhusen, 2008; Laxton-Kane & Slade, 2002; Mehran et al., 2013; Rowe et al., 2013; Sandbrook & Adamson-Macedo, 2004). Laxton-Kane and Slade (2002) stated that in order for a prenatal attachment to form there needs to be an awareness of another person to become attached too, and fetal movements affects the development of such an attachment as the fetus becomes a real person.

Pregnant women with strong MFA reported more fetal movements. It is unclear whether stronger MFA creates a greater awareness of fetal movements, or whether more fetal movements strengthen MFA; however, this is interrelated with the mental presentation the pregnant woman forms of her unborn baby (Laxton-Kane & Slade, 2002). Therefore Abasi, Tahmasebi, Zafari and Takami (2012) advised that mothers should be taught how to improve their relationship with their unborn baby by talking and writing to the baby, keeping a maternal diary as well as the recording of fetal movements. This will assist mothers to be more aware of fetal movements and hence promote stronger MFA. The question comes to mind what the effect of the onset and increasing fetal movements will have on the attachment the pregnant teenager forms with her unborn baby, what level of awareness she has of fetal movements and of the fetus as a real, separate person.

2.3.2.3 Ultrasound imaging

Another significant determinant is the effect an ultrasound image has on MFA. As discussed in the previous section 2.3.1 one of the first researchers of MFA, Judith Lumley, found that ultrasound images of the fetus significantly enhanced MFA. This enables the mother to perceive her fetus as being separate from her (Brandon et al., 2009). Other researchers also found the impact of the ultrasound image on the development of MFA (Alhusen, 2008; Sandbrook & Adamson-Maceda, 2004; Yarcheski et al., 2009). Building on Lumley's findings, it was found that the ability to view the fetus as a separate human being contributes to the earlier development of MFA (Alhusen, 2008). The methodology used during the performance of an ultrasound could also contribute to the strengthening of MFA: "The length of time spent performing an ultrasound, expertise of the technician, opportunity to ask

questions, and amount of information provided to patients are all important considerations when assessing the influence of ultrasound on MFA" (Alhusen 2008, p. 321). It will be interesting to learn from this study what effect ultrasound imaging will have on MFA specifically during teenage pregnancy.

2.3.2.4 Social support

Social support has been found to be an essential protective factor for the psychological wellbeing of the pregnant mother, as well for the development of healthy MFA (Abasi et al., 2012; Bloom, 1998; Maas et al., 2014a; Yarcheski et al., 2009). Interestingly, in a study by Yarcheski et al. (2009) it was found that the way pregnant women perceive the social support they receive, as opposed to the actual level of support received, has an impact on MFA. When the pregnant woman perceives a sufficient level of support it leads to higher levels of MFA, especially for populations that are at risk. Support from the baby's father is especially significant for the development of healthy MFA (Canella, 2005; Condon & Corkindale, 1997; Maas et al., 2014b). Bloom (1998) warns that if the mother or meaningful others in her life do not accept the pregnancy it can have a significant detrimental effect on prenatal attachment.

One of the secondary aims of this study was to determine what type of support the pregnant teenager receives during pregnancy from the important people in her life, and how the level of the support she receives influences the development of an attachment to her unborn baby.

2.3.2.5 Emotional wellbeing and MFA

Related to social support as determinant of MFA is the emotional wellbeing of the pregnant woman. The psychological health of the mother contributes to the strengthening of MFA (Abasi et al., 2012; Alhusen et al. 2013; Alhusen et al., 2012a, 2012b; Brandon et al., 2009; Kent, 2009; Maas et al., 2014a).

High stress levels during pregnancy have been associated with lower levels of MFA (Maas et al., 2014a). Maas et al. (2014a) state that when the pregnant woman experiences a great degree of stress, she finds it more demanding to develop an attachment with her fetus. Maas et al. (2012) identified the three following emotional

risk factors of pregnant women that can influence MFA negatively; mental health problems, a problematic childhood history and lower cognitive functioning. Additionally, those women who were emotionally less stable, experienced more stress and expected having an infant with a difficult temperament, had lower levels of MFA. The opposite is also true (Maas et al., 2014a).

In the same way depression and anxiety during pregnancy have been found to have a negative effect on MFA (Abasi et al., 2012; Alhusen et al., 2012a, 2012b; Alhusen et al., 2013, Brandon et al., 2009). According to Kent (2009) one in two women experience anxiety symptoms during pregnancy and one in three women experience depression symptoms at some point during pregnancy. More symptoms of depression correlated with lower levels of MFA (Alhusen et al., 2012a). A possible explanation might be that the symptoms of depression may invalidate a woman's confidence in herself and in her role of becoming a mother and, therefore, this lack of confidence leads to lower MFA (Alhusen et al., 2013). Abasi et al. (2012) explained that depression during pregnancy can negatively influence the woman's response and feelings about pregnancy. A further debilitating consequence of depression is that the depressed person usually tends to avoid social interaction; this could have an effect on the social support that the mother allows or seeks during pregnancy, which in turn will impact negatively on MFA (Alhusen et al., 2013).

The pregnant woman's personality also plays a role in the development of MFA (Maas et al., 2014a). It was found that mothers who displayed more optimistic personality tendencies found it easier to establish an attachment with their unborn babies. Specific personality traits that correlated with higher levels of MFA included being an extrovert, conscientiousness and being agreeable (Maas et al., 2014a). A positive self-esteem has been found to lead to higher levels of MFA (Abasi et al., 2012). Based on these findings, Alhusen et al. (2013) recommended that an assessment of the psychological wellbeing and adult attachment style of the pregnant mother should be done, to identify and to provide interventions with at risk pregnant women.

2.3.2.6 Attachment style of the pregnant mother

MFA, similarly to attachment theory, has also been found to be intergenerational. This means that the attachment style of the pregnant mother has a strong influence not only on the attachment to the infant after birth, but also prenatally (Alhusen et al., 2013; Brandon et al., 2009; Maas et al., 2014a; Siddiqui, Hägglöf & Eisemann, 2000). In a longitudinal study done by Alhusen et al. (2013) it was found that strong MFA correlated with a secure attachment style in pregnant women. Lower levels of MFA were specifically correlated with an avoidant attachment style. Maas et al. (2014a) found that pregnant women with an insecure attachment style were more introverted, displeasing and tended to have more unpredictable feelings resulting in them acting with less warmth, and more negative feelings towards their unborn babies. In an earlier study by Siddiqui et al. (2000) it was found that the manner in which a pregnant woman remembers her relationship with her mother, influenced MFA. Women who had memories of affection and kindness found it easier to attach to their unborn infant. The maternal representation of the pregnant woman's competence as a mother is formed as a consequence of her relationship with her own mother. Evidently then it is important that pregnant women with insecure attachment styles should be identified in order to focus intervention strategies on mediating better intergenerational attachment cycles (Brandon et al., 2009).

2.3.2.7 Complicated pregnancy

The physical health of the mother and fetus influences the development of MFA as well. When the pregnant mother has concerns about the health of the fetus it can have a negative impact on the development of MFA, because these concerns may lead to increased levels of stress and anxiety for the mother (Allison, Stafford & Anumba, 2011). It was also found that invasive assessment procedures, for instance amniocentesis, to ascertain the health and chromosomal abnormalities of the fetus, can cause emotional distress and anxiety for the pregnant woman (Allison et al., 2011).

2.3.2.8 Ethnic minorities and income

Research about MFA with ethnic minorities is rare but it has been found that higher levels of MFA correlated positively with higher socio-economic status because of

better access to comprehensive antenatal medical care and interpersonal relationships tend to be more secure and supportive (Alhusen, 2008). Immigrants, especially refugees, may be at risk for developing strong MFA because of the many losses they have experienced in terms of close relationships with their family of origin as well as the loss of their community and birth country (Rowe et al., 2013). This is relevant for South Africa, with its millions of immigrants and refugees, especially from other African countries.

2.3.2.9 Planned/unplanned pregnancy

Few studies have investigated the influence of planned or unplanned pregnancy on MFA. A study by Abasi et al. (2012) confirmed that pregnant women who planned their pregnancy indeed had higher MFA scores than those who had an unplanned pregnancy. In agreement Laxton-Kane and Slade (2002) state that unplanned pregnancy may make a woman more susceptible to experiencing weaker MFA, because it may be more difficult for the pregnant woman to form a mental representation of her unborn infant, and consequently inhibit the development of MFA. But this does not mean that MFA cannot develop during a pregnancy that was unplanned (Laxton-Kane & Slade, 2002). However, Laxton-Kane and Slade (2002) reflect that unplanned pregnancy might nevertheless incite attachment between the pregnant mother and her unborn infant and so increase her level of MFA. Most teenage pregnancies seem to be unplanned - consequently, the question arises as to how this will affect the development of MFA.

2.3.2.10 Age of mother

The research findings on the influence of the age of the mother on the development of MFA are inconsistent (Laxton-Kane & Slade, 2002). Studies by Bloom (1998) and Abasi et al. (2012) found no correlation between the pregnant mother's age and MFA. However, in a large study by Berryman and Windridge (as cited in Laxton-Kane & Slade, 2002) there was significant weaker development of MFA in pregnant mothers older than 35 years during the second trimester of pregnancy when compared to those between 20-29 years old. But this discrepancy was no longer visible in the last stage of pregnancy, which could be due to a fear in the pregnant mother to attach to her unborn infant in the context of the increase risks of pregnancy

in older women (Laxton-Kane & Slade, 2002). The question arises whether the age of the pregnant teenagers influences her development of MFA during pregnancy.

2.3.2.11 Gender of the fetus

In search of a new definition of MFA, Sandbrook and Adamson-Macedo (2004) identified key themes in a qualitative study, of which the impact of the gender of the fetus was one. In their study it was found that some of the pregnant women preferred a certain gender and experienced disappointment during the early stages of the pregnancy if the gender of the baby was different from what they desired. However all of these participants stated that they would be accepting of the gender of the baby after the birth. It was also found that the gender the pregnant mother believed the baby's father preferred impacted on their feelings about the gender of the baby and their believes about his level of support (Sandbrook & Adamson-Macedo, 2004).

2.3.3 The importance of MFA

MFA is important for the prenatal and postnatal development and the wellbeing of the mother and child (Alhusen et al., 2012b; Brandon et al., 2009; Maas et al., 2014a&b; Rowe et al., 2013). It has been found that strong MFA promotes healthy behaviours during pregnancy (Alhusen et al., 2012a; Brandon et al., 2009; Doan & Zimmerman, 2008; Maas et al., 2014a; Rowe et al., 2013). In contrast, lower levels of MFA have been associated with less healthy pregnancy behaviours and, therefore, an increased risk for harmful fetus and infant development (Alhusen et al., 2012a). MFA assists the pregnant woman to adapt to her new role of being a parent, and making the unborn infant's needs a priority above her own needs (Brandon et al., 2009; Maas et al., 2014a; Rowe et al., 2013). MFA's impact stretches beyond pregnancy and is also important for the perinatal and postnatal wellbeing of the mother and child. MFA has also been found to lessen the chances for developing postnatal depression - a condition that can have a profound effect on favourable postnatal attachment and child development. A correlation between the quality of the prenatal attachment and postnatal attachment has been found (Brandon et al., 2009). Therefore, Maas et al. (2014a) state that if the pregnant mother's attachment to her unborn infant can be enhanced, this might positively influence the postnatal attachment relationship.

2.4 MFA AND TEENAGE PREGNANCY

> *"Adolescents who are pregnant and expecting to give birth face the simultaneous tasks of maintaining their own physical and emotional development while preparing for their role as mothers. Both are major life events and each presents its own developmental challenges"* (Rowe et al., 2013, p. 327).

2.4.1 Adolescent development

It is important to understand the development of MFA during teenage pregnancy against the backdrop of adolescent development. This section will focus on sexual development of the adolescent in the context of romantic relationships, while also considering her psychosocial- and cognitive development. It is important to have an understanding of the manner in which romantic relationships during adolescence normally unfolds, as sexual activities in this developmental phase mostly happen within the context of intimate relationships (Auslander, Rosenthal & Blythe, 2006). Sharpe (2003, p. 210) states that "Adolescence is a unique developmental stage in the human life cycle and sexuality is commonly seen as the pivotal issue in negotiating the change from childhood to adulthood."

Three psychosocial developmental theories that can be utilized to provide a better understanding of the development of adolescent sexuality are the theories by Erik Erikson, Jean Piaget and Lev Vygotsky.

Erik Erikson (1902-1994)

According to Erik Erikson's psychosocial theory on lifespan development, the adolescent faces the developmental challenge "Identity versus role confusion" (Donald, Lazarus & Lolwana, 2010, p. 63). Erikson emphasizes the role of the adolescent's unconscious thinking processes (Sharpe, 2003). During this developmental stage the adolescent's attachment shifts from the parents to their peers; this assists the adolescent to go through an individuation process to establish his/her own identity and independence, as well as his/her role in the world (Erikson, 1968 & 1982; Donald et al., 2010; Sharpe, 2003). During this developmental period it

is very typical for adolescents, in search of their identity, to also engage in risk taking behaviour which includes sexual behaviour (Sharpe, 2003).

Jean Piaget (1896-1980)

Jean Piaget's (1953) cognitive developmental theory can also be applied to gain a deeper understanding of the adolescent's sexual behaviour (Sharpe, 2003). According to this theory's cognitive developmental stages, the formal operational stage starts developing from 11 years. Therefore, the cognitive developmental change coincides with the onset of early adolescence and presents the onset of abstract thinking (Piaget, 1953; Donald et al., 2010). This means that the adolescent can start thinking about thinking - metacognition, as well as thinking about possibilities in contrast to the pre-operational phase in which only concrete reality was considered. As a consequence of this expanded cognitive abilities, adolescents are especially concerned about their own thoughts of others and others' thoughts about them (Sturdevant & Spear, 2002). The young adolescent's concern about popularity with their peers might make them susceptible to participate in sexual behaviours that they do not necessarily would have chosen otherwise (Sharpe, 2003). However, the development of abstract thinking enables the adolescent to also think of the consequences of their actions and may be a protective factor against risky sexual behaviour. One also wonders whether the onset of metacognition can play a role in the development of MFA during teenage pregnancy? The pregnant teenager's ability to visualize her unborn baby as a human being with needs and to think about and make decisions with regard to her unborn baby may enhance the development of MFA.

Lev Vygotsky (1896-1934)

Cognitive development happens through relationships and interaction with others (Vygotsky, 1978; Donald et al., 2010). As the child develops, meaningful constructs of reality are formed especially through interaction with significant others. These social constructions that are formed are fluid and change as new meanings are perceived and constructed. The greatest influence on the development of social constructions are in "proximal meanings" which represent the social interactions the

person is directly involved in; these are embedded in “distal meanings” which influence the person through the societal and cultural social constructs that filters down through different systems of meaning (Donald et al., 2010, p. 54).

Adolescence is often divided into three separate stages: Early adolescence (10-14 years); Middle adolescence (15-17 years) and Late adolescence (18-20 years) (Sharpe, 2003). Sharpe (2003) suggests that a fourth stage namely Pre-adolescence (Before 10 years) should be added. For the purpose of this study only the early and middle adolescence stages will be discussed, as the participants selected for this study were between 14-17 years old. The rapid and distinct developmental changes of each of these stages allow the adolescent to form romantic relationships and thus attain identities that consist of the sexual and romantic aspects of self as well. These are also essential to consider in the context of a better understanding of sexual development (Auslander et al., 2006). It is also important to keep in mind that adolescent development is culturally embedded; therefore, expectations for adolescents differ, such as providing for themselves financially, level of schooling required and timing of marriage (Short & Rosenthal, 2008).

Stage 1 Early adolescence (10-14 years)

Early adolescence is characterised by the significant physical maturation happening with the onset of puberty and the change from being a child to a teenager (Short & Rosenthal, 2008). This involves a substantial increase in the production of the hormones oestrogen and testosterone in both girls and boys (Sharpe, 2003). Usually, but not always, this phase coincides with the start of menstruation. Many mothers and daughters view the first menstruation cycle as a transition into womanhood (Short & Rosenthal, 2008). Sexual fantasies are common and boys usually start to experiment with masturbation during this phase. Although girls also engage in masturbation some will only engage in sexual activity during the next phase in the context of a romantic relationship. During this phase, the young adolescent cannot yet think abstract thoughts and will not necessarily think of the consequences of intercourse, but is more concerned about concrete factors such as popularity with her peers. This makes these adolescents vulnerable to be forced into sexual activities for which they are not yet fully ready for (Sharpe, 2003).

Stage 2 Middle adolescence (15-17 years)

This is the stage that normally depicts the average perceived teenager (Short & Rosenthal, 2008). During middle adolescence, sexual maturity has normally been achieved and is clearly noticeable (Sharpe, 2003). Attachment and identity with the peer group become even more heightened; therefore doing popular activities such as listening to certain music and appearing a certain way becomes very important for adolescents during this stage (Short & Rosenthal, 2008). Adolescents in this stage experience increasingly more sexual behaviours, as this becomes a greater instinctive physical urge as a consequence of puberty. However, many adolescents feel pressurised by their peers to engage in sexual activites that they do not necessarily feel ready to participate in. At the same time adolescents often engage in their first intimate romantic relationship in which intercourse occurs for the first time (Sharpe, 2003). Romantic relationships during this stage become more serious, characterized by stronger commitments and mutual benefit (Auslander et al., 2006). The question arises to what extent such a serious romantic relationship may have on the development of MFA during teenage pregnancy?

2.4.2 The importance of MFA during teenage pregnancy

The importance of MFA has been discussed in section 2.3.4. However, the high risk factors associated with teenage pregnancy, heighten the importance of MFA even more. There is a higher risk that the pregnant teenager will be rejected by a parent, will not be adequately supported, as well as a higher risk to become depressed (Figueiredo, Bifulco, Pacheco, Costa & Magarinho, 2006). The risks for death due to pregnancy complications are much higher, where teenagers younger than 16 years old face the highest risk (Figueiredo et al., 2006).

Pittman, Feldman, Ramírez and Arredondo (2009) described the intergenerational effect of teenage pregnancy; children born to teenagers have a significantly higher risk to experience a range of difficulties such as poverty, learning and developmental barriers, relationship problems, and a higher risk to be sexually abused and of also becoming pregnant while still being an adolescent. Teenage pregnancy also presents several higher health risks. Pregnant teenagers are more likely to smoke cigarettes and to use alcohol and illegal substances (Cremona, 2008). Pregnant teenagers

have higher risks to have a miscarriage, an infant born prematurely, low birth weight, children that are shorter for their age, other developmental difficulties as well as ill health (Branson, Ardington & Leibbrandt, 2011; Cremona, 2008). In a study done by Branson et al. (2011) about the health outcomes of children born to teenagers in Cape Town, South Africa, it was found that it is more probable that children born to teenage mothers will have poorer health outcomes than children born to mothers older than 19 years. Even though the two groups of mothers that were compared in this study had similar contextual characteristics, except for their age difference, teenage pregnancy was still more detrimental to the healthy development of the baby. However, despite the higher risks involved during teenage pregnancy, unpredictability regarding the outcomes for teenage pregnancy due to different factors such as social support, especially relationships with parents and the baby's father do exist. Psychological factors such as self-esteem, early childhood experiences as well as cultural and economic factors also play a role (Cremona, 2008; Diniz, Volling & Koller, 2014).

In a literature review of the adverse effects of teenage pregnancy in South Africa Macleod (1999) found that research suggested that teenage mothers tend to have poorer parenting skills and have a higher likelihood of mistreating their children. In a follow up South African literature review Macleod and Tracey (2010) could not find any further research studies about the parenting skills of teenage mothers or maltreatment.

In both adults and adolescents the quality of the maternal fetal attachment predicts the quality of the postnatal attachment (Rowe et al., 2013). During teenage pregnancy it was found that the healthy development of strong MFA promotes the overall wellbeing of the mother as well as better psychological, social and physical outcomes for the baby (Feldman, 2007; Rowe et al., 2013). Pregnant teenagers with stronger MFA were found to be more cautious regarding health issues and thus had infants with better developmental outcomes (Feldman, 2007).

Rowe et al. (2013) did the first longitudinal study comparing MFA during adult and teenage pregnancy through different stages of pregnancy. They found that there was a higher incidence of certain contextual factors amongst pregnant teenagers such as

divorce or separation of parents during early childhood and also lower income. A significant finding was that MFA was much lower during teenage pregnancy in the first semester compared to adult pregnancy. This could perhaps be because the teenagers learned that they were pregnant at a later gestational stage than the adults and that it is more difficult for a teenager to adapt and become used to the life changes this knowledge entails. It may also be that the teenager is more likely to consider terminating the pregnancy and, therefore, emotionally protects herself from becoming too attached to the fetus (Rowe et al., 2013). According to Macleod and Tracey (2010) numerous pregnant teenagers in South Africa only undergo pregnancy testing at antenatal services during their second or third trimester of gestation. This may be due to ignorance about the importance of early testing, lack of support from the baby's father or the stigma attached to being sexually active at a young age (Macleod & Tracey, 2010).

Furthermore, Rowe et al. (2013) found that the difference in the strength of MFA between adult and teenage pregnancy disappeared between the first and second semester of pregnancy; again this could be due to the fact that it takes teenagers longer to adjust to pregnancy as it is mostly unplanned. Every teenage pregnancy is unique, and the specific needs of pregnant teenagers vary because of their different developmental changes as well as social circumstances. Rowe et al. (2013) suggests that the unique circumstances of each pregnant teenager should be considered when planning intervention strategies, focusing specifically on fears surrounding the birth, enhancing sensitivity to the fetus and improvement of the relationship between the mother and infant.

The consequences of the nature of MFA during teenage pregnancy on the wellbeing of the pregnant teenager and her unborn infant necessitate a better understanding of its development, the primary aim of this study.

2.4.3 The development of MFA during teenage pregnancy

Although MFA develops uniquely for every pregnant teenager due to certain contextual factors as listed in section 2.4.2 above, moderating factors that have a significant effect on the development of MFA for this population have been identified. Most of these factors are not unique to teenage pregnancy but have been identified

as important determinants during adult pregnancy as well (refer to section 2.3.2). Although there might be some overlap with the previous section, the literature reviewed here focused only on the development of MFA during teenage pregnancy.

2.4.3.1 Social support for the pregnant teenager

Social support during teenage pregnancy has been found to be of utmost importance, especially for younger adolescents (Diniz et al., 2014; Sandbrook, 2009). Feldman (2007) found that the pregnant teenager's internal working model (discussed in section 2.2.2.4) influences the level of support she expects. A pregnant teenager with a secure attachment style and positive internal working model will expect better support (Feldman, 2007). Thus when the pregnant teenager expects more support from others it is more likely that she will perceive the support that she does receive in a positive light and develop stronger MFA.

Parental support specifically has been found to be especially important during teenage pregnancy (Sandbrook, 2009). The pregnant teenagers in Sandbrook's study found it very stressful to disclose their pregnancies to their parents, and mainly felt that they disappointed their parents. The parents of this study reacted with strong emotions such as "shock, confrontation, anger and distress" (Sandbrook, 2009, p. 322). However, after these initial strong negative reactions most of the parents began supporting their daughters, in personal as well as practical ways. In addition, the pregnant teenagers' acceptance of their pregnancies and ability to plan for their future were only as a consequence of their parents accepting and supporting them as well (Sandbrook, 2009). In a study by Wayland and Tate (1993) it was found that for pregnant teenagers their mothers' support was especially important even more so than that of the baby's father. But Figueiredo et al. (2006) warns that the pregnant teenager's continued dependency on the support of the mother may hinder her development to become an autonomous person. This poses the question whether it would be the same in the South African context.

Support from the baby's father has been found to be significant during teenage pregnancy (Bloom, 1998). In a longitudinal study by Bloom (1998) about the influence of the baby's father in the development of MFA the following findings were presented: pregnant teenagers who had a close relationship with the father of the

baby during the first semester had a higher probability of accepting their maternal role, to perceive the unborn baby as a separate person and to make life changes that would benefit the healthy development of the fetus. In the second trimester these pregnant teenagers had higher overall MFA scores, they reported more involvement and interaction with their unborn babies, ascribing personal characteristics to the baby as well as being able to give of themselves to the baby. A correlation was found between being satisfied with the relationship with the baby's father and being able to differentiate themselves from the unborn baby. In the third trimester of pregnancy the influence of a good relationship with the unborn baby's father had no significant influence on the MFA. However, a significant effect was observed in the postnatal period. Teenagers who had a satisfactory relationship with the baby's father were more inclined to be emotionally closer to their babies (Bloom, 1998).

The support from friends and peers to the pregnant teenager has also been found to have a positive influence on MFA. An interesting finding was when another person in the household received financial government assistance, it resulted in a positive impact on MFA. This may be because of the reassurance that there is better financial aid for the baby and pregnancy if needed (Feldman, 2007). Rowe et al. (2013) consequently advise that caregivers who focus on improving the development of MFA during teenage pregnancy should especially focus on an inclusive caring model. This means that different types of support should be included in the caring model such as medical support, support from family, friends and the community.

Inconsistent findings have been found about the level of support that pregnant teenagers receive. In a study done by Figueiredo et al. (2006) with Portuguese pregnant teenagers, most were well supported during pregnancy, most were in close relationships with the baby's father and supported by him, and they were also well supported by their other attachment figures in their lives. These findings were in contrast with research studies done in other countries (Figueiredo et al., 2006). Cremona (2008) found that pregnant teenagers tend to have weak support systems and are sometimes socially excluded. It thus seems as if context may play a significant role in the outcome of the studies.

2.4.3.2 Psychological health

Psychological factors that particularly need to be emphasized during teenage pregnancy are stress and self-esteem, both influencing the development of MFA. Therefore, stress management during teenage pregnancy should be an important objective of a support programme for this population. In the same way, enhancing the self-esteem of the pregnant teenager should be a definite aim, specifically focusing on lessening shameful feelings about being pregnant (Feldman, 2007). Other psychological difficulties that pregnant teenagers are more likely to struggle with are emotional distress, depression and anxiety. It is unclear whether teenagers are more vulnerable to develop these symptoms because of their younger age or whether other contextual or developmental factors increase their vulnerability (Rowe et al., 2013). In a study by Diniz et al. (2014) it was found that when pregnant teenagers struggled with depression, social support acted as a protective factor and positively influenced MFA development. The researchers explained that this might be due to the effect of maternal depression which causes the pregnant mother to feel less competent in her role of becoming a mother and thus experiences a higher degree of stress. Subsequently an awareness of being supported lowers her stress level and causes MFA to increase (Diniz et al., 2014). According to Figueiredo et al. (2006) the chronological age of the pregnant teenager is not the particular risk factor. But teenagers who fall pregnant are more likely to have had problematic early childhood experiences, and insecure attachment relationships, and thus have a higher risk of not receiving adequate support during pregnancy as well. These interrelated factors may increase the risk of experiencing emotional difficulties whilst pregnant. But Rowe et al. (2013) warn that because of the psychological demands on pregnant adolescents it can easily be assumed by health professionals that they are not fully emotionally equipped to have the ability to adapt to motherhood. However, this life changing experience might also present a chance for the pregnant teenager to mature and to develop emotionally. The findings yielded by this study in terms of the emotions experienced by the participants could provide interesting information.

2.4.3.3 Gestational age during teenage pregnancy

Gestational age as a strong predictor of MFA in adult pregnancy was also affirmed as a strong influence during teenage pregnancy (Feldman, 2007). This means that

during pregnancy MFA increases with gestational age and is strongest in the third trimester of pregnancy (refer to section 2.3.2.1).

2.4.3.4 Fetal movements and ultrasound imaging

The onset of fetal movements and ultrasound imaging has been found to influence the development of MFA during teenage pregnancy similarly as during adult pregnancy. Feldman (2007) found that antenatal care during the first trimester of teenage pregnancy had no effect on MFA. However, MFA increases with gestation during pregnancy, this is because of the strong impact that fetal movements and ultrasound images have on the pregnant teenager (Feldman, 2007). Therefore it is important that pregnant teenagers should receive proper antenatal care, not only to enhance the healthy development of the fetus but also to promote the wellbeing of the adolescent and MFA (Rowe et al., 2013).

2.4.3.5 Planned/unplanned pregnancy

Planned or unplanned pregnancy has been found to have an influence on the development of MFA during teenage pregnancy (Feldman, 2007, 2012; Pittman et al., 2009). Koniak-Griffin (1988) found that when a teenager had the intention of becoming pregnant, thus planned her pregnancy, she could better form an attachment with her unborn infant. On the other hand, if the teenager did not plan to become pregnant, it increased the maternal health risks because of lower MFA. Most teenage pregnancies are unplanned and thus increase the risk of the mother making choices that could be detrimental to the fetus (Feldman, 2012; Pittman et al., 2009). In their literature review on South African research done about the consequences and contributory factors of teenage pregnancy Macleod and Tracy (2010) found that most teenage pregnancies in South Africa were unplanned, however, 42.6% of teenage pregnancies, although unintended, were wanted. Thus unintended pregnancy does not necessarily mean unwanted pregnancy. Correlating with the development of MFA the South African Demographic Health Survey (SADHS) of 2003 (cited in Macleod & Tracy, 2010, p. 19) showed a 21.8% increase in the percentage of pregnant teenagers wanting to keep their babies during a later stage of their pregnancies. It will be interesting to know if the participants of this study planned their pregnancies and how it influenced the development of MFA.

2.4.3.6 The attachment style and internal working model of the pregnant teenager

During adolescence the preference for the primary attachment figure shifts from the parents towards a preference to the peers (Feldman, 2007; Shaver, Cooper & Collins, 1998). Thus the pregnant adolescent finds herself in a confusing situation, as she requires more autonomy from her parents but at the same time also requires their support for her pregnancy. She has to grapple with the emotional and physical changes of pregnancy, attaining the role of becoming a mother, striving for more autonomy and at the same time for more closeness to her mother; all of this occuring at a life stage when she is mentally not ready to be a parent herself (Feldman, 2007).

Despite these difficulties, if the adolescent has a secure attachment relationship with her mother or primary caretaker, the development of her own independence will be met with more sensitivity by her caretaker and the transition from dependence to independence should be less troubled (Ainsworth,1979). Feldman (2007) states that a pregnant teenager with a secure attachment style has more freedom to behave more independently and can on the other hand receive the closeness and comfort from her mother when needed. This is confirmed by Sandbrook (2009) who states that there is a definite correlation between the attachment style of the teenager and MFA.

Although there is indeed a positive correlation between stronger MFA and pregnant adolescents who have a secure relationship with their mothers (Canella, 2005), it was found that pregnant adolescents moreover had higher rates of insecure and disorganized attachment styles and, therefore, had a greater risk of not developing a secure attachment with their babies (Feldman, 2007; Figueiredo et al., 2006). Figueiredo et al. (2006) found that these insecure attachment styles were the central difference when compared to adult pregnant women. Therefore it is vital to understand the risks involved during teenage pregnancy in the context of attachment theory, specifically intergenerational attachment.

Maternal representations are formed by the pregnant teenager's attachment with a primary attachment figure, for instance her mother as well as secondary attachment figures. It also includes her perceptions of herself being a parent (Feldman, 2012).

Subsequently the maternal representations or internal working models of the pregnant teenager, influences her ability to form an attachment with her unborn baby (Feldman, 2007, 2012). During pregnancy the teenager's representations are activated, thus influencing MFA as well as her attachment with her infant after birth (Feldman, 2012).

It is clear from the literature review that although teenage pregnancy can be compromised by a number of factors, there are also ameliorating factors that benefit the development of positive MFA and subsequent healthy related behaviours.

2.5 SUMMARY

Bretherton (1992) is of the opinion that although Bowlby highlighted the influence of social support, economic factors and wellbeing on the development of secure attachments between mother and child, it is often overlooked in summaries on attachment theory. These aspects are also important in the development of strong MFA during teenage pregnancy, and should be taken into serious consideration when planning intervention strategies.

To conclude, this chapter aimed to describe the theoretical framework that underpins this study. Attachment theory is very broad and is applied to many different psychological aspects across the human life-span. Therefore, only key aspects important for the purpose of this study were described. MFA during adult pregnancy was described in terms of the origins of the theory, the determinants and importance of MFA. The focus of this chapter then shifted to a review of the literature about MFA during teenage pregnancy which is the central focus area of this study; however, the literature on this topic is scarce and in South Africa almost non-existent. The discussion about MFA during teenage pregnancy commenced with a brief overview of adolescent development thus providing a developmental context for this section. The researcher kept the research questions in mind while doing the review of the literature and gained new insights through this process which led to the refinement of the research questions.

Chapter 4 will present the findings of this study followed by a discussion thereof in chapter 5.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

This chapter will present a discussion of the research approach the researcher followed to address the research purpose and to answer the research questions of this qualitative case study. The research paradigm, research design as well as the research methodology introduced in chapter one will be discussed in more depth. The research methodology included the role of the researcher, setting of the research, the selection of participants, data collection methods, the process followed to analyse the data and data verification strategies. The ethical considerations of the study will also be discussed in this chapter.

3.2 PURPOSE OF THE RESEARCH AND RESEARCH QUESTIONS

For the purpose of this exploratory study the researcher decided on a qualitative multiple case study design within an interpretive paradigm.

The purpose of a research study confirms the overall objective of the study (Creswell, 2014). Teenage pregnancy is mostly unplanned and considered a stressful experience for the pregnant teenager, still being a dependent child herself. As discussed in section 1.4 of chapter 1, the purpose of the research was to contribute to a deeper understanding of the unique process through which Maternal Fetal Attachment during pregnancy evolves in the context of the developing adolescent. The study also endeavoured to gain a deeper understanding of the factors that contribute to the development of MFA during this developmental phase. For the purpose of this study the researcher decided on a qualitative multiple case study design as a research approach.

A case study lends itself to a concentrated understanding of specific occurrences (Mabry, 2009). The research questions of a qualitative case study define the case and describe the related concepts discovered during the research process (Creswell,

2014). According to Yin (2003) a case study design is appropriate when the aim of the investigation is to answer *how* and *why* questions. In qualitative studies research questions are not fixed but are continuously refined throughout the research process as new important concepts are discovered (Creswell, 2014; Gibson & Brown, 2009). As noted in section 1.5 of chapter 1, the central purpose of research questions according to Johnson and Christensen (2008) is to provide guidance to source meaningful data about the phenomenon explored. Thus the primary research question that guided this qualitative case study was:

How Does MFA Develop During Teenage Pregnancy?

The sub questions that guided the investigation were:

- *How do pregnant teenagers describe their emotions about their pregnancies and unborn babies during their pregnancies?*
- *How do pregnant teenagers describe the lifestyle changes they made and the health behaviours they incorporated during their pregnancies?*
- *How do pregnant teenagers describe their experiences of fetal movements and ultrasound images?*
- *How do pregnant teenagers describe their MFA behaviours, thoughts and fantasies towards their unborn babies?*
- *How do pregnant teenagers describe the social support they receive during their pregnancies?*

The type of research questions that are formed as well as the way in which the research questions are addressed is influenced by the research paradigm of a study (Durrheim, 2006).

3.3 RESEARCH PARADIGM

Durrheim (2006) stated that the research paradigm acts as the perspective from which the researcher conducts the research (also see chapter 1, section 1.6.1). It informs the motivation for the research as well as the choice of research methods. According to Terre Blanche and Durrheim (2006, p. 6) a research paradigm is a

holistic, interdependent framework which assists researchers to clarify their research in terms of “ontology, epistemology, and methodology”.

Ontology refers to the researcher’s belief about the nature of reality (Terre Blanche & Durrheim, 2006). The ontology of the interpretive paradigm is that reality is an internal and subjective experience of the individual (Terre Blanche & Durrheim, 2006; Denzin & Lincoln, 2008). Within the interpretive paradigm it is believed that reality is socially constructed, through the numerous social interactions in which the person is part of throughout their lives (Neuman, 1997). Because knowledge is socially constructed, the researcher within the interpretive paradigm is very aware of the context in which the participant is embedded (Henning et al., 2004). Having an interpretive stance about ontology the researcher wants to gain an empathetic understanding of the phenomenon which leads to the epistemology of the study (Terre Blanche & Durrheim, 2006; Neuman, 1997).

Epistemology refers to the relationship between the researcher and what can be known (Terre Blanche & Durrheim, 2006). According to Henning et al. (2004) when researchers feel at ease with the epistemology from which they conduct a study they tend to deliver their best work. The researcher working from an interpretive worldview recognizes their own subjectivity and role when aiming to gain a deeper understanding of the phenomenon (Terre Blanche & Durrheim, 2006). Having this awareness the researcher attempts to be compassionate towards the feelings and viewpoints of the participants and to make accurate descriptions of the feelings, reasoning and viewpoints of participants’ subjective experiences (Neuman, 1997). Thus qualitative research aims to understand phenomena by paying attention to the meaning that people give to it (Denzin & Lincoln, 2008).

Methodology refers to how the researcher can go about practically studying whatever he or she believes can be known (Terre Blanche & Durrheim, 2006). The qualitative researcher aims to get as close as possible to the participant’s subjective perspective on a phenomenon as described above; this is done by data collection methods such as in depth interviews and observation (Denzin & Lincoln, 2008). Researchers working from within an interpretive paradigm follow an inductive process also referred to as a bottom up approach or grounded theory (Creswell, 2014; Gibson & Brown, 2009; Terre Blanche & Durrheim, 2006). This means that the researcher commences

his study with a broad perspective on a phenomenon and through the research process narrows down his findings through emergent concepts which lead to a continuous process of modification and improvement (Terre Blanche & Durrheim, 2006).

3.4 RESEARCH DESIGN

As discussed in section 1.6.2 of chapter 1, research designs are investigation forms that guide the research process (Creswell, 2014). The research design provides a strategic plan that indicates how the research will be carried out in order to answer the research questions (Durrheim, 2006). It is important that there should be an understandable order and interrelatedness between the different aspects of the research design that fits in with the purpose of the research and research questions (Durrheim, 2006). The four dimensions of design that need to be considered are: the study's aim, the research paradigm, the setting and circumstances framing the investigation and the research methods used for data collection and analysis (Durrheim, 2006).

Qualitative studies do not follow a linear process and, therefore, the original design might change during the research process (Durrheim, 2006). Qualitative designs are "open, fluid and changeable" and cannot only be defined in terms of their methodological structure (Durrheim, 2006 p. 35). In addition, this flowing design causes a very demanding research process because the researcher must continuously reflect and be flexible to reflect on the research process and make the necessary design changes when needed, thus continuously refining the research design (Durrheim, 2006). Hence the researcher in qualitative research is an active and central participant of the research (see sections 3.6.1 and 3.8.5 for a detailed account of the researcher's role and centrality in the study).

Previously knowledge and action were seen as two separate domains; however, it is now known that when we investigate a phenomenon, we also change the phenomenon (Terre Blanche & Durrheim, 2006). Therefore in contrast of just being an impartial investigation "form of objective enquiry" (Terre Blanche & Durrheim, 2006) research is also a creative process and a possible intervention. The intervention starts when we ask questions about a phenomenon and it continues

once the research findings have been explicitly published (Terre Blanche & Durrheim, 2006).

The researcher of this study wanted to explore and to describe the meaning and subjective experiences of three participants regarding the development of MFA during their pregnancy within their own personal context. Because of this interest the researcher chose to employ a multiple case study design for this investigation. Baxter and Jack (2008) stated that a case study design provides a chance to "explore or describe" an occurrence situated within specific circumstances by employing different data collection methods and types of data. This is affirmed by Yin's (2009, p. 18) definition of a case study: "an empirical enquiry that investigates a contemporary phenomenon in depth and within its real-life context". According to Yin (2003) a multiple case study enables the researcher to analyze findings from a single case as well as to analyse findings across cases allowing the opportunity to identify similarities and differences.

The first step in case study research is to determine what the "case" or "unit of analysis" is that the researcher wishes to investigate (Baxter & Jack, 2008, p. 545). A case study comprises a detailed exploration of one or more cases or a cross evaluation of two or more cases (Gibson & Brown, 2009). It is recommended that the researcher decide exactly what it is that they wish to analyse (Baxter & Jack, 2008). As previously stated with this study the researcher wanted to analyse: *How* does *MFA develop during teenage pregnancy?*

In order to prevent a case from being too comprehensive and vast, it is further recommended that a case should be set within boundaries (Baxter & Jack, 2008). There are different manners in which cases can be bounded, namely: (a) by time and place (Creswell, 2014); (b) by time and activity (Stake, 1995); and (c) by definition and context (Miles & Huberman, as cited in Baxter & Jack, 2008). Through bounding the case the researcher establishes what will be included and excluded in the investigation (Baxter & Jack, 2008). In this study the researcher 'bounded' the case by "time and place" as suggested by Creswell (2014, p. 14). This study focused on the descriptions of school going (place) pregnant teenagers in their third trimester of pregnancy (time). Next, the researcher needs to decide which type of case study will be best suited to the investigation.

Different types of case studies have been identified by Yin (1993, 2003, 2009) and Stake (1995). The purpose of the case study determines which type of case study will be chosen (Stake, 1995). Yin classified case studies as “explanatory, exploratory, or descriptive” and Stake as “intrinsic, instrumental, or collective” (Baxter & Jack, 2008, p. 547). A multiple case study design was chosen, and the purpose of this type of case study is to describe an occurrence in its natural context (Baxter & Jack, 2008). Multiple case studies compare the detailed descriptions of a small number of cases (Mouton, 2001).

Another key feature of case studies is that a variety of research methods is used to collect the data, which enhances the trustworthiness of the study (Baxter & Jack, 2008). The specific research methods used for this study will be discussed further in the following section.

3.5 RESEARCH METHODOLOGY

A collection of research methods that logically fits together for the purpose of the research and provides answers to the research questions is known as the research methodology (Durrheim, 2006; Henning et al., 2004). The research methodology which is often used during qualitative studies consists of: continuously evolving processes of research and involves refinement of the research questions and research methods; gathering of the data in the natural surroundings where the phenomenon occurs; analysing the collected data through an inductive process by identifying themes and categories and from there creating a critical in-depth understanding of the findings (Creswell, 2014). The researcher is central to all the emerging processes of the research methodology in qualitative studies. None of the mentioned research procedures is possible without the researcher’s presence (Creswell, 2014; Henning et al., 2004; Merriam & Associates, 2002). Thus the primary instrument for data collection and analysis of the data is the researcher (Merriam & Associates, 2002) (see section 3.6.1).

3.5.1 The context of the study

One of the distinguishing characteristics of a qualitative case study is the importance of the context in which the phenomenon occurs. In case studies it is usually difficult

to distinguish between the unit of analysis and its context (Yin, 1993; Baxter & Jack, 2008). As described previously within an interpretive paradigm, context is essential because meaning is understood to be socially constructed; therefore, the case/cases under investigation cannot be seen in isolation. This is affirmed by Guba and Lincoln (1998); descriptions of meaning can only be understood amidst the context that frames it. Henning et al. (2004) describe interpretive research as a collaborative practise and that the context is not only a segment of the case but is interrelated with the phenomenon under investigation. From this one can deduct that it is essential to research the context as part of the phenomenon. The centrality of the researcher and the research setting in qualitative research form part of the context of the study (Yin, 1993).

3.5.1.1 The role of the researcher

In qualitative research the researcher plays an integral part and is actively involved in the research process. The personal subjective experiences and interpretation of the researcher are recognized in qualitative studies. The qualitative researcher aims to conduct the data collection within the context in which the participants experience the investigated phenomenon (Creswell, 2014). Data can be collected in the natural setting of the participant without complete involvement of the researcher in the setting. But the researcher can rely on specific research methods to gain an in depth understanding of the participants' subjective experiences within the context. One such method is by using interviews, with which the researcher can explore different perspectives and understandings both individually and collectively (Mason, 2005). The research setting as part of the context of the study will be described next; a further description of significant contextual factors found in this study will be presented in chapter 4 and chapter 5.

3.5.1.2 The research setting

As described previously, qualitative researchers aim to conduct research in the participants' natural surroundings (Creswell, 2014), whilst they "go about their lives" instead of a simulated setting (Kelly, 2006a, p. 287). A high school in the Western Cape with a high incidence of teenage pregnancy was chosen as a suitable research setting for the purposes of this study. The learners attending this school are mostly

from lower socio-economic circumstances. There are 1 204 learners in the school; most of the learners of this school make use of government assisted medical services such as local clinics and state hospitals. Many of the learners live in informal settlements, parents who are employed are mostly employed as domestic workers, gardeners or self-employed doing manual labour. The researcher became aware of the high teenage pregnancy incidence at this school when she did her community work there in 2013 as part of the requirements for the practical work of the Master's degree in Educational Psychology. Thus the researcher was already familiar with the setting and gained access to the school community while doing her community work there. This made it easier to gain entrance to the community to conduct the research and was thus considered as a suitable setting. However, none of the participants was familiar with the researcher in her role as student psychologist at the school; the research was conducted during the timeframe July 2014 - February 2015. "Simply by becoming interested in a particular phenomenon or situation, we are in a sense already isolating it from its surroundings, and a large part of what qualitative research is about, is to try to place the phenomenon back in its proper context" (Kelly, 2006a, p. 287). After deciding on the setting of the study the researcher needs to select a sample which is informed by the research questions and literature review of the study (Marshall & Rossman, 2011).

3.5.2 Selection of participants

There are two research sampling categories namely probability sampling and nonprobability sampling methods (Babbie, 2011). Probability sampling, or a chance sampling, entails sampling large groups of participants that will represent the whole population and as such is more likely to be used in quantitative studies (Babbie, 2011), whereas nonprobability sampling entails selecting participants based on certain criteria, different types of nonprobability sampling strategies exists (Babbie, 2011). Thoroughly acquired sampling is essential for the trustworthiness of a study (Marshall & Rossman, 2011).

Qualitative research studies commonly employ purposive sampling strategies (Marshall & Rossmann, 2011). According to Silverman (2010) purposive sampling gives the researcher the scope to choose a specific case because it demonstrates and highlights a specific topic or phenomenon that the researcher wants to study.

Furthermore, purposive sampling requires from the researcher to think carefully about the boundaries of the population being studied and then based on that to decide on a sample case (Silverman, 2010).

Three school going pregnant teenagers who were in their third trimester of pregnancy were purposefully selected to form a bounded system, putting the focus of the study within enclosed explicit boundaries (Merriam, 2009). As discussed in chapter two (section 2.3.2.1), MFA has been known to develop as gestation during pregnancy increases, Yarcheski et al. (2009) suggested that research studies of MFA should rather be directed to later stages of pregnancy, because MFA was found to be the strongest in the third trimester of pregnancy. Therefore, the researcher purposefully sampled pregnant teenagers who were in their third trimester of pregnancy. The focus was on pregnant teenagers in the middle developmental phase of adolescence, thus aged 15-17 years (refer to chapter 2, section 2.4.1). Participants who were purposefully selected were approached by the learning support educator of the school and informed about the nature of the study. The participants who wanted to take part in the study gave permission to the learning support educator to give their contact details to the researcher. The researcher considered this case sample to be experts on the research topic and able to provide the researcher with their experiences of making meaning of the topic and would therefore be “good sources of information” (Patton, 2002, p. 51). See table 4.1 in chapter 4 for an exposition of the biographical information of the participants. Once informed written consent was obtained from the participants and their parents, the data collection process commenced.

3.6 DATA COLLECTION

The most typical feature of case study research is the use of multiple data sources, a strategy which also enhances the trustworthiness of data (Patton, 2002; Yin, 2003). It enables the researcher to compare and integrate, and thus strengthen, the findings in the analysis process. Each source contributes to a better understanding of the research findings (Baxter & Jack, 2008).

3.6.1 The researcher as instrument

The researcher doing an interpretive study is the "primary instrument for both collecting and analysing the data" (Terre Blanche & Kelly, 2002, p. 126). The researcher personally conducted all the interviews of the study and transcribed the interviews, thus staying close to the research. According to Terre Blanche and Kelly (2002) researchers in the interpretive paradigm do not follow a rigid structured process when conducting the research, but make changes to the research questions when coming across new material, or they make changes to the original sampling strategy based on new findings. The researcher experienced these changes during this particular study. After the researcher had decided on the form of the bounded system for her case study, the focus shifted to deciding on data collection methods and data analysis that are most appropriate to best provide the meaningful rich data that the researcher required from the case (Henning et al., 2004). In this study, a literature review, a semi-structured individual interview, a semi-structured focus group interview and a collage were used to gather data.

3.6.2 Literature review

The importance of the literature review (see chapter 2) in the research process is confirmed by Henning et al. (2004) who states that the literature review contextualises the research study in the investigation field. To position the research of this study and to orientate the study in terms of what research on the topic had been done in the past, the researcher began the study by conducting a literature review. Although the majority of the researcher's efforts were initially focused on the literature review, she continued reviewing scholarly work and included it in her research in the later phases of the study as well. This review assisted the researcher to gain a better understanding of the foundation of the theoretical framework of attachment theory as well as the development of MFA, the importance thereof and how it affects the development of postnatal attachment. Secondly, it assisted the researcher to gain knowledge of previous studies done about MFA specifically during teenage pregnancy. Because it was also important to have a good understanding of the developmental phase of adolescence in which the participants find themselves, the researcher included this as part of the literature review.

3.6.3 Semi-structured individual interviews

As previously discussed in section 3.3, the research paradigm informs the researcher's choice of research methods (Terre Blanche & Durrheim, 2006). Working from within an interpretive paradigm the researcher chose to conduct in depth semi-structured interviews as part of a coherent qualitative research design. The researcher wanted to use this opportunity to gain a deeper understanding of the subjective experiences of the participants and for this purpose interviews are deemed a suitable research method (Kelly, 2006a; Denzin & Ryan, 2007). The researcher and participant create meanings and mutual understanding of a phenomenon through the collaborative process of interviews (Kelly, 2006a; Fontana & Frey, 2008). The quality of the collaborative process could potentially influence the quality of the data produced (Fontana & Frey, 2008). According to Babbie (2011, p. 312) a qualitative interview consists of a group of themes to be "discussed in depth" with the participants. The researcher has a purposeful strategy to follow during the interview process based on the selected themes that are related to the phenomenon that is investigated instead of reciting questions word for word in a particular order. However, the researcher must still be fully prepared for the interview process and well acquainted with the themes to be discussed (Babbie, 2011).

The researcher aimed to build rapport with the participants in order for the interviewees to be able to express themselves authentically without reservations. This is done by building an atmosphere of trust and openness (Kelly, 2006a). The researcher therefore began the interviews by again stating the ethical considerations, putting the participants at ease about issues that might be a cause of concern to them such as confidentiality, assuring them of their anonymity and the freedom to discontinue their participation at any time during the research process.

An interview guide (see Addendum A) was used to guide the interview processes; this was based on the research questions and literature review. According to Kvale and Brinkmann (2009) an interview guide can be used to organise the interview process in order to gain in depth understanding of the subjective views of the participants.

3.6.4 Semi-structured focus group interview

A focus group interview is mainly a data collection method used by qualitative researchers. Focus groups can be planned according to different types of interviews. This study employed a semi-structured interview approach with the three selected participants. During a focus group interview the researcher is afforded an opportunity to explore a phenomenon with a group of individuals strategically at the same time (Babbie, 2011). According to Hennink (2007) the purpose of a focus group interview is to acquire a selected group of participant's different subjective experiences about a phenomenon. Participants for a focus group are selected because they share a relation to the phenomenon being explored. The focus group interview is a significant research method as it often produces unexpected noteworthy elements of the phenomenon that would not have surfaced otherwise (Babbie, 2011). Affirming this Kambrelis and Dmitriadis (2008) state that the interaction between participants in groups leads to more vivid in depth understandings. In addition, the researcher's position shifts and thus becomes less important than during individual interviews (Kambrelis & Dmitriadis, 2008). But focus group interviews also present some limitations. Babbie (2011) warns that the researcher should be mindful to let everyone in the focus group take part in the discussion. Additionally, participants may feel uncomfortable to disclose their real thoughts and feelings about a phenomenon in fear of displeasing members of the focus group (Corbin & Strauss, 2008; Hennink, 2007). This is especially important when conducting research with adolescents for whom peer approval is essential (see chapter 2, section 2.4.1). It is therefore imperative that the researcher should be well prepared and manage the focus group interview effectively.

A focus group interview was conducted with the three participants as all three shared similar types of experiences (see Addendum B for the interview guide). Although the participants were from the same school they disclosed to the researcher when asked about their relations with one another during the interview, that they have seen each other at school before but have never really spoken to each other prior to the interview. The home language of one of the participants, Ashleen, is English. However, she preferred to participate in the focus group interview in Afrikaans. The researcher offered to translate the questions to English but she insisted that only

Afrikaans was necessary. Before the commencement of the focus group interview the participants were informed that they did not have to share information which caused discomfort for them in the presence of the other participants. Babbie (2011, p. 315) states that a focus group interview is usually conducted “in a private, comfortable environment to engage in a guided discussion of some topic”. Krueger and Casey (2002, p. 5) describe the interview setting should be “permissive, non-threatening environment”. Thus the researcher aimed to create a relaxed atmosphere during the focus group interview by providing tasty nourishing refreshments that she thought pregnant girls would enjoy. A relaxed atmosphere has been found to be conducive to more spontaneous discussion (Berg, 2009).

3.6.5 Visual research method - collage

The participants representing the three cases of this multiple case study are considered experts in the experience of MFA during teenage pregnancy. According to Thomson (2008) minors can give knowledgeable evidence about their understandings of personal occurrences. In fact, the viewpoints of minors can suggest “specific and unique insights about their everyday lives at home and at school and their view and hopes for their futures” (Thomson, 2008, p. 1). Furthermore, Thomson (2008, p. 2) states that the ability and entitlement of participants who are minors to express their understandings and meanings lead to what is known as “voice”. In qualitative research to give participants “voice”, especially those who were disregarded in the past, became essential (Thomson, 2008). A need arose to gain more insight into the unique experiences of children and adolescents. But this is not always adequately accessible through interviews and thus lead to an interest in “visual research”, also called “image-based research” methods (Thomson, 2008, p. 8). According to Thomson (2008, p. 3) “visual research offers different ways to elicit the experiences, opinions and perspectives of children and young people, as well as a new way of involving them as producers of knowledge”. In addition, it affords the participant with an opportunity to reflect on their experiences of a phenomenon (Watson & McMahon, 2010). Collage can be used as a data collection method to gain an even more personal and in depth understanding of the subjective and personal experiences of participants (Watson & McMahon, 2010). Butler-Kisber (as cited in Leitch, 2008, p. 44) defines a collage as “a creative

technique where different materials, artefacts and objects are pasted on a surface to create an artistic composition on a particular theme or topic." What makes this medium especially plausible as a research method is that it does not require the participant to have any special creative talents which could be unsettling to an adolescent (Leitch, 2008). Thus collage was found to be a non-threatening research method for school going children which provided a "safe container" to convey feelings that may be problematic and uncertain without feeling anxious of being ridiculed (Leitch, 2008, p. 45). It was also found to provide more involvement and honest contributions from participants.

In order to further explore the unique and individual subjective experiences of the participants the researcher asked the participants to make a collage. At the end of the focus group interview the participants were asked to each make a collage about their feelings towards their unborn babies and their pregnancies. Because the participants come from a lower socio-economic community the researcher provided them with basic collage materials. The participants preferred to make the collages privately and in their own time. Only two of the participants made collages. The one participant made two collages so in total the researcher received three collages although this was only from two of the participants. Individual interviews were conducted with the two participants about the meaning of their collages. The collages are included as Addendums C and D.

3.7 DATA ANALYSIS

The data analysis process is described by Henning et al. (2004, p. 103) as the "heartbeat" of the investigation. As with qualitative data collection, the researcher is the key instrument analysing qualitative data. The researcher's know-how and skills will influence the data analysis process and outcome (Henning et al., 2004). According to Terre Blanche et al. (2006) the researcher should remain near the data throughout the analysis process and aim to be thoughtful and considerate when deducing meaning from it. Data analysis in qualitative studies happens alongside the commencement of the study and continues throughout the research process and is thus not only an occurrence after the data has been collected (Terre Blanche & Kelly, 2002). Qualitative researchers immerse themselves into the data and then aim to

discover meaning (Neuman, 1997). This is done by focusing on the “subjective meanings, definitions, metaphors, symbols, and descriptions of specific cases” (Neuman, 1997, p. 329).

The researcher used qualitative content analysis as a guide to analyse the data. According to Henning et al. (2004) beginner researchers usually make use of this strategy, but it can lead to limited shallow understandings of the data. Therefore qualitative content analysis is only a preliminary strategy to analyse the data and a variety of data analysis methods should be used to bring about a comprehensive exploration of the data (Henning et al., 2004). Accordingly Terre Blanche et al. (2006, p. 322) state that data analysis does not follow a linear process but do suggest the following content analysis steps (see table 3.2) as “a helpful starting point”.

Table 3.2: Content data analysis steps (Adapted from Terre Blanche et al., 2006, pp. 322-326)

STEP 1	**FAMILIARISATION AND IMMERSION**
STEP 2	**INDUCING THEMES**
STEP 3	**CODING**
STEP 4	**ELABORATION**
STEP 5	**INTERPRETATION AND CHECKING**

Step 1: Familiarisation and immersion

As the title suggests the first step in the data analysis process is for the researcher to become familiar and deeply involved with the data (Terre Blanche et al., 2006). The researcher personally transcribed all the interviews, and so remained close to the data. While transcribing she was already busy immersing herself into the data and analysing the data, becoming aware of patterns and themes and related the data to the literature reviewed. When the transcripts were finished the researcher further immersed herself into the data by carefully reading the transcripts, making side notes and linking the literature and research questions with the data. The researcher also studied the collages carefully, identifying the themes and emotions that the

participants conveyed and linking this with the interviews. Examples of the transcriptions of the interviews are found in Addendums F and G.

Step 2: Inducing themes

When inducing themes Terre Blanche et al. (2006, p. 323) recommend an “inductive” or “bottom-up” approach. This means that one searches for the categorizing of codes that are embedded in the data instead of fitting the data into the predetermined categories. It is recommended that the language of the participants should be used initially when the categories are labelled. The researcher aimed to label the themes that emerged through descriptive words that were used by the participants. In line with the primary research question, the researcher paid particular attention to the progression through which MFA developed in this case study. She also noted the similarities as well as contradictions between the three cases and the development of MFA during teenage pregnancy in contrast to adult pregnancy.

After the researcher had immersed herself into the research, identified themes and codes, clear patterns of the development of MFA became evident across the three cases. Thus the researcher categorized the themes that emerged. The researcher often revisited themes throughout the process, and refined them. It was sometimes difficult as some of the data content related to more than one theme and the researcher had to remind herself regularly that it is a qualitative study with the emphasis on a deep understanding of how the participants gave meaning to the development of MFA. Hence, the recommendation that in order to provide a “thick description” one should keep the focus on the phenomenon under study (Terre Blanche et al., 2006, p. 324), was particularly helpful for the researcher.

Step 3: Coding

While developing themes, the data should also be coded. This consists of breaking the data down into smaller “units of meaning” and naming/coding them. These units are then sorted together in “categories that contain related codes” (Henning et al., 2004, p. 102). In reality the process of creating themes and codes is interrelated; this means that while the researcher is coding the data, the themes are also updated and changed, coding is a continuous process as well (Terre Blanche et al., 2006). The researcher, being a novice to the field of research, coded the data in two different

ways. She started off by using different colours for each code and drawing lines to the themes and categories to which they related. However, this method became too confusing to interpret so the researcher decided to rather make use of cutting and pasting the coded pieces of data, blending them with the themes that they relate to and creating categories of themes. It is difficult to describe this process in a linear manner; it did not proceed in a linear manner as it was a process of going back and forth between the data and the research questions (see Addendum E for the code descriptions).

Step 4: Elaboration

The researcher's process described in the previous section, continuously revisiting the coding and themes and reorganizing them, is known as elaboration (Terre Blanche et al., 2006). It is recommended by these authors that this process continues until no more new important insights appear. The researcher rigorously followed this continuous process.

Step 5: Interpretation and checking

The final written account of the findings and interpretation is given in chapters 4 and 5. During the interpretation phase it was important for the researcher to reflect on her role during the research process, her personal involvement of the phenomenon being studied as well as the way this might have impacted on the way the data was collected and analysed (Terre Blanche et al., 2006). The role of the researcher was discussed in section 3.5.1.1.

3.8 DATA VERIFICATION

The trustworthiness of the study gives it substance and is therefore paramount. Traditionally quantitative studies within a positivistic paradigm are evaluated according to their validity and reliability; however, because of the nature of qualitative studies different methods of data verification were needed (Marshall & Rossman, 2011). The significant publication of Lincoln and Guba (as cited in Marshall & Rossman, 2011, p. 40) *Naturalistic Inquiry* suggested reformed concepts through which the trustworthiness of qualitative studies can be evaluated and addressed namely "credibility, dependability, confirmability and transferability". The following

sections will discuss these concepts as well as present the procedures the researcher followed to ensure the trustworthiness of the study.

3.8.1 Credibility

As mentioned above, qualitative researchers assess their research not in terms of validity as is the case with quantitative researchers but according to the credibility of the study (Van der Riet & Durrheim, 2006). Credibility concerns the collected data's level of accuracy; whether the collected data is a true reflection of the descriptions of the participants without distortion by the researcher (Flick, 2009). In a qualitative study, proving credibility is a continuous process throughout the research project (Van der Riet & Durrheim, 2006). Various methods can be used to enhance the credibility of a qualitative research study such as continued observations, triangulations, referential adequacy, peer debriefing and member checks (Babbie, Mouton, Vorster & Prozesky, 2001). Triangulation is one of the ways in which the credibility of the study is ensured (Durrheim & Wassenaar, 2002). Triangulation refers to using a variety of data collection methods in order to focus on the unit of analysis from different perspectives (Kelly, 2006a; Lyons & Coyle, 2007). This allows the researcher to gain insight into the unity, interrelatedness and discrepancies of the central themes identified in the data (Farmer, Robinson, Elliot & Eyles, 2006). The credibility of the study will be evident when the different methods provide similar findings (Patton, 2002). To establish the credibility of this study the researcher employed triangulation of the data, by collecting it through individual semi-structured interviews; a focus group interview and collages (see sections 3.6.3, 3.6.4 and 3.6.5). In addition the researcher also made use of member checking by conducting informal interviews with the participants after the collected data were analysed in order to verify and clarify the researcher's interpretation of the collected data, especially the collages.

3.8.2 Transferability

As the word suggests transferability has to do with the findings of a study being applicable to other contexts with different participants (Babbie et al., 2001). In order to ensure the transferability of this study, the researcher employed the following strategies: 1. Detailed descriptions of the research procedures were provided;

2. Clarification of the selection of research methods given; and 3. Rich descriptions of the context of the study were supplied (Kelly, 2006b). Thus the researcher did not intend to generalise the findings of the study but endeavoured to make the findings transferable (Durrheim & Wassenaar, 2002).

3.8.3 Dependability

Qualitative researchers want their studies to be dependable, whereas quantitative researchers aim for reliability. According to Van der Riet and Durrheim (2006) dependability has to do with the accuracy of the findings established by the researcher. Therefore the reader needs to be afforded with satisfactory evidence in order to be able to replicate the study where the context and participants resemble that of the current study (see previous section 3.8.2). To ensure this the researcher gave rich descriptions of every action taken throughout the different phases of the research.

3.8.4 Confirmability

Confirmability refers to the degree to which the researcher's findings and interpretation thereof is merely a consequence of the data gathered and not the researcher's own subjective interpretations. In order to ensure the confirmability of a study the researcher needs to remain as objective as possible and to be aware of their own potential bias (Mertens, 2005). The confirmability of this study was ensured through triangulation, verbatim transcripts of the interviews conducted as well as the participants' accounts of the collages they made. The researcher was also advised by her supervisor as an external agent in the process of data analysis and interpretation. The confirmability of the study is closely related to the role and reflexivity of the researcher discussed in the following section.

3.8.5 The reflexivity of the researcher

As described above the reflexivity of the researcher is closely related to the confirmability of the study. The researcher deemed it important to be empathic and to enter the subjective worlds of the participants and at the same time be aware of her own personal involvement, as suggested by Patton (2002). This means that the researcher reflected on her own thoughts and emotions while conducting the

research, which led her to be more able to discern between her own views and those of the participants. Henning et al. (2004) state the importance of the competence of the researcher which comprises of continuously checking and questioning of the research to ensure the maximum quality. Although the researcher is still a novice in the research field she still aimed to achieve good research quality by incorporating continuous questioning, checking and reflection throughout the research process.

3.9 ETHICAL CONSIDERATIONS

Ethical concerns are an important issue when conducting research. Various ethical codes and committees were founded aimed at regulating the nature of the contact between the researcher and the research participants (Flick, 2009). Some of the core ethical considerations in social science research, as stipulated by Babbie et al. (2001), are discussed in this section.

The procedures followed by the researcher to ensure that the research is ethically sound will be discussed next.

3.9.1 Ethical clearance and permissions

As part of the initial phase of the research process the researcher needs to obtain compulsory authorization from the organizations and institutions involved in order to be admitted to do research at a particular site and approaching potential participants (Creswell, 2014). Thus the researcher applied in writing to the Western Cape Education Department (WCED) for permission to conduct the study in a high school in the district, and permission was granted (see Addendum H). Further permission was also sought from the headmaster of the school (see Addendum I). A meeting was set up with the headmaster prior to the study in which the researcher explained the nature and the purpose of the study and gave the headmaster opportunity to ask questions about the study. The headmaster was very forthcoming and welcomed the study at the school; he saw the high number of pregnant scholars as a significant problem in the community.

At the same time the researcher applied for ethical clearance from the Ethical Committee within the Department of Research Development at Stellenbosch University, by submitting a detailed research proposal to the committee. After which

ethical clearance was granted for this study (see Addendum J). The South African National Health Act (Act 61 of 2003, chapter 9, section 71) states that an independent and accredited research ethics committee must endorse all research involving human participants prior to the commencement of the research. According to Wassenaar (2006, p. 72) “An independent and competent research ethics committee should subject all protocols to independent ethical review prior to commencement of data collection”. The researcher followed the advice of Marshall and Rossman (2011) who suggest that potential risks and how the researcher will make provision to minimize these must be discussed in detail in the research proposal by following the guidance of knowledgeable researchers. Hence the researcher followed the guidance of her supervisor on how to address possible risks that might arise through the research; this will be discussed in more depth in the section about the welfare of the participants below. The researcher only made contact with the research participants once ethical clearance had been obtained.

3.9.2 Informed consent

The following universal acceptable elements of consent are listed in the literature (Allan, 2011; Wassenaar, 2006): Giving suitable information; the participants’ ability to understand what they are consenting to; participants must volunteer freely and be able to refuse participation prior or during the study; consent must be validated in writing. Therefore the researcher must present the nature and purpose of the study to selected participants in language that is understandable with all the necessary content regarding the study to the participants. This includes the data collection methods as well as potential dangers and advantages of participation. In addition, the choice of refusing participation during anytime with no negative consequences must be pointed out (Wassenaar, 2006).

In the context of conducting research with minors, the issue of obtaining informed consent extends to their legal guardians or parents (Wassenaar, 2006). According to Allan (2011), young people who can comprehend the nature of the research study and have adequate ability to make a decision to participate may give consent. Nevertheless, the parents and the participants were given a detailed description of the nature of the study and what the participant’s involvement in the study entails. This was done in the home language of the participants by the researcher. The

researcher also encouraged any questions about the study. The researcher explained the contents of the written consent form to the participants prior to them reading and giving written consent as part of the consent form specifically designed for minors. The parents of the participants also gave written consent as part of the designed parental consent form. Examples of the consent forms are available in Addendum K. Consent can be given verbally, but a written consent document provides clarity and assurance (Allan, 2011).

3.9.3 Voluntary nature of the study

As described above participation in the study must be completely voluntary and a selected participant must be given the freedom to refuse participation either prior to the study or at any point during the study (Allan, 2011; Creswell, 2014; Wassenaar, 2006). Allan (2011, p. 290) states that ethical committees are especially cautious when a researcher wants to involve participants who are deemed “vulnerable” such as minors. Thus the ethical committee stipulated that the potential participants should preferably be approached by someone other than the researcher. Hence the participants were first approached by the Learning Support Educator of the school informing them about the nature of the study; those who were interested in taking part in the study gave their contact details and were subsequently contacted by the researcher, after which the researcher discussed the voluntary nature of the study with the parents and the interested participants. They were also informed verbally and in writing that they had the freedom to decline or withdraw from the study at any point in time after the study had started without any negative consequences or obligations.

3.9.4 Participant anonymity and confidentiality

The “autonomy” of participants is essential (Allan, 2011, p. 288). In line with this fundamental right, the participants were informed about the potential risks namely the need to talk to someone after the study as well as their right to confidentiality. Confidentiality was discussed with the participants and their parents during the process of gaining informed consent. Informed consent forms should not take priority over discussing the details of the research study in person with the participants (Allan, 2011). Confidentiality was also explained in detail in the consent forms. Prior

to the commencement of the focus group interview, confidentiality and discomfort was also discussed (see section 3.6.4). The participants were made aware of the fact that the researcher may discuss the data collected through the interviews and collages with her supervisor. Allan (2011) suggests that researchers should also explain the limitations of confidentiality to the participants. The anonymity of the participants was ensured by making use of pseudonyms. The researcher omitted any possible identifying details from the thesis. “Researchers must respect participants’ right of privacy - both their right to be left alone and their right that data collected about them should remain confidential” (Allan, 2011, p. 292). All collected data was stored on the researcher’s computer in a password protected folder.

3.9.5 Welfare of participants

The researcher must ensure the welfare of the participants as far as possible and minimize any possible risks. Allan (2011) states that not all consequences can be foreseen, thus there is at all times the possibility of risks involved in research studies. Research findings suggest that research studies make an emotional impression on participants; although mostly positive, researchers must be prepared to deal adequately with negative outcomes (Allan, 2011). Although the anticipated risks involved in this study were minimal the researcher took all necessary precautions to deal with any unforeseen situations that might arise during the study. She explained verbally and in writing in the consent forms to the participants that they might feel the need to speak to a counsellor after the data collection process, in which case they could contact the district school psychologist or the district school social worker. Telephone numbers of both parties were included in the consent forms and the researcher informed the professionals telephonically about the nature of the study and that the participants might contact them if the need arose.

3.10 SUMMARY

The research design and methodology followed by the researcher during this study was described in this chapter. However, as noted in some of the sections in this chapter, the process of making these decisions was a fluid and interactive process and must be viewed holistically in the light of the interpretive paradigm and qualitative design of the study.

In the following chapter the research findings and a discussion thereof in comparison with the reviewed literature will be presented.

CHAPTER 4

RESEARCH PRESENTATION AND FINDINGS

4.1 INTRODUCTION

In this chapter the findings of the study will be presented and discussed. The focus of the study was to investigate how Maternal Fetal Attachment (MFA) develops during teenage pregnancy. The researcher wanted to find out how pregnant adolescents experienced and developed an attachment relationship with their unborn babies during the course of their pregnancy. The chapter will conclude with a summary.

4.2 PARTICIPANTS, SETTING AND PROCEDURE

As indicated in chapter 1, section 1.6.3.2 and chapter 3, section 3.5.2 the participants in this study were purposefully selected according to specific criteria which required them to be pregnant teenage girls aged 15 to 17 years in their third trimester of pregnancy (25-40 weeks gestation). The data was collected in a private room at the high school which the participants attend. This school is known to the researcher and has a high incidence of pregnancy (see chapter 3, section 3.5.1.2). The data collected consisted of individual semi-structured interviews, a focus group interview, and collages. Pseudonyms were used to protect the identity of the participants.

The biographical details of the research participants are provided in table 4.1 below:

Table 4.1: An exposition of the biographical information of the participants

PSEUDONYM	JODI	ASHLEEN	SAMMY
AGE	16	15	15
SCHOOL GRADE	11	10	10
HOME LANGUAGE	Afrikaans	English	Afrikaans
GESTATION	34 weeks	30 weeks	30 weeks
PREGNANCY	First	First	First
GENDER OF BABY	Boy	Girl	Boy
PLANNED/UNPLANNED PREGNANCY	Unplanned	Unplanned	Unplanned
PARENTS' MARITAL STATUS	Married	Never married-Separated	Married
LIVES WITH	Parents	Mother	Parents
RELATIONSHIP WITH BABY'S FATHER	Couple	Supportive but not in a relationship	Couple

In the first part of the presentation each case will be presented separately, by describing each participant's unique experiences of the development of MFA according to the themes and categories that emerged through the data analysis. Following that will be a parallel presentation of the findings across the cases of this multiple case study in the context of the relevant literature.

The process of gathering and analysing the data was guided by the following primary research question:

How Does MFA Develop During Teenage Pregnancy?

The subquestions that guided the investigation were:

- *How do the pregnant teenagers describe their emotions about their pregnancies and unborn babies during their pregnancies?*

- *How do pregnant teenagers describe the lifestyle changes they made and the health behaviours they incorporated during their pregnancies?*
- *How do pregnant teenagers describe their experiences of fetal movements and ultrasound images?*
- *How do pregnant teenagers describe their MFA behaviours, thoughts and fantasies towards their unborn babies?*
- *How do pregnant teenagers describe the social support they receive during their pregnancies?*

The following table gives an outlay of the codes used for the different data sources, to present the findings in this chapter.

Table 4.2: Codes used for data sources

PARTICIPANTS	Transcripts Semi-Structured Individual Interview (SSII)	Transcript Focus Group Interview (FGI)	Collages (COL)
JODI*	JSSII	JFGI	JCOL
ASHLEEN*	ASSII	AFGI	-
SAMMY*	SSSII	SFGI	SCOL

*Pseudonyms to protect the confidentiality of the participants

4.3 PRESENTATION OF FINDINGS OBTAINED FROM EACH CASE

The research data is presented according to the most important themes and categories that emerged during the process of qualitative content analysis against the backdrop of the research questions. These themes and categories illustrate the aspects that emerged most frequently during the analysis of the participants' comments obtained from transcripts of the individual and focus group interviews as well as an interpretation of the collages. These themes and categories thus reflect the most pertinent aspects related to the participants' perceptions about their experiences of MFA during the development of their pregnancies. The themes and categories that emerged from the data analysis are presented in table 4.3, thus

providing the reader with an outline of the findings to be discussed in the following sections.

Table 4.3: Summary of the identified themes and categories

THEMES	CATEGORIES
EMOTIONS	• Uncertainty during early pregnancy-Low MFA • Acceptance and reality-Emergent MFA • Excitement-Strong MFA
SIGNIFICANT PREGNANCY EVENTS	• Onset of Fetal Movements • Ultrasound
COMMITMENT TO UNBORN BABY	• Health Behaviours • Socializing • Seeking Information
INTERACTION WITH THE UNBORN BABY	• MFA Behaviours • Thoughts and Fantasies
SOCIAL SUPPORT	• Support - Parents • Support - Baby's Father and his Parents • Support - Friends, Peers and School

In analysing the data it was noted that the responses of the participants were very similar. Perhaps the reasons for this are due to the similar nature of strongly developed MFA evident in the third trimester of pregnancy. These similiarities are also notable during teenage and adult pregnancy (see sections 2.3.2 and 2.4.3. Another possible reason could have been that the three participants of this multiple case study received strong support which positively influenced the development of MFA. However, there were also some differences in their responses and these are discussed according to the various categories arising from the themes.

4.3.1 First case: Jodi

At the time of the data collection Jodi was 16 years old and in Grade 11. She was 34 weeks pregnant and the pregnancy was unplanned. She lived with her parents.

4.3.1.1 Emotions

Uncertainty during early pregnancy - Low MFA

Although Jodi suspected that she might be pregnant, she only did a pregnancy test during the second trimester, at four months of gestation: *"Ek het vermoed, maar ek het eers op vier maande 'n swangertoets gedoen" (I suspected but only did a pregnancy test at four months) (JISSI)*. When the pregnancy was confirmed, Jodi felt very stressed and worried. The first person to whom she revealed the pregnancy was her boyfriend. She described his feelings as being similar to hers - stressed and worried. She was especially worried about how she should reveal the pregnancy to her mother*: "Ek was gestres gewees; Ek het nie geweet hoe om vir my Ma te sê nie"* (*I was stressed, I didn't know how to tell my mother) (JISSI).* But then her mother found out on her own, she reacted sadly. Because Jodi did not dare to inform her father, her mother broke the news to him. Her father was much more disturbed by the news than her mother was. Although furious in the beginning, he eventually accepted his daughters' plight. *"Sy was net hartseer, my pa was baie ontsteld gewees"* (*She was only sad, my father was very upset) (JISSI).* In Jodi's collage she inserted an article about a pregnant teenager with the *title "En wie is die Pa van die baba? Skree ek op haar. Jy het dan nie eers 'n kêrel nie!" (And who is the father of the child? I shouted at her. You do not even have a boyfriend!) (JCOL).* This title probably mirrors her parents' level of distress when they found out that she was pregnant.

After the pregnancy was confirmed Jodi did not want to continue with the pregnancy and considered having an abortion: *"Toe ek uitgevind het toe wil ek nie die baba hê nie" (When I found out I did not want the baby) (JISSI).* She went for a counselling session at an organization that counsels mothers who are considering an abortion or adoption. But then her boyfriend convinced her that they should rather keep the baby. It was his support that enabled her to decide to go through with the pregnancy and to speak to her mother about the pregnancy: *"… maar my boyfriend het vir my gesê ons moet maar die baba hou en agterna het ek toe ook maar besluit om hom te*

hou, die baba te hou, en vir my ma-hulle te sê" (But my boyfriend told me that we should rather keep the baby; after that I decided to keep the baby and to tell my parents) (JISSI).

Another difficult decision for Jodi was whether to continue her school career; she felt ashamed and did not want to go back to school: *"Ek wil nie eers toe ek uitvind toe wou ek nie skool toe gekom het nie" (Initially when I found out I did not want to come to school (JISSI).* However, her parents spoke to her about it and she then decided to continue going to school: *"Maar my ma hulle het maar saam met my gepraat en toe het ek maar besluit om weer skool toe te kom" (My parents spoke to me and then I decided to come back to school (JISSI).* During the individual interview she stated that she made the right choice going back to school. Jodi's parents' acceptance assisted her to also accept her pregnancy.

Acceptance and reality - Emergent MFA

Jodi became excited about her pregnancy around five months of gestation. This coincides with her parents' acceptance of the pregnancy and the onset of fetal movements. The article included in her collage referred to in the previous section clearly stated the acceptance of her mother: *"… het nie haar kind verstoot nie maar dit was nie 'n maklike pad om te stap nie" (… did not reject her child but it was not an easy road to walk) (JCOL)*. Another contributing factor was the first ultrasound described in section 4.4.3.2. These positive events made the pregnancy more real to her. She started to form a mental presentation of her unborn baby as a person. To form a mental representation of the unborn baby is a key task which is positively correlated with MFA (see chapter 2, section 2.3.1). This realization led to the emergence of an attachment to her unborn baby.

Excitement - Strong MFA

During the interviews, when asked how she feels about her baby now, Jodi replied that she felt happy especially in the evenings when her baby kicked: *"… ek is opgewonde, ek voel gelukkig, ek voel veral gelukkig as ek voel hy beweeg en hy skop" (I feel excited, I feel happy, I especially feel happy when I feel him moving and kicking) (JFGI).* She named her collage *(JCOL) "ma en kind-liefde" (mother and child-love)* decorated with two red hearts. This name as well as the numerous loving

pictures included in the collage clearly reflects her strong attachment to her unborn baby. Jodi described various ways in which she interacted with her unborn baby (see section below). These behaviours are evident of a strong attachment. The only concern that she had was regarding the birth of the baby. She felt afraid of the pain of childbirth: *"Ek is bang. Soos die mense praat hoe dit is en hoe seer dit is"* (*I am scared. The people speak about how it is and how painful it is) (JFGI).* However, this fear did not dampen her excitement about her baby.

4.3.1.2 Significant pregnancy events

Onset of fetal movements

Two significant pregnancy events contributed greatly to change Jodi's experiences of her baby and pregnancy. Firstly her unborn baby's first fetal movements made a definite impact on Jodi and she recalled it vividly: *"Ek het nie geweet wat om te doen nie, ek was so nervous gewees!" (I did not know what to do, I was so nervous!) (JISSI).* It was a strange sensation for her and it made the fact that she was expecting another human being real. Another profound experience for Jodi was when she went for the first ultrasound scan of her baby.

Ultrasound

Jodi was already 28 weeks pregnant and thus in the third trimester of pregnancy when she went for an ultrasound for the first time. She recalled it as a wonderful and exciting experience, to see her baby and to hear his heartbeat: *"Ek was baie opgewonde om te sien, net om te sien. Dit was wonderlik net om te sien en om dit te hoor" (I was very excited to see, just to see. It was wonderful just to see and to hear it) (JISSI)*. During this antenatal visit she was informed that she was expecting a boy, however, she would have preferred a girl: "*Ek sou meer verkies het as dit 'n meisiekind gewees het" (I would have preferred for it to be a girl) (JISSI).* But subsequently she has accepted the baby's gender and felt satisfied about it: *"Ek is gelukkig dat dit 'n seun is" (I am happy that it is a boy) (JISSI).* Jodi went for another ultrasound at 33 weeks of gestation. She mentioned that she experienced the same feelings of excitement as during the first ultrasound. The onset of fetal movements and ultrasound images assisted Jodi to become committed to her unborn baby.

4.3.1.3 Commitment to the unborn baby

Health behaviours

Jodi became more attached to her unborn baby and, therefore, motivated to change her lifestyle and to incorporate certain health behaviours for the benefit of her baby. She stated that the health of her baby was important to her and, therefore, she stopped drinking alcoholic beverages and smoking cigarettes. She also ate much more than she used to and tried to make healthier diet choices. *When asked in the focus group interview how their habits changed since being pregnant she stated: "[Ek] eet baie, eet meer as wat ek voorheen geëet het" (I eat a great deal, more than I did before) (JFGI).* The theme of healthy eating habits was also evident in her collage (see Addendum C). However, the biggest lifestyle change for her concerned her social life.

Socializing

In contrast to her social life choices before being pregnant, Jodi spent most of her time at home and socialized much less with her friends than prior to her pregnancy: *"… ek gaan nie meer baie uit met my vrinne nie ek is net by die huis" (I don't go out with my friends anymore, I am only at home) (JISSI).* In the focus group interview she also stated*: "En ek is meer by die huis as wat ek saam met vrinne uit was" (And I am more at home than I went out with my friends) (JFGI).*

Seeking information

Jodi wanted to know more about baby and pregnancy issues. She reported that she enjoyed reading related magazines which her mother purchased for her. As Jodi's attachment to her unborn baby grew she increasingly pursued interaction and a relationship with him.

4.3.1.4 Interaction with the unborn baby

MFA-behaviours

At 34 weeks of gestation Jodi's attachment to her unborn baby was strong. She enjoyed interacting with her unborn baby; she was very aware of his movements and

described how happy it made her when her baby kicked in the evenings: *"Ek voel in die aande as ek voel hy beweeg en as hy skop dan voel ek gelukkig" (I feel happy in the evenings when he moves and kicks) (JISSI)*. She became worried if he did not kick for a while: *"Ek is so bangerig, ek voel so hoekom skop hy nie en so veral in die aand"* (*I am afraid, I wonder why he is not kicking, especially during the evenings) (JISSI)*. She also stated that she frequently stroked her stomach as it made her feel closer to her baby: *"Dit voel amper so ek is naby hom so" (It almost made me feel closer to him).* In her collage she inserted a picture of a pregnant woman lovingly holding her stomach on which she *wrote "'n Swanger Mammie" (A Pregnant Mommy) (JCOL).* Other evidence of strong MFA was the thoughts and fantasies she harboured about her unborn baby.

MFA-thoughts and fantasies

Jodi described how she often dreamt of her unborn baby; she especially imagined seeing and holding her baby: *"Net hoe om vir hom te sien en in my hande te hou" (Just to see him and to hold him in my hands) (JISSI). Jodi's thoughts and fantasies about her baby was apparent in her collage, where pictures depicted joyful interactions with an infant;, she inserted the text: "Die beste wat 'n ma kan doen vir haar kind is om haar kind met liefde groot te maak" (The best that a mother can do for her child is to raise her child with love) (JCOL).* She had a name in mind for her baby, but was still deciding. Her parents assisted her to prepare for the baby's arrival; she bought almost everything that the baby was going to need: *"Ja, klere en bottels amper alles al so te sê al gekoop"* (*Yes, clothes and bottles almost everything has been bought) (JISSI).* She inserted pictures of diapers and wet wipes in her collage.The support Jodi received from her parents and others assisted her to form a strong attachment with her unborn baby.

4.3.1.5 Social support

Support - parents

Although it was a very difficult and stressful time for Jodi and her parents initially, their support had a significant influence on her acceptance of her pregnancy and to make important decisions such as going back to school. The article excerpts about a pregnant teenager inserted in her collage reflected her mother's feelings *"Soos enige*

ma het sy groot drome gehad vir haar kind. Om vyftien jaar oud en swanger te wees was nie een daarvan nie. Maar nou was daar 'n baba aan die kom en die werklikheid kon nie weggewens word nie" (The same as any mother, she had big dreams for her child. Being fifteen years old and pregnant was not one of them. But there was a baby on the way and the reality could not be wished away) *(JCOL).* When asked at what stage she became excited about the pregnancy she answered once her parents also accepted it: *"toe my ma-hulle dit ook aanvaar het" (when my parents also accepted it) (JISSI).* Another significant supportive figure during Jodi's pregnancy was her boyfriend.

Support - baby's father and his parents

Jodi's boyfriend played an important role in forming an attachment with her baby. As described above he requested that they should rather keep the baby instead of aborting the pregnancy. He remained supportive throughout her pregnancy. Although still a school going through adolescence himself he accepted the responsibility of fatherhood and made a commitment to the unborn baby. Jodi's desire to have him involved can also be seen in the pictures of loving fathers included in her collage. Jodi also enjoyed the support of her boyfriend's parents. The paternal grandmother was going to take care of the baby during the day, when Jodi went back to school after the birth.

Support - friends, peers and school

Jodi related that her school friends accepted her pregnancy and that the school was making arrangements for her to write her exams just prior to the birth in the school office. In addition the headmaster informed her parents that she could continue coming to school during her pregnancy for as long as she was able to (JFGI). She was planning to go back to school after the birth of the baby as soon as possible.

4.3.2 Second case: Ashleen

Ashleen was 15 years old and 30 weeks pregnant at the time of the data collection. She lived with her mother and four siblings and her parents were separated. Although she lived with her mother she always enjoyed a very good relationship with

her father prior to her pregnancy. Ashleen and the father of the baby were not in a relationship anymore; however, he was very supportive of her and the pregnancy.

4.3.2.1 Emotions

Uncertainty during early pregnancy - low MFA

Ashleen suspected that she was pregnant, but only did a pregnancy test at five months of gestation. Initially Ashleen concealed her pregnancy by wearing bigger clothes and jackets. Although Ashleen suspected it, she was still shocked when the pregnancy was confirmed and felt disappointed in herself: *"… at first I couldn't believe it. I felt very disappointed in myself because I am still young" (AISSI).* At that time she had already ended the relationship with the baby's father. After she disclosed the pregnancy to him, he wanted them to continue their romantic relationship; however, Ashleen was not willing to do this, because her romantic feelings towards him had changed, but she welcomed his support.

Ashleen did not have the courage to speak to her mother about the pregnancy. Her mother realised she was pregnant and that Ashleen was not going to speak to her about it. During the focus group interview she stated that her mother knew before she even knew: *"Ek het nie vir my ma gesê nie my ma het vir my gevra, maar ek het geweet. Ek het nie die guts gehad om my ma te sê nie" (I did not tell my mother - she asked me, but I knew. I did not have the guts to ask her) (AFGI).* Hence her mother initiated a conversation about the pregnancy, because she was concerned about Ashleen and the baby's health. She was also worried that she would be blamed if anything went wrong with the pregnancy: *"She brought it up because something told her that I wouldn't tell her. So she was going to bring it up herself, because something could happen to me and they could blame her (AISSI).*

Ashleen did not have the courage to tell her father either; her aunt told him. He was very shocked and furious when he heard about the pregnancy and has since refused to speak to Ashleen: *"Nee, my pa het gehoor by my auntie, maar toe wou hy niks van my hoor nie, tot nou toe het ek nie saam met hom gepraat nie" (No, my father heard it from my Auntie, but then he did not want to hear anything from me, until now I have not spoken to him (AFGI).* This seemed to be difficult and stressful for Ashleen, since she used to be his most beloved daughter: "*It was very … (laughs) I was his favourite*

(laughs). *Ja, now he can't believe it" (AISSI).* She hoped that he might accept it after the birth of the baby, as he reacted in a similar manner when her sister fell pregnant unexpectedly: *"He was like that with my sister's baby too; also then afterwards he accepted it" (AISSI).* Despite her unsupportive father, her mother's support assisted her to accept her pregnancy.

Acceptance and reality - emergent MFA

Ashleen's mother took her for her first antenatal visit. The ultrasound image of her baby was an amazing experience for her. She realised that her baby was really there and did not have words to describe this experience. Another experience that made the pregnancy more real for her was the onset of fetal movements; she was very surprised when she felt it for the first time. She thus began to form a mental representation of her unborn baby as a separate person and so an attachment emerged.

Excitement - strong MFA

It was difficult for Ashleen to accept her pregnancy; at the time of the interviews she stated that she was only then starting to accept it: *"Mmm, I am starting to accept it now. I am starting to accept the fact that the baby is there" (AISSI).* However, Ashleen's attachment to her unborn baby increased and was strong at the time of the interviews. She described her feelings towards her unborn baby as being indescribable, *"very excited*" and *"can't wait till she comes" (AISSI; AFGI).* Her only fear was to give birth and she preferred not to think about it: *"I don't want to think about it" (AISSI)*. She described how she looked down the hallway of the maternity ward when she went for her antenatal visit at the hospital clinic: "*it looked like hell in there" (AISSI).*

4.3.2.2 Significant pregnancy events

Onset of fetal movements

As described previously, the onset of fetal movements was an unexpected and startling experience for Ashleen. She reflected that she was between five and six months pregnant when she felt the baby moving for the first time. She was very surprised and immediately told her friends: *"I told my friends that something moved in*

me now and they were like, no man, it is just my imagination. I said no, I can really feel something is really moving in me now (laughs)" (AISSI).

Ultrasound

Because she concealed her pregnancy for some time before she and her mother spoke about it, Ashleen felt guilty and was very worried that there might be something wrong with her baby. She was already six months pregnant when she went for her first antenatal visit at the local clinic. She felt relieved and very happy when the doctor told them that the baby was healthy: "*Happy because they said that everything is okay with the baby and I was glad because actually I had to hide it away a lot. So I thought it could have done something to the the baby and so, but the baby is growing well (AISSI).* She found it surprising that after she told everyone and she did not have to hide it anymore the pregnancy suddenly became noticeable: "*But I wasn't so big, but oh, when I told, when it was finally out, I popped out (laughs)" (AISSI).* Ashleen found it hard to describe her feelings when she saw her unborn baby for the first time during the ultrasound scan: *"I can't explain the feeling but it was a very good feeling" (AISSI) and* in the focus group interview she reflected that she could not believe it *"[Ek] kan dit nie glo nie" (AFGI)***.**

She reflected that the fact that she was expecting a baby became more real to her: *"Yeah I was like … how can I say, she is really there (laughs)"* and it made it *"exciting" (AISSI).* In addition to hear the baby's heartbeat for the first time also made her very happy. However, she felt disappointed when the doctor informed her that she was expecting a girl; she would have preferred to rather have a boy. She perceived it as easier to raise boys than girls: "*Mmmm, I actually wanted a boy because it's much easier (laughs) …, a girl normally gives the problems … when they, when they grow up and so" (AISSI).* Subsequently she has accepted that she was expecting a girl, and still formed a strong attachment.

During the third trimester of her pregnancy Ashleen contracted a bladder infection that made her very worried about the health of her baby. Her mother took her to a private doctor for another ultrasound scan, and she felt extremely relieved when she was told that the baby was still developing normally: *"The baby is growing well and everything (laughs). I was happy because I thought that something was wrong with*

my baby" (AISSI). Her concern for the wellbeing of her unborn baby was evidence of her commitment to the baby.

4.3.2.3 Commitment to the unborn baby

Health behaviours

Because of her increasing attachment she became motivated to change her lifestyle to ensure the health of her unborn baby. At times this was very challenging for her, but she continued being determined and motivated. Ashleen was eating healthier and smoking less cigarettes since she suspected that she was pregnant. It was especially difficult for her in the beginning to cut down on cigarettes. She craved cigarettes and even cigarette ash: *"Ja … I don't actually, how can I now say, crave for smoking like first. But, how can I say, if I eat the whole time. I don't think of cigarettes and so, but when people come there and they smoke and I get that smell then I [crave smoking] … (laughs)" (AISSI).* She occasionally succumbed to the urge to smoke, especially when she saw her friends smoking, although she started spending less time with them, one of the lifestyle changes that she made.

Socializing

When asked the question if she ever regret being pregnant she replied that during the early stage of her pregnancy one of the reasons that she sometimes regretted being pregnant was because of the constraints of being pregnant: *"Sometimes, but that was in the beginning because then I was like now, I have to stay at home. I can't go out to the mall and stuff like that" (AISSI).* It was also difficult for her to give up sport and physical activities that she enjoyed prior to being pregnant: *"Like, mmm, taking part in sport and stuff like that. I was very much attached to taking part in sport and jogging on the beach and so" (AISSI).*

Another way in which Ashleen demonstrated her commitment to her unborn baby was her motivation to finish her school career: *"I am just going to do it for my baby and finish school" (AISSI).* She felt that one needs to at least obtain a matric certificate in order to be employed: *"And at least have something behind my name because where can you go look for a job without matric" (AISSI).*

Seeking information

Ashleen regularly spent time in the evenings researching various pregnancy topics on the internet. She related during the focus group interview how she played music for her unborn baby to turn her position in the womb: *"Ja my baby het breech gelê en toe lees ek op die internet as jy jou phone hier sit by jou bene dan sal die baba af kom om te kom luister, of 'n flashlight skyn, toe doen ek daai toe draai sy" (Yes, my baby was in a breech position and then I read on the internet that if you put your phone here between your legs, the baby will come down to listen, or if you shine a flashlight, so I did that and then she turned) (AFGI).*

She was very cautious of not eating anything that could be harmful to the baby. Whenever she craved something she would first do some research on the internet to find out if it could be harmful to her baby. She also researched healthy remedies to alleviate pregnancy symptoms such as heartburn: *"Like the stuff that I crave for, if it is healthy? Like if it is ok if I eat it, stuff like that" "Yeah and how it affects the baby and so on" (AISSI).*

4.3.2.4 Interaction with the unborn baby

MFA behaviours

Ashleen was very excited about the baby's birth and is in the process of preparing for the baby's arrival and has bought a great deal of pink clothes. She already decided on a name for the baby as well.

She enjoyed interacting with her unborn baby. She often stroked her stomach to feel the baby and was very aware of the baby's movements: *"And I tap my tummy a lot and rub it" (AISSI).* She found it exciting when her baby kicked but also became worried if the baby did not kick for a while: *"Actually, how can I say, it's very exciting, but if she don't kick, then I started to worry and so, because I am used to her kicking a lot" (AISSI)* and *"Ek het ook gewonder as die kind dan nou nie skop nie, jy is dan gewoond daaraan." (I also wondered, if the child did not kick, because you are used to it) (AFGI).* She then worried if the baby was okay and if she did something wrong.

MFA thoughts and fantasies

Ashleen reflected that she dreamt about her baby and talked to her sometimes. She especially enjoyed playing music for the baby, mostly *"love songs" (AISSI).* During her last ultrasound scan she got two sonar pictures which she often studied: *"trying to figure out what is that, what is that but I can't really see" (AISSI)*. She was especially looking forward to holding her baby and stated that it would make her *"very happy" (AISSI)* and was looking forward to her baby's arrival *"Ek kan nie wag nie" (I cannot wait) (AFGI).*

4.3.2.5 Social support

Social support - parents

Ashleen described her mother as the most prominent person who supported her. A consequence of her pregnancy was that it improved her relationship with her mother. She was always afraid to talk to her mother about personal issues, but since being pregnant she felt that she could talk to her about anything: "*My mother is okay. She is hurt but she supports me in everything" (AISSI).* In addition, her mother was willing to look after the baby during the time when Ashleen was in school. Ashleen's father did not approve of her being pregnant and therefore refused to speak to her, thus he was not supportive at all. It seemed as though it was difficult for her to deal with her father's rejection since being pregnant; she sounded sad when she spoke about it and mentioned it explicitly in both interviews.

Social support - baby's father and his parents

Besides her mother, Ashleen also sometimes talked to the baby's father about the baby and the pregnancy: *"He is very excited, can't wait" (AISSI)*. He often touched her stomach to feel the baby kick or move. Although they were not involved in a romantic relationship she wanted him to be involved with the baby after the pregnancy: *"Ja … he has to support his child. I don't, how can I say …"* (AISSI). Ashleen did not mention any support from the paternal grandparents of the baby during the interviews.

Social support - friends, peers and school

In the focus group interview Ashleen described how her classmates wanted to feel when the baby kicked and they often asked her whether the baby was kicking; at times this became a nuisance for her. She received a great deal of support from her close friends at school: *"… my friends are very, very, how can I say, also excited and can't wait for the baby to come and stuff like that. They do a lot of stuff for me too that they never done and stuff like that (laughs) like tying my shoes" (AISSI).* It was uncomfortable for Ashleen when the children stared her, but she stated that she decided not to be concerned about what other people think.

4.3.3 Third case: Sammy

At the time of the interviews Sammy was 15 years old, and in Grade 10. She was 30 weeks pregnant. She lived with her parents. She and the baby's father were still romantically involved.

4.3.3.1 Emotions

Uncertainty during early pregnancy - low MFA

During the first trimester Sammy did not realise that she was pregnant. She was tired all the time and slept more than usual. It was her mother who suspected that she might be pregnant. When she was three months pregnant her mother took her to a neighbouring nurse for a pregnancy test. Sammy felt very shocked and scared when she found out that she was pregnant. *"Ek was baie bang, ek het nie geweet wat om te sê nie" (I felt very scared, I did not know what to say) (SISSI). "My ma was, net seker vir 30 minute, was sy kwaad vir my. Toe sê sy sy sal vir my ondersteun, sy verstaan en so. En ons twee het toe saam gehuil" (My mother was angry for about 30 minutes and then she told me that she would support me and that she understands and so on. We both cried together) (SISSI).*

Although Sammy's mother was supportive, her father was furious and told her that she could no longer stay in their house*: "Maar aan die een kant, my pa (pouse) … my pa het vir my uitgesit (uit die huis) vir drie weke"* (*But on the one side my father, (pause) my father put me out (of the house) for three weeks) (SISSI).* She went to live with her boyfriend and his family for three weeks. *"En toe het ek maar by my*

boyfriend gebly wat my kind se pa is nou en toe het ek by hom gaan bly" (Then I went to live with my boyfriend who is the father of my child and then I went to live with him) (SISSI). But after three weeks her father apologised to her and asked her to come back home again: *"… maar toe kom haal hy [my Pa] vir my en toe sê hy weer maar hy is jammer en so, nou is alles weer oraait …" (… but then he [my father] came to fetch me and apologised, now everything is okay again) (SISSI).* Since then she has lived at home with her family again.

Sammy's boyfriend is also still attending school. When Sammy told him about the pregnancy, he thought at first she was joking: *"Hy het gedog ek maak 'n joke, toe wys ek vir hom die ding [swangerskaptoets], toe wil hy heeltyd rook" (He thought I was joking, but then I showed him the thing [pregnancy test], then he wanted to smoke the whole time (SFGI)*. She showed him the pregnancy test results. He was so shocked and although he had never smoked before, he started smoking when she told him: *"My outjie het nog nooit gerook nie maar daai dag wat ek vir hom gesê het …" (My boyfriend had never smoked before but that day when I told him …) (SFGI).* At times it was very difficult for Sammy to be pregnant; she considered having an abortion but her mother spoke to her about this and her support enabled Sammy to continue with her pregnancy.

Acceptance and reality - emergent MFA

Sammy started to accept her pregnancy and an attachment to her unborn baby began to form. During the second trimester of her pregnancy, Sammy went for an ultrasound scan. This had a profound effect on her feelings towards her unborn baby and it facilitated feelings of acceptance and reality. The onset of fetal movements surprised her, and consequently she became so excited whenever her baby kicked that she had to tell someone. Sammy seemed to adjust well to being pregnant; it became a life changing experience for her.

Excitement - strong MFA

Sammy's pregnancy has given her life purpose, something to live for: *"… nou wat ek swanger is, nou is dit amper so ek het iets om voor te lewe, so ek kan aandag aan my lewe gee …" (… now that I am pregnant, now it is almost as if I have something to live for, so I can give attention to my life …) (SISSI).* Sammy is extremely excited

about her baby. She described her feelings: *"Ek voel excited, bly, ek voel alles, ek voel perfek, ek worry nie oor nie, ek weet ek is onder ouderdom, maar vir my is dit amper so ek het 'n blessing gekry. Ek kan nie help nie, ek, dis net so" (I feel excited, happy, I feel everything, I feel perfect, I do not worry about, I know I am underage, but for me it is almost as if I received a blessing. I cannot help it, it is just so) (SFGI).* Sammy also demonstrated through her collage how she not only wanted to be the best mother for her child and parents but also wanted to be*: "'n ma na God se hart" (a mother to God's heart) (SCOL)* (see Addendum D).

The only thing that she was afraid of was to give birth, but she felt that she would be all right: *"Ek voel baie bang want al my vriende sê vir my joe, dis baie seer, die pyne is seer en die kind kry. Ek voel bang, maar ek voel, nee, ek gaan reg wees" (I feel very scared because all my friends say, wow, it is very painful, the pains are sore and the giving birth. I feel scared, but I feel, no, I will be okay) (SISSI). However,* she tried not to stress too much because she heard that it was not good for the baby. In one of the collages that Sammy made (she made two) she wrote*: "My love for you will never fail although I fail a lot of things in life" (SCOL).* Certain significant pregnancy events made a strong contribution to Sammy's development of MFA.

4.3.3.2 Significant pregnancy events

Onset of fetal movements

With first movement of the baby Sammy felt surprised and was not sure what the movement meant. She wondered whether it was the baby kicking: *"Is dit nou rêrig 'n skop? Wat is daai?" (Was that now really a kick? What was that?*) *(SFGI).* Ever since she has become very aware of her unborn baby's fetal movements and described how it made her feel closer to her baby when he kicked.

Ultrasound

When asked how she felt when she saw her baby for the first time during the ultrasound scan Sammy replied that her heart started beating faster and that she felt as if she was in heaven: *"My hart het vinniger geklop, rêrig. Ek het gevoel of ek in die hemel was" (My heart beat faster, really. I felt as if I was in heaven) (SISSI).* She did not want the doctor to cease performing the ultrasound: *"En terwyl hulle nog die foto,*

die ding, so scan dan beweeg die kind so in my maag en ek kan voel hoe beweeg hy, of daai hartklop dingetjie het het ek wou aanmekaar hê die dokter moet daai vir my opsit" (*And while they were still doing the photo, the thing, scan, then the child moved in my stomach and I could feel how he moved, or that heartbeat thing, I wanted the doctor to continue putting that thing on for me*) *(SISSI).* Although she initially would have preferred a girl at the time of the interview she was very excited about the fact that she was expecting a boy. She has four sisters and therefore hoped that her father would enjoy her son very much, and that made her happy.

Sammy became very excited about her pregnancy and her unborn baby. Sammy's pregnancy was a life changing experience for her. She completely took on the role of becoming a mother and the responsibility to care for another human being. It gave her life purpose and something to live for. This was in sharp contrast to her initial feelings of not wanting the baby. The health of her baby became very important to her and she tried very hard to change her lifestyle in order to ensure this.

4.3.3.3 Commitment to the unborn baby

Health behaviours

Sammy ate healthier and more since being pregnant; she especially enjoyed eating fruits. She stopped drinking any alcoholic beverages. But it has been very difficult for her to stop smoking cigarettes; she tried very hard not to smoke and managed to only have a cigarette now and again: *"Ek het gerook en gedrink maar nou ek drink nie meer nie, maar dis baie swaar vir my om net op te hou rook. Ek rook miskien een keer 'n dag, so dis baie swaar vir my. Ek sê elke dag sê ek vir myself nee, ek gaan nie rook nie, maar as ek myself vind dan rook ek. Maar so ek rook minder as wat ek voorheen gerook het" (I smoked and drank but I don't drink anymore, but it is very difficult for me to stop smoking. I smoke maybe once a day, so it is very difficult for me. I tell myself every day, no, I am not going to smoke, but then I find myself smoking again. But I smoke less than I did before) (SISSI).* She was adamant that she wanted a healthy, chubby baby and mentioned this in the interviews and even included a picture to demonstrate in her collage with text *"Dis hoe vet my babatjie moet wees as ek hom ontvang" (This is how fat my baby must be when I receive him" (SCOL).*

Socializing

She described how she did not care about herself or anyone else before: *"Ja, ek was amper so, ek het nie omgegee oor myself nie. Ek het, ek besef nou eerste, ek het nie eers geworry oor wat mense sê of goeters nie" (Yes I almost did not care about myself. I did, I realise now for the first time, I did not worry about what people said or things) (SISSI).* Sammy used to often get into trouble at school and at home. She recounted how she was already drinking alcohol and smoking cigarettes in grade eight and being drunk at school. She described herself as being a problem child at school. The change in her behaviour was so noticeable that even the headmaster of the school pointed out to her that she has matured since being pregnant: "*Die hoof sê dan self ek het verander nou, hy kan nou sien ek word nou groot (The headmaster himself says that I changed, he could see I am growing up) (SISSI)*. She narrated that she never listened to her parents in the past. *"Ek het verander, regtig ek was, jô, ek was 'n kind wat nooit vir my ma-hulle geluister het nie" (I changed, really, I was, wow, I was a child who never listened to my parents) (SISSI).* However, now because of the pregnancy, she feels like another person. She further described how the pregnancy made her more responsible. She was now more motivated to focus on her schoolwork as she wants to give her child a better life: *"Dit maak my meer verstandig om vir … ek was nie stabiel op my skoolwerk nie. Maar omdat ek nou 'n baba het, nou voel ek, nee, ek wil vir my kind 'n beter lewe gee" (It made me more responsible to … I was not consistent with my schoolwork. But because I have a baby now, I feel no I want to give my child a better life) (SISSI).* Before she was pregnant she used to focus on her own needs, but she now has a responsibility to her child: *"Toe ek nie 'n baba gehad het nie toe voel ek vir myself ek kan op my eie klaar kom, maar nou ek het 'n responsibility. Ek het nie daai tyd responsibilities gehet nie. Ek het nie geworry oor ander mense en so nie. Nou voel ek om my kind regtig 'n beter lewe te gee" (When I did not have a baby I felt that I can get by on my own, but now I have a responsibility. I did not have responsibilities at that time. I did not care for other people and so. Now I feel I want to give my child a better life) (SISSI).*

Seeking information

Sammy gathered information on pregnancy topics since finding out that she was pregnant. She mostly searched information on the internet via *"Google".* Her mother

bought her some teenage pregnancy books to read. When asked about specific topics that she wanted to know more about she answered: *"Ek wil alles weet!" ("I want to know everything!") (SISSI).* Sammy's commitment and increased MFA, became evident through the multitude of ways in which she interacted with her unborn baby.

4.3.3.4 Interaction with the unborn baby

MFA behaviours

Sammy enjoyed interacting with her unborn son. When asked what made her feel closer to him, she replied that she felt closer to her unborn baby when he kicked; it also made her excited. She did not know that life could be so joyful: *"Ek is baie excited, regtig, ek het nie geweet die lewe sal vir my so so joy is nie" (I am very excited, really, I did not know that life could be so joyful) (SISSI)*. Whenever she felt the baby move she asked the person near her to feel it as well. She was disappointed when the movement ceased everytime the person laid their hand on her stomach: *"Ek voel baie ... as ek 'n skop of 'n beweging voel dan voel ek so excited ek moet vir iemand sê, maar as ek vir iemand sê soos sê nou maar my baba skop nou en ek sê 'kom voel hier, kom voel hier' en dan skop hy nie meer nie" (I feel very … when I feel a kick or a movement then I feel so excited that I have to tell someone, but when I tell someone that my baby is kicking now and I say 'come feel here, come feel here' that he stops kicking) (SISSI).*

Sammy became very worried when she did not feel her baby's movement for a while. She recounted how her baby did not kick for the whole day at school. This made her so stressed that she was not able to focus on her schoolwork: *"Ek was heel dag bekommerd, ek kon nie, ek kon nie eers reg gefokus het op die skoolwerk nie" (I was worried the whole day, I could not, I could not even properly focus on my schoolwork) (SISSI)*. He only moved again while she had a telephone conversation with her boyfriend that afternoon at home: *"Toe ek by die huis kom toe bel my boyfriend vir my en toe skop my kind eerste" (When I came home, my boyfriend phoned me and only then did my child kick again) (SISSI).*

Other ways in which she interacted with her unborn baby were that she often stroked her stomach and talked to her baby. She shared how her mother often spoke to the

baby as well and how the baby kicked in response to her mother's voice in the mornings when she woke Sammy, or while she was taking a bath: *"Ja, my ma ook, as ek my was dan kom praat my ma; as my kind my ma se stem gehoor het soos in die oggende wanneer ek slaap dan kom maak my ma mos vir my wakker in die oggende, dan staan ek op dan gee my kind sommer groot skop elke oggend!". (Yes, my mother also, if I wash myself then my mother comes to talk, when my child heard my mother's voice in the mornings when I sleep then my mother comes to wake me, then I get up then my child gives a big kick, every morning!) (SISSI).*

Sammy was fully prepared for the arrival of her baby. They painted her room and put the baby's clothes and belongings in his drawers: *"… en in die kassies gesit, ons het al geverf in die kamer en alles" (… and put it in the drawers, we had painted the room and everything) (SISSI).* Her mother bought everything that the baby needed and even washed the clothes. She thought that this was too soon and not necessary yet, as she was only seven months pregnant: *"… maar ek sê vir haar dis nie nodig nie, ek is mos eers sewe maande swanger" (… but I told her that it is not necessary yet, I am only seven months pregnant) (SISSI).* Sammy adamantly responded to the question of who would be looking after the baby when she went back to school after his birth by stating that she was going to look after her own baby. Her baby would be in her mother's crèche at their house only during the time that she was at school*: "Ek gaan eintlik self na my baba kyk, maar as ek in die skool is, my ma is mos 'n crèche by die huis, so as ek in die skool is, kan my ma solank na hom kyk en as ek uit die skool uitkom dan ek weer" (I am actually going to look after my baby myself, but when I am in school, my mother has a crèche at our house, so then when I am in school, my mother can look after him so long and then when I am back from school I will look after him again) (SISSI).*

MFA thoughts and fantasies

Sammy realised that her baby was a separate person but felt very close to him. In her collage she *wrote "Ek en jy is twee maar ek voel soos een"* (*You and I are two but I feel we are one) (SCOL).* She often dreamt about him; the content of her dreams were about how she and her baby were happy and everything was just perfect in her dreams: *"Ek droom dat ons twee is gelukkig. Alles is net perfek altyd as ek iets droom" (I dream that the two of us are happy. Everything is just perfect always*

when I dream something) (SISSI). As previously stated she imagined that her baby would be perfect for her in the way that she perceived perfection. She wanted him to be healthy and chubby: "*Ek dink … dit gaan die perfekte kind wees, nie perfek nie maar my beeld, ek soek nie maer baba nie, maar 'n bietjie dikkerig. My baba moet gesond lyk" (I think … it is going to be the perfect child, not perfect, but my image, I don't want a skinny baby, but a little chubby. My baby must look healthy) (SFGI).* Sammy already decided on a name for her baby as well; during the interviews she often referred to him as *"my child".* Sammy's strong attachment was greatly influenced by the support of the significant people in her life.

4.3.3.5 Social support

Social support - parents

Although initially shocked, Sammy's parents, her boyfriend, as well as his family were very supportive of her and the pregnancy. At one point she considered rather to abort the pregnancy: *"Ek het op 'n slag gevoel, nee, ek kan nie nou nie meer nie, ek het vir my Ma gesê ek sal dit oorweeg om vir 'n aborsie te gaan …" (At one point I felt that no, I cannot go on anymore, I told my Mother that I would consider going for an abortion) (SISSI).* Her mother offered to adopt the baby: *"… maar toe sê my ma nee, toe sê ek vir haar maar ek wil nie die kind hê nie. Toe sê sy as ek nie die kind wil hê nie dan kan ek maar die kind vir haar gee*" (… *but then my mother said no, then I told her but I did not want the child. Then she said if I did not want the child then I could give the child to her*) (SISSI). But after her mother spoke to her she decided to keep the baby. Sammy's mother is very excited about the baby and supports her in everything. She has also become attached to the baby during Sammy's pregnancy: *"My Ma is ook baie excited" (My mother is also very excited) (SISSI).* As described previously Sammy's father reacted very harshly and forbid her to stay at home after he found out that she was pregnant; however, he began to accept her pregnancy and also became supportive. She hoped that because she was expecting a boy this would make her father happy.

Social support - Baby's father and his parents

Sammy's boyfriend was very supportive as well. She was surprised that he stood by her through the pregnancy: *"Ons is nog altyd bymekaar. Ek was verbaas want ek het*

altyd my vriende, ek het altyd gesien my vriende toe hulle verwag het toe het hulle outjies vir hulle sommer netso gelos terwyl hulle nog verwag" (We are still together, I was surprised because I always saw with my friends, I always saw my friends when they were pregnant their boyfriends just left them while they were still pregnant) (SFGI). She related that the baby's father is very excited and she felt that at times he was more concerned with the baby than with her, which made her jealous: *"Hy voel baie excited, somtyds skuif hy net vir my eenkant en wil van my baba praat, so ek sê vir hom nee, hy gaan vir my 50 persent gee en vir my kind 50 persent" (He feels very excited, sometimes he shifts me aside and only wants to speak about the baby, so I told him no, he is going to give me 50 percent and for my child 50 percent) (SISSI).* She reported that he often stroked her stomach. In her collage she pasted a picture of a boy playing soccer with his father and wrote: *"My kind en sy pa moet gelukkig wees en mekaar so lief hê soos ek hulle lief het" (My child and his father must be happy and love each other just as much as I love them) (SCOL).*

At the time that Sammy was considering to abort the pregnancy her boyfriend's parents also spoke to her and assured her of their support and that an abortion was unnecessary: *"Sy pa-hulle en almal het ook saam met my gepraat en toe sê hulle vir my maar nee, ek hoef nie 'n aborsie te maak nie want hulle gaan vir my ondersteun in dit" (His parents and everyone also spoke to me and then they told me no, I did not need to have an abortion because they were going to support me in this) (*SISSI). Everyone supporting her became equally excited about the pregnancy and baby. She went to a state clinic for her first sonar and received one sonar photo to take with her. Her boyfriend's mother was so excited to also see the baby that she took Sammy for another ultrasound at a private doctor: *"… die kliniek het eerste vir my vir na 'n sonar laat gaan en toe was dit 'n seun en toe is my boyfriend se ma so excited toe wil sy nou rêrig vir haar eie oë sien … want ek het net een, mmm, hulle gee net een photo en toe, toe het ek, toe kan ek mos nou nie vir haar daai photo gee nie, want dis my ene en toe se sy, nee, sy gaan self, maar toe moet ons betaal want ons het op ons eie gegaan" (… the clinic sent me first for an ultrasound and then it was a boy and then my boyfriend's mother was so excited, then she wanted to really see with her own eyes … because I have only one, mmm, they only give one picture and then, then … I had … then I could not give her that picture, because it is mine and then*

she said no, she was going herself, but then we had to pay because we went on our own) (SISSI).

Social support - friends, peers and school

Sammy also enjoyed the support of her friends and classmates at school. She seemed to be a lively extrovert who was very expressive, thus when she felt her baby kick for instance, as described above, she would pull anyone closer to feel the movement as well. Even the headmaster and school secretary were aware of Sammy's change in behaviour since being pregnant, and seemed very supportive. Sammy also related in the focus group interview how her classmates stroked her stomach. It was also interesting that Sammy had friends who had also been pregnant, and they shared with her their experiences and knowledge of pregnancy.

4.4 CROSS CASE PRESENTATION AND DISCUSSION OF THE FINDINGS

4.4.1 Introduction

The following section will present the findings across the three cases described above. These findings will be discussed within the context of the relevant literature according to the themes and categories that emerged through the data analysis. The data was collected through semi-structured individual interviews with each participant, a focus group interview with the three participants as well as a visual text method, namely a collage. The data collection was guided by the research question and sub-questions.

The participants preferred to complete the collages in their own time privately and only two participants made collages, namely Jodi and Sammy; subsequently, individual interviews were also held about their collages. A nearly similar progression pattern of the development of MFA was identified across all three cases that were researched. There were some overlaps between the themes and categories that emerged. See table 4.3 for an outline of the themes and categories.

4.4.2 Emotions

4.4.2.1 Uncertainty during early pregnancy - low MFA

During the early stage of their pregnancies the pregnant teenage mothers were filled with feelings of uncertainty about the important implications of being pregnant. It was also mostly a very stressful period in their pregnancies as will be discussed further below.

All three participants were hesitant in confirming their pregnancies. Jodi suspected that she was pregnant but only did a pregnancy test when she was already four months pregnant. Ashleen had a suspicion that she might be pregnant but only did a pregnancy test when she was five months pregnant. Sammy did not realise that she was pregnant; however, her mother suspected it and took her for a pregnancy test when she was three months pregnant. Had her mother not become suspicious, Sammy's pregnancy would probably also have been confirmed only in the second trimester of pregnancy. Thus the participants had not formed a substantial attachment with their unborn babies during the first trimester of pregnancy yet. In a study done by Rowe et al. (2013) comparing MFA during adult and teenage pregnancy, a significant finding was also that MFA during the initial stages of teenage pregnancy is much lower than in adult pregnancy (see chapter 2, section 2.4.2). It was therefore found that the participants only realised that they were pregnant in the second trimester of pregnancy. Not knowing that they are pregnant, or a suspicion that they are pregnant, understandably leads to a lower MFA. This is confirmed by Rowe et al. (2013) who explain one of the reasons for low MFA during the first trimester of teenage pregnancy, is that teenagers realised that they are pregnant at a later gestational stage than adults do.

None of the participants planned their pregnancies, and therefore felt surprised, shocked and very stressed when their pregnancies were confirmed. Ashleen described feeling very disappointed in herself as she was still so young. She also stated that in the beginning of her pregnancy she regretted being pregnant. These feelings were affirmed by Jodi and Sammy and led them to initially consider termination of the pregnancy. Most teenage pregnancies are unplanned and therefore increase the risks for unhealthy pregnancy behaviours, termination of the

pregnancy and poorer perinatal and postnatal consequences (Feldman, 2012; Pittman et al., 2009) (see chapter 2, section 2.4.3.5). In addition, Rowe et al. (2013) explains (see chapter 2, section 2.4.2) that other reasons for not becoming too attached to the fetus during early teenage pregnancy is that the teenage mother is more likely to consider terminating the pregnancy and, therefore, emotionally protects herself from becoming too attached to the fetus.

Their stressful feelings consisted mostly of fear about how their parents would react to the news. This fear was so overwhelming that Jodi and Ashleen initially hid their pregnancies from their parents. The fathers reacted much more enraged than did the mothers. Feldman (2007) found that the support that the teenager expects to receive during pregnancy plays an important role in the development of MFA (see chapter 2, section 2.4.3.1). It seemed as though none of the participants expected supportive reactions from their parents, especially from their fathers and they did not have the courage to inform them about their pregnancy. In addition Feldman (2007) stated that a pregnant teenager with a secure attachment style and positive internal working model will expect better support (see chapter 2, section 2.4.3.1 & 2.4.3.2). The findings of this study suggest that the participants might be insecurely attached to their parents or some of their parents and thus could have an internal working model that did not expect their support.

It was easier to disclose the pregnancy to the fathers of the babies than to their parents. Jodi and Sammy were still involved in romantic relationships with the fathers of their babies, who were also still at school. Although their boyfriends were also shocked and stressed when they heard the news, they were very supportive. Ashleen was no longer romantically involved with the baby's father when she found out that she was pregnant and disclosed the information to him. He was not that surprised and replied that he knew all along. In fact he wanted them to continue their romantic relationship. But Ashleen did not want to become romantically involved with him again as she said that her romantic feelings towards him had vanished. Thus all three participants were romantically involved with the fathers of their unborn babies at the time of conception. This finding is affirmed by Auslander et al. (2006) who stated that sexual activities during the adolescent developmental phase mostly happen within the context of intimate relationships (see chapter 2, section 2.4.1).

Although Ashleen and the baby's father were not romantically involved anymore he continued supporting her throughout her pregnancy. Therefore all three participants were also supported by the fathers of their babies. This finding has been affirmed in the literature review (see chapter 2, section 2.4.3.1). In a study done by Figueiredo et al. (2006) with Portuguese pregnant teenagers, most were well supported by the baby's father and in close relationships with them. It took Ashleen longer to accept her pregnancy than the other two participants. This could perhaps have been due to her not being romantically involved with the baby's father at the time when she learned about her pregnancy. Another contributing factor could have been her father's disapproval and lack of support during her pregnancy.

To conclude, initially the participants of this multiple case study found it very hard to adapt to the knowledge of being pregnant. Instead of facing the role changes that this knowledge entails, both Jodi and Sammy considered ending their pregnancies. Although Ashleen did not mention abortion she only started to accept her pregnancy in the third trimester of pregnancy. This finding is confirmed by Rowe et al. (2013) who found that it is more difficult for a teenager to adapt and become used to the life changes the knowledge of being pregnant entails. Feldman (2007) affirmed the ambivalent feelings of the pregnant teenager due to the biological demands of pregnancy as well as the psychosocial and cognitive development of adolescence.

4.4.2.2 Acceptance and reality - emergent MFA

The significant events described in the next section, namely the onset of fetal movements and first ultrasound, together with the ongoing social support the pregnant teenagers received, led to the emergence of an attachment relationship between the teenage mothers and their unborn babies. This was evident in the participants' altered descriptions of their feelings towards their unborn babies and pregnancies during these events. They experienced these events intensely and positively. One participant did not want the ultrasound to end, another could not describe her feelings except that it was a good feeling, and another said it was wonderful to see and to hear. It seemed as if they were amazed by these experiences, and that it made their pregnancies more real for them. In concurrence Brandon et al. (2009) stated that the pregnant woman becomes increasingly more aware of the unborn baby as another human being throughout the development of

the pregnancy. Rowe et al. (2013, p. 327) describes the evolving MFA as an essential “psychological” occurence that facilitate the pregnant woman’s adjustment to being pregnant.

4.4.2.3 Excitement - strong MFA

The strong MFA that the participants described was often described with the emotional descriptor of ‘exciting’; the theme ‘love’ was evident in the collages of two participants. Interestingly the PAI (Prenatal Attachment Inventory) developed by Müller (as cited in Perlmutter et al., 2001) included excitement and love as central emotional experiences of pregnant women with strong MFA. Condon (1993) described the core experience of prenatal attachment as love (see chapter 2, section 2.3.1).

The wellbeing of their babies seemed very important to them. The literature pointed out that MFA increases during the course of pregnancy and is the strongest during the third trimester of pregnancy (Brandon et al., 2009). Their pregnancies changed their lives considerably; besides adapting to being pregnant it changed their relationships as well. They had to make adjustments regarding their social lives. Two participants reported that it improved their relationships with their mothers. It gave their lives meaning and purpose. The participant Sammy especially described how pregnancy changed her life. This is affirmed by Rowe et al. (2013) who stated that the role change that pregnancy can facilitate, may also bring about a chance to mature and for constructive transformation in the pregnant teenager’s life. The fact that the participants were still teenagers did change the developmental pattern of MFA, especially in the early stage of pregnancy. Significant pregnancy events contributed greatly to the development of MFA during teenage pregnancy.

4.4.3 Significant pregnancy events

4.4.3.1 Onset of fetal movements

The participants could vividly describe and recall the first time they felt their babies’ movement. They felt a sense of surprise, excitement and nervousness the first time. This finding is affirmed by Feldman (2007) who found that the physical changes of pregnancy and fetal movements made an intense impression on the pregnant

teenager. In numerous studies done during adult pregnancy (see chapter 2, section 3.2.2.2) the onset and increase of fetal movements have been found to have a strong influence on the development of MFA (Alhusen, 2008; Mehran et al., 2013; Rowe et al., 2013). Both Sammy and Ashleen described their first experiences of fetal movements by alluding to the awareness of a separate being: *"Wat is daai?" (What it that?)* (Sammy, SFGI) and *"Something just moved in me!" (Something just moved in me?) (*Ashleen, AISSI).

Thus one wonders if this could have been the beginning of a mental representation of the fetus (see chapter 2, section 2.3.1).

4.4.3.2 Ultrasound

The first ultrasound images and heartbeat sounds of the babies made a significant impact on the way that the participants perceived and experienced their unborn babies. Jodi described how wonderful the experience was for her to be able to see and to hear her baby. It is significant that Jodi stressed the good feelings that she had by seeing and hearing her baby, as researchers found that ultrasound imaging enhances the pregnant mother's experience of her unborn baby as a separate entity and the mental representation of the unborn baby has a positive influence on the development of MFA (Alhusen, 2008). Concurrently Ashleen had a very good feeling when she first saw her baby; she reflected that the reality of the unborn baby and pregnancy struck her: *"Yeah I was like … how can I say, she is really there (laughs)" (Ashleen, AISSI).* Sammy replied that her heart started beating faster and that she felt as if she was in heaven. She did not want the doctor to stop the ultrasound. An interesting recommendation in the literature is that the practitioner that does the ultrasound should consider the impact thereof on MFA and thus spend some time executing the ultrasound and also providing the patient with relevant information as well as a chance to ask questions as the methodology used can mediate the strengthening of MFA (Alhusen, 2008). This may be especially important for pregnant teenagers who experience ambivalent feelings towards their unborn babies and pregnancies. Numerous studies affirm the importance of antenatal care and especially ultrasound imaging for the healthy development of MFA (Alhusen, 2008; Brandon et al., 2009; Rowe et al., 2013; Sandbrook & Adamson-Macedo, 2004; Yarcheski et al., 2009) (see chapter 2, sections 2.3.2.3 and 2.4.3.4).

Ashleen experienced significant relief during the ultrasound as she was very worried about her baby's development. She was worried that her concealment of her pregnancy during the beginning might have harmed her baby. She felt relieved and very happy when the doctor told them that the baby was healthy. Sandbrook and Adamson-Macedo (2004) and Sandbrook (2009) identified protection of the fetus as the overwhelming emotion of MFA and motivation for MFA health behaviours that the pregnant mother feels towards her fetus. Ashleen's feelings of guilt and anxiety surrounding the health of her unborn baby may be related to the drive to protect the fetus.

The participants were informed during their first antenatal visit what the genders of their babies were. All three participants stated in the focus group interview that they would have preferred the opposite sex. However, the fact that they were not initially completely happy with their babies' gender did not dampen the excitement that they experienced in seeing and hearing their babies. It also did not affect the later development of MFA negatively. This finding is affirmed in a study done by Sandbrook and Adamson-Macedo (2004) who identified gender as a theme that could potentially have a negative influence on the development of MFA in the intitial stages of pregnancy but was not significant in the final stage of pregnancy (see section 2.3.2.11). It could perhaps be that the gender of the baby is not a central concern during unplanned and or first time pregnancies. In contrast to the other two participants Sammy was very happy that she was expecting a boy and hoped that it would make her father happy as they are mostly females in the household and another male may be met with her father's approval. One could interpret this as Sammy's desire to please her father and her need for his approval of her unborn baby. One of the founder researchers of MFA, Nurse Rubin (see chapter 2, section 2.3.1), affirms this interpretation by identifying that "ensuring that the baby is accepted by self and significant others" as the second task of four tasks that the pregnant mother must accomplish during pregnancy (Rubin, as cited in Brandon et al., 2009, p. 205). The growth of MFA led the participants to make changes to their lifestyles and made them incorporate healthier behaviour in their daily lives because they made a commitment to their unborn babies.

4.4.4 Commitment to the unborn baby

4.4.4.1 Health behaviours

Their pregnancies changed the participants' lives considerably. All three participants lead healthier lifestyles than before their pregnancies. They were motivated to make healthier lifestyle choices for the benefit of the healthy development of their babies. Although they ate more, they chose healthier foods, stopped drinking alcoholic beverages and cut down or completely stopped smoking. To cut down on cigarettes was especially difficult for Ashleen and Sammy. Ashleen described how difficult it was in the beginning and how she craved cigarette ash in the beginning of her pregnancy. Both Ashleen and Sammy tried to smoke as little as possible although this was still very difficult for them especially when they saw their friends smoking. Cremona (2008) affirmed that pregnant teenagers are more likely to smoke cigarettes, to use alcohol and illegal substances (see chapter 2, section 2.4.2). One wonders if the stress of being a pregnant teenager does not make it especially difficult for them to stop smoking, as it is known that cigarettes promote calmness.

Numerous studies found that stronger MFA promoted health behaviours (Alhusen et al., 2012a; Brandon et al., 2009; Maas et al., 2014a; Rowe et al., 2013; Sandbrook 2009) (see chapter 2, section 2.3.1). Choosing to engage in health behaviours is based on the desire to protect the unborn baby, and is a sign of taking on the parenting role by making the wellbeing of the unborn baby a priority above one's own needs (Rowe et al., 2013). Health behaviours are also related to Condon's (1993, p. 170) 5th disposition: "to identify and gratify the needs of the fetus" that stems from the need to prioritise the needs of the unborn baby. It has also been found that health behaviour during pregnancy assists the mother to adjust to the changing role and may protect the pregnant mother from depression after the birth (Brandon et al., 2009) (see chapter 2, section 2.3.3).

4.4.4.2 Socializing

Another interesting and significant lifestyle change for the teenage participants was regarding their social life. All three participants spent much more time at home as opposed to going out with their friends than they did before being pregnant; Jodi mentioned: *"ek gaan nie meer baie uit met my vrinne nie, ek is net by die huis" (I*

don't go out with my friends as much, I am only at home) (Jodi, JFGI). At the same time Sammy stated that it *"Is nou lekkerder by die huis omdat hulle gee vir my alles, meer voorregte" (It is better at home now, because they give me everything, more privileges) (Sammy, SFGI).* In the early stage of pregnancy Ashleen regretted being pregnant because of the constraints of being pregnant. She could not go out anymore as often as she always used to. Feldman (2007) affirms this finding, describing how the pregnant adolescent finds herself in a confusing situation. She requires more autonomy from her parents but at the same time also requires their support for her pregnancy. When one considers the psychosocial adolescent developmental phase of the participants in which the adolescent's attachment shifts from the parents to the peer group in order to form her own identity and finding her role in the world (Sharpe, 2003; Short & Rosenthal, 2008) (see chapter 2, section 2.4.1), one can understand why the physical constraints of being pregnant was viewed by the participants as a life changing experience and difficult for them to initially adapt to.

4.4.4.3 Seeking information

Another indication of MFA was that the participants gathered information about pregnancy and fetus development as well as health behaviour during pregnancy. Ashleen was especially focused on health issues to ensure the unborn baby's safety and development and frequently did internet research about this topic. Sammy stated that she wanted to know everything there is to know; she did online research, read many books and also enjoyed asking others about pregnancy issues she wanted to be more knowledgeable about. Jodi read the pregnancy magazines which her mother purchased for her. Gathering information about pregnancy related topics has been identified in the literature as one of the signs of strong MFA (Brandon et al., 2009; Condon, 1993). Condon (1993) found that searching for information was a need that formed part of the essential experience of MFA, namely love (see chapter 2, section 2.3.1).

4.4.5 Interaction with the unborn baby

4.4.5.1 MFA behaviours

The participants enjoyed interacting with their unborn babies. They were very aware of their babies' movements, and had strong emotional reactions to these movements. Jodi stated that she felt extremely happy and close to her unborn baby when she felt him moving (JSFGI & JISSI). Sammy related that she felt very excited when she felt fetal movements and that she had to then tell someone (SFGI & SISSI). Ashleen said that her baby kicked repeatedly and that she enjoyed playing music for her baby, who reacted by kicking when she did this (AFGI). Alhusen (2008) states that gestational age and awareness of fetal movements is frequently associated with high levels of MFA. Laxton-Kane and Slade (2004) affirm that during adult pregnancy women with strong MFA reported more fetal movements (see chapter 2, section 2.3.2.2). Mehran et al. (2013) state that MFA becomes stronger with the escalation of fetal movements, which are mostly present during the third trimester of pregnancy.

Equally important was the finding that the participants became very worried about the health of their babies when the movements ceased or were not felt for a while. This finding could possibly be related to the desire to protect the fetus as well as an indication of a strong attachment to their unborn babies, as the possibility of loss made the participants anxious and worried (Sandbrook & Adamson-Macedo, 2004; Sandbrook, 2009). This finding coincides with Condon's 3rd MFA disposition; to avoid separation or loss that develops from the need of the pregnant woman to safeguard herself against loss and hence engage in protective behaviours (see chapter 2, section 2.3.1). In addition to being aware of the fetal movements the participants often stroked their stomachs. Jodi reported that this made her feel closer to her baby. Ashleen also said that she frequently stroked her stomach, and sometimes talked to her baby. Two of the participants had decided on names for their babies and the third participant had a name in mind. Several researchers affirm interaction with the fetus as a central aspect of strong MFA (Brandon et al., 2009; Condon, 1993; Perlmutter et al., 2001). These types of behaviours such as naming, talking to the unborn baby, stroking the stomach, awareness of fetal movements are all aspects that are measured by the questionnaires developed to assess the strength of MFA such as the MAAS; PAI and MFAS (see chapter 2, section 2.3.1)

Another strong indicator of MFA was the preparations they made for their babies. All three participants had bought everything their babies needed; clothes were already washed and packed in the cupboard, and the baby's room was already painted. They had already made plans and decided about who would look after their babies while they were at school during the day. Sammy was very adamant that although her mother was going to take care of the baby during the day, she was going to raise her own child. In addition, the three participants planned to resume their schooling after the birth to get a matric certificate and a better life to ultimately provide for their babies. Planning and preparing for the baby by purchasing or making things for the baby is another measurable aspect indicating the strength of MFA and explicitly forms part of Müller's PAI measuring instrument (Perlmutter et al., 2001).

4.4.5.2 MFA-thoughts and fantasies

The participants reported dreaming about their babies. Jodi stated that she sometimes dreamt of seeing and holding her baby (JISSI). Sammy reported often dreaming of her baby. Ashleen described that she frequently dreamt about her baby, imagining that she gave birth earlier in order to be with her baby sooner (AISSI). The thoughts and fantasies of pregnant women of their babies is another important aspect of MFA (Condon, 1993). Ascribing characteristics to the unborn baby is another aspect of MFA that is frequently measured to ascertain the strength of MFA (Brandon et al., 2009; Cranley, 1981; Condon, 1993; Perlmutter et al., 2001) (see chapter 2, section 2.3.1). Rowe et al. (2013) explain that pregnant women usually form a mental picture of the unborn baby; this image of the baby becomes increasingly well defined as the pregnancy develops. It also creates a desire within the pregnant women to care for and to safeguard her unborn baby. Based on the MFA behaviours, thoughts and feelings found in this multiple case study one may presume that the participants of this study formed strong attachments with their unborn babies.

The social support that the participants received made a considerable contribution to the strong MFA that the participants developed.

4.4.6 Social support

4.4.6.1 Social support - parents

The participants' mothers became primary support figures for them. Ashleen and Jodi did not reveal their pregnancies to their mothers which makes one wonder about the quality of their attachment and relationship with their mothers prior to their pregnancies or perhaps their fear to reveal their pregnancies was too immense despite being securely attached. However, after their mothers had initiated conversations with them about their pregnancies and the initial shock had passed, they became very supportive. They supported their daughters emotionally, but also with the practical realities of pregnancy. Ashleen's relationship with her mother improved since her pregnancy and she felt that she could talk to her mother about anything. Thus, the mothers were sensitive to their daughters' needs. The literature affirms the importance of the pregnant woman's mother as a supportive person during pregnancy for the development of strong MFA (Sandbrook, 2009). Canella (2005) also found that there is a positive correlation between pregnant adolescents who have a secure relationship with their own mothers and stronger MFA. Despite their initial fear to reveal their pregnancy to their mothers, the participants seemed to be securely attached to their mothers. Their mothers breached the subject of them being pregnant first before they were approached by the participants; although sad at first they reacted with acceptance and sensitivity to their daughters' feelings. The mothers continued being supportive and were even excited about the babies. The mothers of Ashleen and Sammy offered to take care of the babies when they went back to school. Sammy's mother seemed to have formed a strong attachment to her unborn grandchild. Sammy reported that her mother spoke to the baby every morning when she woke her, and that the baby kicked when he heard her mother's voice. She also described how her mother offered to adopt her baby instead of her going for an abortion; her mother bought and washed all the clothes which the baby would need, although she was only seven months pregnant at the time. According to the literature the attachment style of the pregnant woman with her mother has a strong influence on the development of MFA. In a longitudinal study conducted by Alhusen et al. (2013) it was revealed that women with stronger MFA had more secure attachment styles in contrast to women who had lower levels of MFA (see

chapter 2, section 2.3.2.6). Because the participants displayed strong MFA it may be likely that the participants were securely attached to their mothers.

However, their attachments to their fathers are questionable. The participants rarely mentioned their fathers during the interviews, which leads one to question the strength of their attachments to their fathers, and their supportive role during their pregnancies. Although Ashleen reported that she was her father's most beloved daughter prior to her pregnancy, he refused any contact with her after finding out that she was pregnant. Her father's behaviour made her pregnancy more stressful for Ashleen; however, her mother's support assisted her greatly and negated her father's absence during this time. This insensitive behaviour of her father is not consistent with a secure attachment figure, and makes one wonder how secure their attachment was prior to her pregnancy. Jodi mentioned that her parents' acceptance led her to accept her pregnancy as well, which means that her father's acceptance of the pregnancy was important to her. Sammy's father begun to accept her pregnancy after he initially forbid her to live with her family anymore after he found out that she was pregnant. The main reason why she was glad to expect a baby boy was because that might have made her father happy. The participants' relationships with their fathers thus seemed somewhat distant, however, their approval and acceptance of the pregnancy were important to the participants. This could possibly be because of a less secure attachment relationship with their fathers. Parke and Tinsley (1987) found that fathers are not always as involved in forming secure attachment with their children. What is more, Bretherton (1992) suggests that although much research has been done about the attachment relationship between the mother and child, more research is needed about the attachment relationship between father and child.

4.4.6.2 Social support - baby's father and his parents

The fathers of the babies played a significant supportive role for the participants. Jodi's boyfriend convinced her not to go ahead with an abortion and he and his family continued to support her during the pregnancy. The father of Ashleen's baby, although no longer her boyfriend, continued being supportive through the pregnancy and besides talking to her mother she reported also talking to him about the baby. Sammy was surprised that her boyfriend stayed with her after the pregnancy became known; she described how stressed he was when he heard the news and that she

expected him to end the relationship as she saw this happening to her friends who became pregnant. The literature affirms that support from the partner and baby's father is significant for the development of healthy MFA (Alhusen, 2012b; Canella, 2005). A study by Alhusen et al. (2012b) found that the most significant factor impacting on the adult woman's mental health, and contributor to the enjoyment of pregnancy and thus stronger MFA was the emotional support that the women received from their partners.

The fathers in this study also became very attached to their babies, not only providing emotional support to the participants but also interacting with the babies. They frequently touched and stroked the stomachs of the pregnant teenagers to feel the movements of the baby. This finding is affirmed in the literature. The father of the baby also goes through a process of attachment with the unborn infant (Brandon et al., 2009). In a study by Maas et al. (2014b) it was found that first time fathers especially displayed strong attachment behaviours to their unborn babies (see chapter 2, section 2.3.1).

None of the participants in this study struggled with being overly anxious or feeling depressed. In contrast, they exhibited feelings of excitement and happiness. Alhusen et al. (2012b) stated that social support was vital for the wellbeing of the pregnant mother as well as for the development of MFA.

An interesting finding was the level of involvement and support that two of the participants received from the baby's paternal grandparents. Jodi's baby would be looked after by his paternal grandmother when she went back to school after the birth. When Sammy considered an abortion the paternal grandparents of her baby pledged their continuous support and tried to motivate her to rather keep the baby. The paternal grandmother of Sammy's baby was so excited that she insisted on taking Sammy for a second private ultrasound so that she could also see the baby and have her own photograph of him. In a study on adolescent pregnancy by MacLeod and Weaver (2003) it was found that social support and acceptance of the pregnancy rippled outwards and it was not simply the father who was involved. They found that most of the participants were well supported not only by their partners but also by their family, extended family and friends (see chapter 2, section 2.4.3.1).

4.4.6.3 Social support - friends, peers and school

The participants were also well supported by their friends. Ashleen described how her friends did things for her like tying her shoe laces, something they would never have done before. Sammy told about the reaction of her classmates when the baby kicked and how they all wanted to touch her stomach when this happened. Jodi said that her friends accepted her pregnancy as it was. Feldman (2007) found that social support in the form of friends in the pregnant teenager's peer group had a positive influence on MFA.

The school attended by the participants have an inclusive policy towards pregnant teenagers. The headmaster told Jodi's parents that she could continue coming to school for as long as was possible for her. Arrangements were made for Jodi to be able to still write the October exams in a separate venue to make it more comfortable and accessible for her. The headmaster of the school was personally involved and remarked how Sammy matured since being pregnant. This is a potential area for further research to be done especially in the South African context.

To conclude, social support can lead to the development of strong MFA even if the pregnancy was unplanned (Sandbrook, 2009). Furthermore, social support has been found to be an important protective factor that positively influences MFA development (Abasi et al., 2012; Alhusen et al., 2012b; Maas et al., 2014a; Yarcheski et al., 2009).

4.5 SUMMARY

This chapter aimed to describe the significant findings of this study. The themes and categories identified and described by the three participants during the data collection process were presented: firstly, descriptions of the evolvement of their increasingly stronger emotions and MFA as their pregnancy progressed; secondly, their descriptions of significant pregnancy events that positively influenced the development of their attachment to their unborn babies, specifically the onset of fetal movements and ultrasound images; thirdly, expressed behaviours and lifestyle changes that proved their commitment to their unborn babies such as incorporating health behaviours, especially concerning diet, smoking, less socializing as well as various ways of seeking information about pregnancy and the unborn baby; fourthly, the participants' reflections of how they interacted with their unborn babies were

presented and categorized into MFA behaviours, thoughts and fantasies; lastly the very important contribution that social support made to their development of MFA was presented, specifically highlighting parental support, support from the baby's father and his parents and the support of friends, peers and school. These findings were presented through individual case analysis as well as cross case analysis against the backdrop of the literature review.

In the next chapter concluding remarks, the limitations of this research study and recommendations for future studies are made.

CHAPTER 5

CONCLUDING REMARKS, LIMITATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This study aimed to gain deeper insight into the development of Maternal Fetal Attachment during teenage pregnancy. A qualitative research design embedded in the interpretive paradigm was deemed appropriate to generate meaningful answers to the research questions. This chapter presents a discussion of the findings of this study, using Attachment Theory as the theoretical framework and context for the study (see chapter 2, section 2.2) and also bearing in mind the developmental phase of the participants of this study, namely adolescence. Subsequently recommendations for future studies will also be presented. The strengths and limitations of the study will be discussed. Following this, the researcher will give a summary of her reflections on the research process as well as concluding remarks.

5.2 CONCLUDING REMARKS AND RECOMMENDATIONS

5.2.1 Research questions

This study aimed to answer the following primary research question:

How does MFA develop during Teenage Pregnancy?

Consequently, in order to gain a deeper understanding of this research question, the researcher identified the following secondary research questions in the light of the literature review on the development of MFA (see chapter 2, sections 2.3 and 2.4). These secondary questions that guided this research study were:

- *How do pregnant teenagers describe their emotions about their pregnancies and unborn babies during their pregnancies?*
- *How do pregnant teenagers describe the lifestyle changes they made and the health behaviours they incorporated during their pregnancies?*

- *How do pregnant teenagers describe their experiences of fetal movements and ultrasound images?*
- *How do pregnant teenagers describe their MFA behaviours, thoughts and fantasies towards their unborn babies?*
- *How do pregnant teenagers describe the social support they received during their pregnancies?*

Next, the research findings of this multiple case study will be discussed with the goal of providing answers to these questions and thus a better understanding of the development of MFA during teenage pregnancy with its unique challenges. Although the research questions will be addressed separately there is an overlap between sections in the following discussion as the different aspects of MFA are interrelated. Within this interrelated context the researcher will also present recommendations for intervention strategies which can have a positive influence on the development of MFA during teenage pregnancy. It can also benefit the wellbeing of the pregnant teenager and her baby's future attachment relationship with the mother as well as the baby's development.

5.2.2 Discussion of research findings

5.2.2.1 How do pregnant teenagers describe their emotions about their pregnancies and unborn babies during their pregnancies?

The participants of this case study described intense feelings with regard to their pregnancy and unborn babies and the evolvement thereof during their pregnancies. In this study it was found that the development of MFA during teenage pregnancy develops differently than during adult pregnancy. One of the main contrasts when compared to adult pregnancy is the overwhelming emotions the pregnant teenager experiences through the different pregnancy stages, especially in the first and second trimester of pregnancy. As discussed in chapter 2, section 2.4.2 and chapter 4, section 4.4.2.1 Rowe et al. (2013) speculate that these differences could be as a consequence of several unique challenges the pregnant teenager faces. These include: the pregnant teenager often only realises that she is pregnant at a later gestational age than adults do; the pregnant teenager finds it more difficult to adapt to pregnancy and the life changes that it entails; the pregnant teenager is more likely

to consider terminating the pregnancy and therefore protects herself emotionally by not becoming too attached to the unborn baby (Rowe et al., 2013).

Concurrently in this case study neither of the participants planned their pregnancies and therefore did not realise initially that they were pregnant. Hence, when their pregnancies were confirmed at the end of the first trimester or during the second trimester they experienced overwhelming shock, fear, disappointment and regret. Feldman (2007) found that planned teenage pregnancy promoted stronger MFA. However, unplanned teenage pregnancy can pose an increased risk for the fetus, as the mother is more likely to make choices that could be damaging to the fetus. She may decide to terminate the pregnancy or continue engaging in risky behaviours that could lead to poorer perinatal and postnatal consequences (Feldman, 2012; Pittman et al., 2009). In this study the participants' unplanned pregnancies did pose a threat to the development of MFA initially (see chapter 2, section 2.4.3.5).

Ending the pregnancy seemed a viable option to the difficult situation they found themselves in. Not only were they disturbed by the pregnancy symptoms such as nausea and increased tiredness they experienced but their overwhelming fear was their parents' anticipated reaction when they found out that their teenage daughter was pregnant. Sandbrook (2009) also found that it was very stressful for pregnant teenagers to disclose their pregnancies to their parents as they felt that they disappointed their parents. The participants experienced shame and disappointment in themselves being pregnant while still being so young, at school and unmarried. Initially they grappled with revealing the pregnancy not only to their parents but also to their peers at school. Therefore, they mostly tried to conceal their pregnancies in the beginning.

However, the shock and shame changed to acceptance after their parents started to accept their pregnancies. Although the adolescent's attachment to the parents shifts during this developmental phase to the peers and she requires more independence from her parents (Donald et al., 2010; Sharpe, 2003; Shaver et al., 1998), the parents' acceptance of their pregnancies had an immense impact on the emotions the pregnant teenager experienced with regard to her pregnancy and unborn baby during this study. The participants in this study reflected that they were more able to accept their own pregnancies once their parents accepted their pregnancies. A

similar response was found in the study of Sandbrook (2009) where the parents' acceptance of their teenage daughters' pregnancy enabled their daughters to also accept their pregnancies. As one would expect, the one participant in this multiple case study whose father rejected her as a consequence of the pregnancy, experienced a higher level of stress during her pregnancy. Figueiredo et al. (2006) state that pregnant teenagers face a higher risk of rejection by a parent and inadequate support. This participant only started to accept her pregnancy during the last trimester of pregnancy, which was later than the other participants; this could possibly be a consequence of her father's rejection. Fortunately her acceptance seemed to be mediated by the enormous support that she received from her mother. These findings lead to the realisation of just how important the parents' support is especially during teenage pregnancy as a contributing factor to strengthen MFA. The central role that parental support during teenage pregnancy plays to enhance MFA is well documented in the literature (Diniz et al., 2014; Figueiredo et al., 2006; Laxton-Kane & Slade, 2002; Sandbrook, 2009) (see chapter 2, section 2.4.3.1).

The participants' mothers played a primary role in their development of MFA. According to the literature discussed in chapter 2 (section 2.3.2.6) MFA, as are the different attachment styles, is intergenerational (Alhusen et al., 2013; Brandon et al., 2009). The participants of this study could form an increasing level of attachment with their unborn babies as their pregnancy progressed but also formed an increasing level of attachment with their mothers' during the course of the pregnancy. One wonders if the attachment that normally shifts to the peers during adolescence, shifts back to the mother during teenage pregnancy because of the pregnant teenagers need for emotional support. This could be compared to the attachment behaviours that become activated during stressful situations according to Attachment Theory. The purpose of attachment behaviour as discussed in chapter 2 (section 2.2.2.2) is to stay close to a primary attachment figure that can provide protection. This behaviour becomes activated mostly during infancy but continues throughout the lifespan in stressful situations when the person feels distressed, ill or frightened (Bowlby, 1977).

The mothers of the participants became increasingly excited and attached to the unborn babies of their daughters. Sammy's mother in particular enjoyed interacting with the unborn baby. This mother had a crèche at their house so she probably has a

natural love for young children. In addition, Sammy was expecting a boy and only had sisters, so perhaps the gender of the baby could also have increased the mother's excitement and attachment. Mothers' affection, understanding and physical and psychological support for their pregnant daughters may be strengthened by their own experiences of being pregnant, even more so if the mother also fell pregnant during her teenage years. The participants in this study depended emotionally and physically on the primary support they received from their mothers; their fathers' support was important although secondary compared to their mothers. It is therefore important that the parents, especially the mothers, of pregnant teenagers must also become involved when intervention strategies are planned to enhance MFA as they play a crucial role in how the pregnant teenager perceives her pregnancy and unborn baby. Laxton-Kane and Slade (2002) affirmed the important role that the pregnant teenager's mother has during pregnancy, and that the support from the mother is even more important than that of the baby's father.

During the third trimester of pregnancy, during which stage this research study was conducted, excitement as overwhelming emotion was repeatedly mentioned as foremost emotion by all three participants throughout the interviews when asked how they felt about their babies. They were looking forward to hold their babies and to take care of them. They described how they could not wait any longer. Gestational age has been found one of the strongest predictors of MFA during adult and teenage pregnancy (Feldman, 2007) (see chapter 2, sections 2.3.2.1 and 2.4.3.3).

Again the parents' support in assisting the pregnant teenagers to fulfil the need to physically prepare for their babies' pending arrival is very important. Sandbrook (2009) also found that the parents supported their pregnant daughters not only emotionally but also in practical ways. This need to prepare for the baby's arrival is described by one of the first MFA researchers, Nurse Rubin (Brandon et al., 2009), as one of the tasks of pregnancy known as *nesting* and it is a sign of strongly developed MFA. In this case study the pregnant teenagers, although from a lower socio-economic community, described how they bought most of what the baby would need after birth in the third semester of pregnancy. They also prepared the living spaces which the babies would inhabit. In the literature reviewed it has been found that higher socio-economic status correlated with stronger MFA. This is because of

better access to good antenatal care such as ultrasound imaging as well as more stable interpersonal relationships and social support (Alhusen, 2008) (see chapter 2, section 2.3.2.8). However, in this study socio-economic status did not seem to play a role in the development of MFA.

The participants also wanted to create a good life for their babies and therefore decided to finish school as they saw a matric qualification as important to enable them to accomplish this. The participants thus adjusted to the role of becoming mothers and portrayed responsible and mature behaviour and personal growth as a consequence of being pregnant. They placed the needs of their unborn babies above their own needs. The researcher, Leifer, concluded that the pregnant woman matures during pregnancy because of the emotional challenges and new role that pregnancy presents (Brandon et al., 2009). Similarly Rowe et al. (2013) state that teenage pregnancy might also lead to increased maturity and emotional growth for the pregnant adolescent. In addition, to prioritise the needs of the infant coincides with the fifth disposition of Condon (1993, p. 170) to “identify and gratify the needs of the fetus”. The participants’ strong attachment motivated them to become committed to their unborn babies and to adapt their lifestyles to ensure the health of their babies.

5.2.2.2 How do pregnant teenagers describe the lifestyle changes they made and the health behaviours they incorporated during their pregnancies?

According to the literature the development of MFA is important as it contributes to the wellbeing of the pregnant mother and her unborn baby during pregnancy (Alhusen et al., 2012a; Brandon et al., 2009). This is also true for teenage pregnancy (Feldman, 2007; Rowe et al., 2013). As the mother becomes more attached to her unborn baby she changes her lifestyle to promote the health and development of her unborn baby (Alhusen et al., 2012a; Brandon et al., 2009; Feldman, 2007; Rowe et al., 2013).

The pregnant teenagers who participated in this study confirmed the above. After the initial ambivalent first stage of their pregnancy, once they started to accept their pregnancies, they became motivated to ensure the health and survival of their

unborn babies. All three ceased to consume any alcoholic beverages, and they quitted or considerably decreased smoking cigarettes. This posed a particular challenge to two of the participants who continued smoking although much less throughout their pregnancies. In addition they made healthier diet choices and specifically mentioned eating more fruits.

The participants' ignorance about their pregnancy symptoms during the first trimester of pregnancy and the dire developmental consequences that negligence of healthy lifestyle choices in this critical phase of pregnancy may have, makes it of utmost importance that teenagers be educated about the signs and symptoms of early pregnancy. This could potentially lead to pregnant teenagers becoming aware of a possible pregnancy much sooner. Although this is a very debatable point, one wonders if pregnancy tests should not be made more readily available at schools in a safe space to assist in this process. This necessarily implies that a dedicated, appropriately trained person should be available to facilitate and contain the process. In the past teenage pregnancy has frequently been associated with poor birth outcomes and increased developmental risks for the fetus (Branson et al., 2011; Cremona, 2008).The increased risks are due to a variety of factors. Figueiredo et al. (2006) state that risks of death due to pregnancy complications are much higher especially for teenagers younger than 16 years, compared to adult pregnancy. In a study by Branson et al. (2011) it was also found that teenage pregnancy was still more detrimental to the healthy development of the infant when compared to a control group in similar contexts older than 18 years. Other factors such as social support, psychological factors, cultural and economic factors also play a role (Cremona, 2008; Diniz et al., 2014). In addition, Cremona (2008) stated that pregnant teenagers are more likely to smoke cigarettes, use alcohol and illegal substances.

However, the greatest impact of lifestyle changes on the participants was the change they made to their social lives. They described how they went out much less with their friends and were more at home than before they were pregnant (see chapter 4, section 4.4.4.2). This finding is meaningful in the context of the development of the adolescent whose social life usually increases during adolescence (Donald et al., 2010; Sharpe, 2003). The researcher suggests that this could potentially be an area of intervention during teenage pregnancy in order to allow the normal development of

the adolescent by satisfying this need perhaps by forming support groups for pregnant teenagers that do social and health promoting activities together, and so preventing social isolation of the pregnant teenager.

The participants in this study were very motivated to gain more information about pregnancy and the development of their fetuses. This has also been found in the literature as evidence of strong MFA (Brandon et al., 2009; Condon, 1993). In this regard the mother's support was again significant in assisting the pregnant teenager to access information and provision of information. In this regard, schools, community centres and local clinics can play a central role in providing information resources to pregnant teenagers especially in lower socio-economic communities where there is a higher incidence of teenage pregnancy and resources are scarce (Panday, Makiwane, Ranchod & Letsoalo, 2009; Rowe et al., 2013). This can promote the growth of MFA and, therefore, promote the wellbeing of the pregnant mother and baby.

5.2.2.3 How do pregnant teenagers describe their experiences of fetal movements and ultrasound images?

The participants vividly described the fetal movements and ultrasound images of their unborn babies as events that made their pregnancies more real to them and made them excited. As was found in the literature the onset of fetal movements and the ultrasound images of their babies generated significant strengthening of the development of MFA for the participants of this case study as well. Alhusen (2008) states that it is important that clinicians spend some more quality time when performing an ultrasound with this population to enhance the strength and development of MFA. Due to the importance of this developmental phase of adolescence, careful consideration should be given to, for instance, using age-appropriate language which would be meaningful for the teenager. The printed photograph of the ultrasound image was found to be very significant in this study. Participants and even extended family members placed a high value on this (see chapter 4, sections 4.4.3.2 and 4.4.6.2). In addition, the participants spent considerable time after the antenatal visit studying the ultrasound image, thus the pregnancy and baby became more real to them. As discussed in chapter 2, section 2.3.1, the MFA task to differentiate the self from the fetus during pregnancy has also

been identified by numerous researchers (Brandon et al., 2009) as an important part of the development of MFA. The photograph ultrasound image can especially have a positive influence on MFA during teenage pregnancy, given the higher risk for detrimental birth outcomes (Branson et al., 2011; Cremona, 2008; Diniz et al., 2014; Panday et al., 2009) involved for this vulnerable community.

In this study the participants enjoyed interacting with their unborn babies. They were especially aware of fetal movements and were very sensitive if these movements decreased for a period. One participant described being so distressed during such a period that she could not concentrate at school. This is not only evidence of strongly developed MFA (Laxton-Kane & Slade, 2002) but also of the need to protect the fetus as has been highlighted in some studies as the key purpose of MFA (Sandbrook, 2009; Sandbrook & Adamson-Macedo, 2004). The founders of Attachment Theory similarly identified protection as the purpose of postnatal attachment (Bowlby, 1977). Again the accessibility of clinical antenatal services should be readily available to pregnant teenagers in order to be able to express their concerns and receive the necessary comfort and support when needed. In the study the naivety and myths that surround pregnancy were also found. One participant was concerned that she could have harmed the development of her baby because she concealed her pregnancy by wearing oversized jackets. These findings emphasized the need teenagers have for more awareness about prenatal human development.

5.2.2.4 How do pregnant teenagers describe their MFA behaviours, thoughts and fantasies towards their unborn babies?

The participants described numerous MFA behaviours; thoughts and fantasies during the third trimester of pregnancy. These included interacting with the baby by talking to the baby, playing music for the baby, frequently tapping and stroking their stomachs and naming the baby. The participants spent a great deal of time thinking and dreaming about their babies, imagining what life will be like after the birth and preparing for the arrival of the baby, dreaming of the baby and life with the baby (see chapter 4, section 4.4.5). These behaviours, thoughts and fantasies are evident during pregnancy when a strong attachment to the unborn baby has formed (see chapter 2, section 2.3.1). Rowe et al. (2013, p. 327) stated MFA is observable in the

"behaviours, attitudes, thoughts, and feelings that demonstrate care and commitment to the fetus".

As discussed in chapter 3, section 3.5.1 an important characteristic of case studies is that the context and the phenomenon under investigation cannot be separated. Thus, it is important that these MFA behaviours must also be viewed in the context of an adolescent still attending school. This means that some of the MFA behaviours such as stroking and tapping of the stomach will happen in the classroom in view of the pregnant teenager's classmates and educators. One of the participants described how she felt the need to share it with someone whenever she felt her baby kicking, another described how the peers wanted to frequently touch her stomach and often asked whether the baby was kicking at that moment. These could potentially be ideal opportunities for educators to educate the rest of the class on pregnancy behaviours. This also touches on the level of support pregnant teenagers receive. The social interaction regarding their unborn infants with others became very important to the participants. This is affirmed in the research (see chapter 2, section 2.4.3.1).

5.2.2.5 How do pregnant teenagers describe the social support they receive during their pregnancies?

During this study it was found that social support was one of the most important factors in promoting MFA, so much so that it prevented two of the participants to undergo abortions when they found out that they were pregnant. It also assisted the participants in continuing with their school careers.

All three participants were also strongly supported by the fathers of the babies. It was easier for them to reveal the pregnancy to them than to their parents. According to the literature (Bloom, 1998) a good relationship with the baby's father enhances the development of MFA during teenage pregnancy. As discussed above it was interesting that although the support of the baby's father was important, it was secondary to the importance of the support they received from their mothers. The researcher wonders if this could be related to the activation of attachment behaviours (Bowlby, 1977) within the pregnant teenagers as described above. Another interesting finding was the involvement of two of the fathers of the baby's parents and

the level of support that they offered. Could this also be evidence of intergenerational attachment of the baby's father's side?

Although it was a shock to the parents when the pregnancy was revealed, and thus created tension in their relationship with their daughter, the mutual increasing maternal fetal attachment process of the pregnant teenager as well as her support system restored some of the relationships. This happened as a consequence of them becoming mutually excited about the pending arrival of the baby. Other factors that might have influenced this improvement is that the pregnant teenager became more dependent again on her parents' support and care as well as her spending more time in their vicinity at home. The participants described how their circumstances at home improved as a consequence of their pregnancy; they received more privileges and were, therefore, more content being spending time at home.

Social support has been found to be an essential protective factor for the psychological wellbeing of the pregnant mother as well as for the development of healthy MFA (Abasi et al., 2012; Bloom, 1998; Maas et al., 2014a; Yarcheski et al., 2009) (see chapter 2, sections 2.3.2.4 and 2.4.3.2).

5.3 STRENGTHS AND LIMITATIONS OF THE STUDY

The study consists of strengths and limitations. The limitations of this study will be presented first, after which the strengths will follow.

A limitation of this study concerns the demographics of the participants. The case study presented the experiences of three coloured pregnant teenagers from a lower socio-economic community, and who are embedded in a certain cultural context. Research about MFA and ethnic minorities is scarce although, as previously stated, higher socio-economic status correlates with stronger MFA (Alhusen, 2008). The cultural context, therefore, might have influenced this study. The researcher did not aim for this study to be generalized to broader populations but that the findings could possibly be transferable. Therefore, a detailed description of the setting and sample of participants was discussed in chapter 3 (see sections 3.5.1.2 and 3.5.2) to make the findings transferable for future research studies about MFA. However, transferability must be viewed in the context of this case study.

A further limitation is that the participants are in a school in which teenage pregnancy has a high incidence which means that the learners and staff of this particular school are more used to learners being pregnant and thus more accepting and inclusive towards it. In another school where the incidence is lower, the pregnant teenager could potentially feel more excluded which could have a negative influence on her developing an attachment with her unborn baby.

Another limitation of the study was that only two participants created collages for this study. A collage from Ashleen would have increased the density of the researcher's understanding of the development of MFA, because this participant's relationship with her father deteriorated after he learned she was pregnant. The researcher would have preferred to gain a deeper understanding of her experience because of this possible negative influence on MFA that this could have meant.

A limitation and possible strength of this study is that the case study presented here consists of a case of participants who were mostly well supported by their families, the fathers of the babies and their friends. The support system of the participants was not one of the criteria for selecting the participants, but was incidental. The findings might have been different if participants were not so well supported. On the other hand this made the findings regarding the influence of good support during teenage pregnancy on the development of MFA denser.

A strength of this study was that the participants were all very enthusiastic to participate in the study and mostly shared their experiences openly with the researcher during the individual interviews. This made it easier for the researcher to gain an empathic understanding of the way in which the participants understood their feelings and thoughts about being pregnant and towards their unborn babies.

Lastly, another strength is that despite very little research about MFA and MFA during teenage pregnancy in South Africa, this study makes a valuable contribution to the body of knowledge on this topic.

5.4 RECOMMENDATIONS FOR FURTHER RESEARCH

Studies about teenage pregnancy in the South African context are limited. The researcher deems MFA research as essential when the influence it has on the

prenatal as well as postnatal wellbeing of the pregnant mother and child is considered, as discussed in chapters 1 and 2. This study is done in the context of Attachment Theory as theoretical framework. When one considers the vast developmental implications of a secure attachment style throughout the human life span and the close link that the healthy development of MFA during pregnancy as starting point of the formation of a secure attachment style has it is significant to gain a better understanding about this.

It is also recommended that a longitudinal study, in which all three trimesters of teenage pregnancy are investigated, be done to get a clearer view on the development of MFA in the different trimesters. A timeline as visual data collection tool could also prove valuable in such a study.

A further recommendation is the exploration of the development of Paternal Fetal Attachment during teenage pregnancy. It was found in this study that all three fathers also developed a strong attachment to their unborn babies.

The intergenerational quality of MFA can be further explored. Interviews from the mother's point of view could provide a deeper understanding. At the same time the pregnant teenager's attachment style could be investigated utilising questionnaires that have been developed by previous researchers.

Studies involving larger groups of participants, involving the parents of the participants as well as the babies' fathers are recommended.

An important recommendation for future research in the South African context especially, is the inclusivity of schools regarding pregnant teenagers.

Lastly, MFA during teenage pregnancy can be compared to the postnatal attachment relationship the teenager forms with her baby.

5.5 REFLECTIONS OF THE RESEARCHER

As described in chapter 1, section 1.6.3.3, due to the qualitative nature of the study, the researcher is central in the research process. Mouton (2001) compares the processes of research design and research methodology to designing and building a house (see chapter 1, sections 1.6.2 and 1.6.3). In qualitative studies the researcher

is the architect, engineer and constructer of the building, meaning that the researcher is central in all the processes of the research study (Creswell, 2014). This further meant that the researcher had to be aware of her own subjective perspectives throughout the research process. The researcher was especially sensitive and aware of her own potential bias and potentially restricted understanding of the true experiences of the participants because of cultural, educational, developmental and socio-economic differences. However, having this awareness made the researcher more sensitive in aspiring to understand the meanings the participants constructed regarding their experiences of being pregnant teenagers and the unique attachment relationships that developed between them and their unborn babies.

The researcher has gained invaluable research experience throughout the progression of this study. At times it was extremely challenging, because of her lack of previous research experience. Although she had studied the theoretical knowledge of research methodology before, it really only became alive and made sense to her during this study. She understood for the first time how it all fits together. However, she is still very aware of herself as an emergent researcher.

5.6 CONCLUSION

The researcher would like to conclude the study by going back to the beginning of this study. “How does MFA develop during teenage pregnancy?” Although the pregnant teenager is faced with many developmental and circumstantial challenges which could potentially pose a risk to the normal development of MFA, this case study presented three cases for the development of strong Maternal Fetal Attachment with the progression of gestation despite these challenges. These cases displayed all the normal MFA behaviours that have been identified in studies on MFA in the third trimester of adult pregnancy. Therefore, although the participants themselves were still children, this did not necessarily lead to negative consequences for their own or unborn babies’ wellbeing during pregnancy, or to weaker MFA development. In this case study protective factors were the social support the pregnant teenagers received, especially from their parents and the fathers of the babies. Furthermore, the access to antenatal care, specifically ultrasound imaging, was a significant protective factor for the participants. Lastly the researcher is of the

opinion that the inclusive practice of this school towards teenage pregnancy also contributed to the healthy development of MFA.

> “Just as children are absolutely dependent on their parents for sustenancy, so in all but the most primitive communities, are parents, especially their mothers, dependent on a greater society for economic provision. If a community values its children it must cherish their parents” (Bowlby, 1951, p. 84).

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ADDENDUM A

Interview guide - individual semi-structured interview

1. **Introduction**

   - Name
   - Age
   - Date of Birth
   - Gestation
   - Gender of the Baby
   - First Pregnancy

2. **Feelings about pregnancy and baby**

   - How did you feel when you found out that you are pregnant?
   - How do you feel about your pregnancy and your baby now?
   - Fears? Regrets?
   - Feelings about gender?
   - Feelings about the birth?
   - Feelings about holding baby for the first time?
   - Feelings being at school and pregnant?

3. **Discovery of pregnancy**

   - How far pregnant were you when you found out?
   - How did you feel?
   - How did your parents react?
   - How did the baby's father react?

4. **How did you change your lifestyle, your habits since being pregnant?**

   - Eating
   - Sleeping
   - Drinking Alcohol
   - Smoking cigarettes
   - School
   - Other ways

5. **How did you feel about the ultrasound?**

   - First antenatal visit
   - Second antenatal visit
   - Impact of ultrasound image
   - Impact of heartbeat
   - Ultrasound photograph

6. **Describe your feelings about and actions towards your unborn baby? (Maternal Fetal Attachment Behaviours)**

   - Preparation for the baby's arrival (Bought anything; Daycare; Coming back to school)
   - Rubbing of stomach
   - Talking to the baby
   - Naming of the baby
   - Dreaming about your baby and mental representation
   - Activities that make you feel closer to the baby
   - Searching for information about pregnancy and babies

7. **How did you feel when you felt the baby move?**

   - Awareness of fetal movements
   - Feelings when baby does not kick for a while

8. **What social support did you receive?**

   - Mother
   - Father
   - Baby's father
   - Friends
   - School
   - Others

ADDENDUM B

Interview guide - focus group interview

1. **Introducing participants to each other**
   - State name; how far is your pregnancy? how do you feel today?
2. **Initial feelings about pregnancy**
   - How did you feel when you found out that you are pregnant?
3. **Revealing pregnancy**
   - To whom did you first reveal your pregnancy?
4. **Gender**
   - How do you feel about the gender of the baby?
5. **Lifestyle changes**
   - How did your habits change since finding out that you are pregnant?
6. **First ultrasound**
   - Describe your feelings when you first saw your baby on the ultrasound image.
7. **First fetal movements**
   - How did you feel when you first felt your baby moving?
8. **MFA Behaviours**
   - What preparations have you made for your baby's arrival?
   - What do you dream about your baby?
   - Howdo you imagine what he/she looks like?
   - Have you chosen a name for you baby?
   - What do you talk with your baby?
9. **School**
   - Are you going to come back to school after the birth?
   - How do your friends and classmates react to your pregnancy?

10. Support

- Who **supports** you the most during your pregnancy?
- What is the **involvement of the baby's father**?
- How does he **support** you?

11. Thoughts and feelings about your baby now

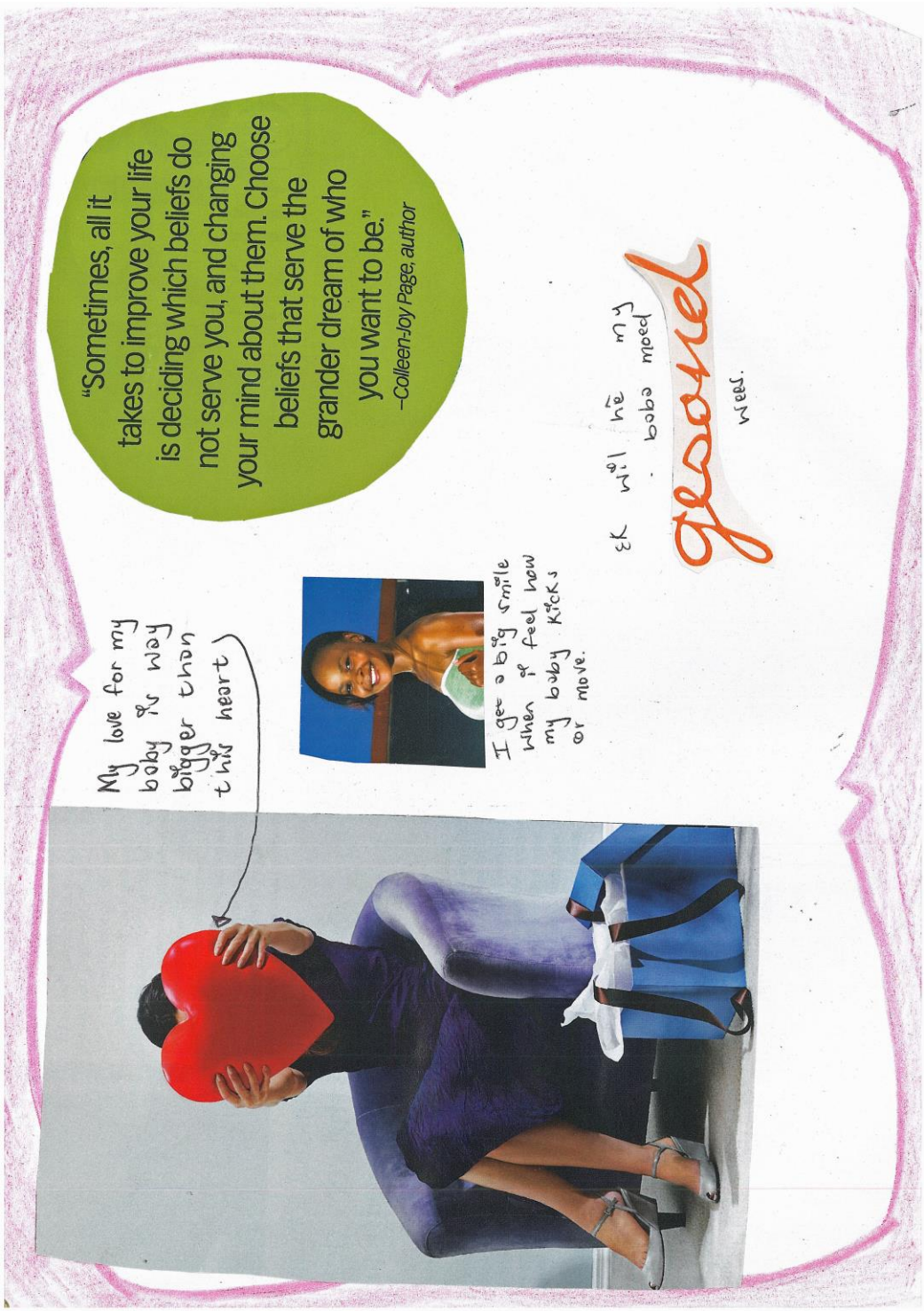
- Describe **your thoughts and feelings about your baby now**?

ADDENDUM C

Collage Jodi

ADDENDUM D

Collages Sammy



ADDENDUM E

Symbols and codes

Table 1: Description of symbols used in the interview transcripts.

Description of symbols used in interview transcripts	
...	Indicates a short pause in time.
(pause)	Indicates an extended pause.
[ ]	Indicates a word or thought that has been included by the researcher to clarify the intended message, thought or idea expressed by the participant.
( )	Specifies a non-verbal expression such as a pause or laugh.
-	Indicates an interruption such as when one participant interrupted another and their speech was cut off.

Table 2: Abbreviated codes presented in the coded interview transcripts.

Abbreviated Code	Code Description
B:	Biographical
E-BF:	Emotions – Baby's Father
E-I:	Emotions - Initially
E-N:	Emotions - Now
E-G:	Emotions - Gender
E-FM:	Emotions - Fetal Movements
E-US:	Emotions - Ultrasound
HP:	Hid Pregnancy
HB-E:	Health Behaviours - Eating
HB-S:	Health Behaviours - Smoking
HB-Soc:	Health Behaviours - Socializing
FM:	Fetal Movements
MFA-D:	Maternal Fetal Attachment - Dreaming
MFA-E:	MFA - Emergence

Abbreviated Code	Code Description
MFA-INF:	MFA - Information
MFA-Prep:	MFA - Preparation
MFA-S:	MFA - Strong
PS:	Pregnancy Symptoms
RP:	Revealing Pregnancy
SS-BF:	Social Support - Baby's Father
SS-F:	Social Support - Father
SS-Fr:	Social Support - Friends
SS-M:	Social Support - Mother
SS-O:	Social Support - Others
US:	Ultrasound

ADDENDUM F

Example of individual interview transcription

Key:
R: Researcher
P: Participant

	Example of individual interview transcription with participant (Ashleen) **Bold parts indicate units of meaning**	**Comments**	**Codes**
R:	I would like to know how do you feel about your pregnancy now?		
P:	Mmm I am **starting to accept it now,** at **first I couldn't believe it.** I am **starting to accept** the fact that **the baby is there.**	Starting to accept it now. Disbelief at first. Starting to accept baby is there. (Reality)	**E-N** **E-I**
R:	You couldn't believe that you were pregnant.		**RP**
R:	How far pregnant were you when you find out?		
P:	**5 months**	5 Months gestation when found out.	
R:	5 months pregnant, you found out and you couldn't believe it.		
P:	yeah…		**E-I**
R:	How did you feel besides not that you couldn't believe it?		
P:	I felt **very disappointed in myself because I am still young** and I don't know….(laugh) I **can't actually really**	Disappointed in self because of age;	**E-I**

	explain the feelings	Difficult to explain feelings.	
R:	Okay. How do you feel about the baby now?		
P:	**Very exciting**, **can't wait till she comes**	Very excited, can't wait. (3rd trimester)	**E-N** **MFA-S**
R:	How do you feel about the fact that it is a girl?		
P:	Mmmm I actually **wanted a boy** because **it's much easier** **(laughs)**…	Wanted a boy rather; boys are much easier.	**E-G**
R:	Why is it easier to have a boy?		
P:	How can I say?... A **girl normally gives the problems.**	Girls give more problems.	**E-G**
R:	Okay.		
R:	What sort of problems?		
P:	When they, **when they grow up** and so.	When they grow up.	**E-G**
R:	So it would have been easier if it was a boy, boys grow up easier?		
P:	Yeah.		
R:	And how do you **feel now** about the fact that it is a girl?		
P:	Ja, I **am happy**.	Happy now about gender.	**E-N**; **E-G**
R:	After you found out that you are pregnant how did things change? What changed in your life?		
P:	My **relationship with my father wasn't so well**, **until now** also **he doesn't want to hear nothing of me.**	Relationship with father not well, does not want contact with her.	**SS-F**
R:	Okay. And your mother?		

P:	My **mother is okay**. She is **hurt** but she **supports me in everything.**	Mother is hurt but she supports me in everything.	**SS-M**
R:	Good. Is your mother and your father married?		
P:	**No**	Parents not together.	**B**
R:	And do you live with your mother?		
	Ja	Lives with mother.	**B**
R:	Okay and how was your relationship before you got pregnant with your father?		
P:	It was very…(laughs) **I was his favourite** (laughs).	Was her father's favourite.	**SS-F**
R:	You were his favourite.		
P:	**Ja, now he can't believe it.**	Father cannot believe she is pregnant.	**SS-F**
R:	That must be very difficult for you. Do you think he might accept it later on?		
P:	Yeah, because **he was like that with my sister's baby** too; also then **afterwards he accepted it.**	Sister also teenage P? F same when sister pregnant.	**SS-F**
R:	Okay.	Accepted it later, Hope it will be the same Significant? Father's involvement?	
R:	And how did your mother react when you told her?		
P:	**I didn't actually tell her**…	Did not tell her mother she was pregnant.	**RP**
R:	Okay.		
P:	**She brought it up,** because **something told her that I would not tell her.** So she was going to bring it up herself, because **something could happen to**	Mother brought it up first. Mother knew she would not tell.	**RP** **SS-M**

	me and **they could blame her.** To **book now and everything at the clinic so she had to bring it out** because **I wasn't going to tell her** (laughs).	Worried something could happen and she would be blamed. Booking at clinic, forced Mother to speak about it, she was not going to say anything about it.	**RP**
R:	You weren't going to tell her, were you **scared** to tell her?	Too scared to tell.	**RP** **E-I**
P:	**Yes!**		
R:	Okay.		
R:	And what did she do when you spoke about it for the first time?		
P:	She was (pause) **she just said she knew and everything.**	Mother said she knew.	**RP; SS-M**
R:	Okay.		
R:	What about the baby's father is he involved?		
P:	Ja **he is very excited, can't wait**… but **we are not together anymore**.	BF very excited. Not in a relationship anymore.	**SS-BF**
R:	Does he support you?		
P:	**Ja**…	BF supports her.	**SS-BF**
R:	Okay.		
R:	What other support do you have?		
P:	The **doctor supports me, my mother and my family.**	Dr; mother; family supports her.	**SS-M** **SS-O**
R:	Your family.		
P:	**Accept my daddy** now…	Except father.	**SS-F**
R:	Okay. How far pregnant were you when you **first went to the clinic**?		

P:	**Six months.**	First antenatal clinic visit when 6 months pregnant.	**US**
R:	Six months and did they do a sonar?		
P:	**Ja, but we had to lie to the doctor** (laugh) to give the sonar, **I was far already, I was 26 weeks, you have to be 24 weeks.**	26 weeks pregnant. We (mother and she) had to lie to dr. to have an ultrasound.	**US** **SS-M**
R:	Oh, okay.		
R:	And how did you feel when you saw that baby?		
P:	(Laugh) Oh it was…I **can't explain the feeling**, but it was a **very good feeling.**	Felt very good to see baby, difficult to explain feelings.	**US** **E-US**
R:	A very good feeling.		
P:	Mmm (laugh).	Good feeling.	**E-US**
R:	Did it change something for you when you first saw your baby on that screen?		
P:	**Yeah, I was like…how can I say, she is really there (laughs)**.	US made it real.	**US** **E-US**
R:	Yes it made it…?		
P:	**Exciting**	Felt excited.	**E-US**
R:	And did you hear her heartbeat?		
P:	**Yes**	Heard heartbeat.	**US**
R:	And how did that make you feel?		
P:	**Happy** because they said that **everything is okay with the baby** and **I was glad** because actually, **I had to hide it away a lot.** So I **thought it could have done something to the baby** and so, **but the baby is growing well.**	Happy, glad because baby was okay. Concealed pregnancy; worried that she harmed baby.	**E-US;US** **HP** **MFA-E**
R:	Okay.		

R:	Everything is normal and you were happy to hear that?		
P:	**Ja very happy** (laugh)	Relieved baby was growing well.	**E-US;**
R:	What did you do to hide the pregnancy, wrap things around you?		
P:	No I always **wore big jackets**	Hid pregnancy by wearing big jackets.	**HP** **E-I**
R:	Okay.		
P:	**But I wasn't so big but oh**, **when I told, when it was finally out, I popped out**! (laughs)	When pregnancy was **finally** (waited for a long time?) revealed, pregnancy became visible.	**HP**; **RP** **E-US**
R:	(laughs). As if the baby knew it was ok to come out now. Okay.		
R:	And have you changed anything in your lifestyle, in your daily habits?		
P:	Yeah I am **eating healthier now**, and ja…	Eating healthier.	**HB-E**
R:	Did you cut anything out?		
P:	**Only smoke less**	Smoke less.	**HB-S**
R:	Smoke less.		
P:	Ja.		**HB-S**
R:	Okay. Did you try to find any information about pregnancy or babies or…		
P:	Yeah, **normally I go home in the evenings** and **I go through google and I google stuff** and so …	Usually googles at home in the evenings.	**MFA-INF**
R:	Okay, what are your favourite things to google about your baby?		
P:	Mmmm (laughs).		**MFA-INF**

	About your pregnancy? (Pause)		
R:	Or what things have you googled?		
P:	Like …mmmmm. (laughs) how can I now say? Pause. (laughs) like the **stuff that I crave for if it is healthy? Like if it is ok if I eat it stuff like that**.	Wants to know if cravings are healthy for baby.	**MFA-INF** **PS** **HB-E**
R:	So you want to make sure that what you eat is healthy for the baby?		
P:	Yeah, and **how it effect the baby and so on…**	Effect on what she eats on the baby (Protection).	**MFA-INF**
R:	Okay. Is there anything else that google?		
P:	Mmm…ways to …how can I say **to take heartburn away** and stuff like that.	Heartburn remedies.	**PS** **MFA-INF**
R:	Okay.		
P:	Ja…		
R:	Ok (laughs) and did you have any strange cravings?		
P:	Yeah **like ash the small cigarette ash.**	Craved cigarette ash.	**PS**
R:	Okay that is very interesting.		
R:	Have you read about smoking and the health of the baby?		
P:	Ja….**I don't actually how can I now say, crave for smoking like at first.**	The craving for ash is not as strong as in the beginning.	**HB-S** **PS**
R:	Yes.		
P:	But how can I say, **if I eat the whole time I don't think of cigarettes** and so, but **when people come there and they smoke and I get that smell then I** [crave smoking]… (laughs)	Eating helps with craving to smoke. Difficult when she sees others Smoke.	**HB-E** **HB-S** **PS**
R:	Then you want to smoke? (laughs)		
P:	Ja. (laughs)		**PS**

R:	Okay and then do you sometimes take a smoke?		
P:	**Ja but only one cigarette a day.**	One cigarette per day.	**HB-S**
R:	Alright.		
R:	Who is going to look after the baby?		
P:	**My mommy** (laughs)	Daycare for baby-mother.	**SS-M**
R:	Your mommy. Okay, to me it sounds like you are very excited about-		
P:	**-Yeah, I am.**	Excited.	**E-N**
R:	Have you made any preparations for your baby's arrival?		
P:	Ja (laugh)	Preparations.	
R:	Have you bought anything for the baby?		
P:	**Ja, a lot of pink clothes.**	Bought a lot of pink clothes.	**MFA-Prep** **SS-M**
R:	A lot of pink clothes (laugh).		
R:	How did you feel when you first felt the baby kick?		
P:	Ja the **first time** I was like… that was when I was … **between five and six months** that was the first time **the baby moved** and I was like … (laugh) **I told my friends** that **something moved in me** now, and **they were like no man, it's just my imagination**. **I said no, I can *really* feel something is *really* moving in me now** (laughs). (laughs)	1st Fetal movements 5-6 months; Told friends something moved; Friends said it was her imagination; Felt surprised and nervous. **Something** is moving. **Really** moving.	**FM** **FM** **SS-Fr** **E-FM**
P:	So **then it went away** ja **but the baby kicks a lot**	Movement stopped, baby	**FM**

R:	The baby kicks a lot, and how does that make you feel?	kicks often (awareness of fetal movements)	
P:	Actually how can I say, it's **very exciting**, but **if she don't kick,** then **I start to worry** and so, because **I am used to her kicking a lot.**	Very exciting. Worries when baby does not kick. Used to baby kicking frequently.	**E-FM** **FM** **MFA-S**
R:	What do you worry about?		
P:	**If the baby is okay or anything like that** Or **did I move wrong or something** (laugh).	Worries about baby being okay or if she did something wrong.	**E-N**; **MFA-S** **FM**
R:	Okay.		

ADDENDUM G

Example of focus group interview transcription

Key:
R: Researcher
P1; P2; P3: Participants

	Example of focus group transcription **Highlighted parts indicate units of meaning**	**Comment**	**Code**
R:	Vir wie het jy eerste gesê, toe jy uitgevind het jy is swanger?		
P1:	Ek het vir my **beste vriend eerste gesê.**	Told best friend first.	**RP; SS-F**
P3:	Ek het **nie eerste geweet nie, my Ma het voor my geweet.**	I did not know first, my mother knew before me.	**RP; SS-M**
P1:	**My Ma het ook voor my geweet.**	My mother also knew before me.	**RP; SS-M**
R:	Okay.		
P2:	Ek het **nie vir my Ma gesê nie** my **Ma het vir my gevra, maar ek het geweet.** Ek het **nie die guts gehad om my Ma te sê nie.**	I didn't tell my mother, she asked me, but I knew. Did not have the courage to tell her mother.	**RP; SS-M**
R:	Ja.Was dit moeiliker om met jou Pa daaroor te praat?		
P2:	Ek **sal dit nooit vir my Pa sê nie**	I will never tell my father.	**RP; SS-F**
P3:	Hy **sal vir my 'n warm klap gee**	He will slap me.	**RP; SS-F**
R:	So het Ma vir Pa gesê?		
P1:	**Nee, my Pa het gehoor by my**	Aunt told father, did not	

	auntie, maar **toe wou hy niks van my hoor nie, tot nou toe het ek nie saam met hom gepraat nie.**	want to talk to her since then, until now she has not spoken to him.	
P3:	My **Ma het vir my Pa gesê**, my **Pa was 'n bietjie dronkerig gewees toe praat sy maar so saggies.**	Mother told father, father was a bit drunk then he spoke softly.	**RP; SS-F; SS-M**
R:	Dink jy hy sal dit dalk aanvaar as die babatjie daar is?		
P2:	**Ek dink so ja.**	Think father will accept it after the baby's birth.	**SS-F**
R:	En hoe het julle gevoel toe julle uitvind dis 'n dogtertjie of 'n seuntjie?		
P3:	**Excited.**	Excited	**E-G**
P3:	**Ek wil 'n meisie gehê het.**	Wanted a girl	**E-G**
P1:	**Ek ook.**	Also wanted a girl	**E-G**
R:	Okay.		
P3:	**Toe kry ek 'n seun**, maar **nou is ek bly ek het 'n seun**. Ons is **net vier meisies en my ma ons is vyf meisies in die huis en my Pa een seun**, so nou is daar darem-	Then I got a girl, happy that it is a boy. Four girls and mother so five girls in the house and my father one boy.	**E-G E-N E-I B**
P2:	-Ons is **ook net meisies in die huis** daar is **niks seuns in die huis nie**. **Nou weer 'n meisiekind.**	Also only girls in the house, no boys, now another girl.	**E-G B**
R:	Hoe het julle gewoontes verander het vandat julle uitgevind het julle is swanger?		
P1:	**Eet baie, eet meer as wat ek voorheen geëet het**.	Eat much more than before. More at home than with friends.	**HB-E;**
P1:	En ek is **meer by die huis as wat ek saam met vrinne uit was.**		**HB-Soc**

P2:	**Mmm.**	Agrees.	**HB-Soc**
P3:	**Ja.**	Agrees	**HB-Soc**
R:	Is dit nou vir julle lekkerder by die huis?		
P3:	**Is nou lekkerder by die huis omdat hulle gee vir my alles.**	Better at home because they give me everything.	**SS-M; SS-F HB-Soc;E-N**
P2:	Meer voorregte.	More priviledges.	**SS-M; SS-F; HB-Soc**
R:	Okay, meer voorregte.		
P2:	Mmm.	Agrees	**SS-F;SS-M; HB-Soc**
R:	Hoe het jy gevoel die eerste keer toe jy jou babatjie sien, op die sonar?		
P2:	**Kan dit nie glo nie**	Could not believe it.	**US; MFA-E**
P3:	**Ek was excited regtig**	Really excited.	**US;E-US; MFA-E**
P1:	**Ja** (Pouse)	Agrees	**US; MFA-E**
R:	En hoe het jy gevoel toe hy die eerste keer geskop het?		
P3:	**Is dit nou rerig 'n skop? Wat is daai?** (Almal lag)	Wondered if that was realy a kick, what was that?	**FM**
P2:	t **ook gewonder as die kind ou nie skop nie**, jy is dan ond daaraan.	Also wondered if the child did not kick, used to the kicking.	**FM MFA-S**
R:	Bang dat daar dalk iets fout is met die babatjie, nê?		
P2:	Mmm.	Agrees.	**FM; E-FM MFA-S**
R:	Dit klink of julle nogals		

	opgewonde is oor julle babas?		
P2:	Baie.	Very much excited.	**E-N**
R:	En wie ondersteun julle?		
P2:	**My Ma die meeste.**	Mothers supports her the most.	**SS-M**
P1:	**My Ma.**	Mother supports her.	**SS-M**
P3:	**Ja.**	Agrees.	**SS-M**
P3:	En **my boyfriend** en **ook nie regtig nie** want hy **moet nog bietjie meerder gee.** (Lag)	My boyfriend, also not really he must give a bit more.	**SS-BF**
R:	Hoe so?		
P3:	**Hy moet bietjie meerder gee**	He must give more.	**E-BF**; **SS-BF**
R:	Hoekom sê jy so?		
P3:	**Hy gee nou net vir my kind aanmekaar. Hy moet nou vir my ook 'n bietjie gee, alles gaan nou net na die kind toe.** (Ander lag)	He only gives to my child now the whole time. He must also give a bit to me, everything just goes for the child.	**SS-BF** **E-BF** **E-N**
R:	So die kind kry nou meer aandag as jy?		
P3:	**Ja dan maak dit mens jaloers** (Ander lag)	Yes child gets more attention, makes her jealous.	**E-N**
R:	En gee jy nog so baie aandag aan hom?		
P3:	Die **een tyd wanneer ek lus het en dan die ander tyd is ek nie lus nie. my moods change elke sekonde**	Only gives bf attention when she feels like it, her moods changes every second.	**E-BF** **E-N**
P2:	(Lag) Ja, **jy stres op ander.**	Agrees, takes out stress on others.	**E-N**

P3:	**Hulle sê mens moennie so stress** dis **nie goed vir kind nie** so **ek hou myself nou kalm** (lag)	They say one should not stress too much, not good for the child so now I keep myself calm.	**E-N MFA-S**
R:	Okay. (Pouse)		
R:	Droom julle van julle babas? Verbeel julle hoe julle babas gaan lyk?		
P3:	**Ek is in die hemel.** Ek dink net…**dit gaan die perfekte kind wees, nie perfek nie maar my beeld, ek soek nie 'n maer baba nie,** ek soek 'n lekker dik baba, 'n **bietjie dikkerig, my baba moet gesond lyk.**	I am in heaven. Think it is going to be the perfect child. Her image of perfection, does not want a slim baby, must be a bit chubby, must look healthy.	**MFA-D E-N MFA-D**
R:	Jy gaan hom genoeg gesonde kos voer? (almal lag)		
P3:	**Hom dik maak.** (pouse)	Going to make him chubby.	**MFA-D**
R:	Beskryf vir my elkeen hoe jy oor jou baba voel en dink nou?		
P3:	**Ek voel excited, bly, ek voel alles, ek voel perfek, ek worry nie oor nie, ek weet ek is onder ouderdom, maar vir my is dit amper so ek het 'n blessing gekry. Ek kan nie help nie ek dis net so.** (Lag)	Feels excited, glad, feel everything. Feels perfect, does not worry about her age, feels that she received a blessing. Cannot help that she feels that way.	**E-FM E-N MFA-S**
P1:	**Ek voel ook dieselfde, ek is opgewonde, ek voel gelukkig, ek voel veral gelukkig as ek voel hy beweeg en hy skop,** en ja so al.	I feel the same, I am excited, I feel happy, I especially feel happy when I feel him moving and kicking.	**E-N MFA-S E-FM**

P2:	(Lag) **Ek kan dit nie beskryf nie, ek is ook baie gelukkig. Ek kan nie wag nie.**	Cannot describe her feelings, also very happy, cannot wait.	**E-N** **MFA-S**

ADDENDUM H

Approval letter WCED

Western Cape Government
Education

Directorate: Research

Audrey.wyngaard@westerncape.gov.za
tel: +27 021 467 9272
Fax: 0865902282
Private Bag x9114, Cape Town, 8000
wced.wcape.gov.za

REFERENCE: 20140502-28989
ENQUIRIES: Dr A T Wyngaard

Mrs Lize Olivier
PO Box 1443
Gordon's Bay
7151

Dear Mrs Lize Olivier

RESEARCH PROPOSAL: MATERNAL FETAL ATTACHMENT DURING TEENAGE PREGNANCY

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.
5. The Study is to be conducted from **02 May 2014 till 30 June 2014**
6. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December).
7. Should you wish to extend the period of your survey, please contact Dr A.T Wyngaard at the contact numbers above quoting the reference number?
8. A photocopy of this letter is submitted to the principal where the intended research is to be conducted.
9. Your research will be limited to the list of schools as forwarded to the Western Cape Education Department.
10. A brief summary of the content, findings and recommendations is provided to the Director: Research Services.
11. The Department receives a copy of the completed report/dissertation/thesis addressed to:

    The Director: Research Services
    Western Cape Education Department
    Private Bag X9114
    CAPE TOWN
    8000

We wish you success in your research.

Kind regards.
Signed: Dr Audrey T Wyngaard
Directorate: Research
DATE: 02 May 2014

ADDENDUM I

Approval letters school

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STELLENBOSCH UNIVERSITY
LETTER OF CONSENT TO CONDUCT RESEARCH IN A SCHOOL

MATERNAL FETAL ATTACHMENT DURING TEENAGE PREGNANCY

I, Lize Olivier, M.Ed. Psych. student from the Department of Educational Psychology at Stellenbosch University hereby request permission to conduct research at your school. Teenage pregnant learners between the ages of 15-17 years that are in their third trimester of pregnancy at your school will be asked to participate in this research study. The results of this research will contribute to the completion of a master's thesis.

- **PURPOSE OF THE STUDY**

Research indicates that the maternal fetal attachment relationship influences the healthy development of the mother and infant both before and after the birth of the infant. Poor maternal fetal attachment has been correlated with postnatal depression and low birth weight. But strong maternal fetal attachment leads to healthy behaviours by the mother to protect her unborn infant from harm. The purpose of the research is to explore and to describe what the nature of maternal fetal attachment is for teenage pregnant girls. Being pregnant while being a teenager could potentially influence the maternal fetal attachment between mother and child and could put the mother and child at risk. The identification of risk factors during teenage pregnancy impacting on maternal fetal attachment could lead to suitable interventions.

- **PROCEDURES**

Learners and their parents/guardians, who volunteer to participate in this study, would be asked to do the following things:

Step 1: Sign consent and assent to participate in research forms
Once the participants have volunteered to participate in this study, the parents/guardians of the selected learners have to sign a consent form, and the learners will have to sign an assent form.

Step 2: Interview
Each learner will be interviewed once by the researcher at the school at a suitable time. The interview will last approximately 45-60 minutes, during which the researcher will ask each learner questions on the topic.

Step 3: Dissemination of data
Audio recordings of the interviews will be made to facilitate gathering of accurate and complete data.

- **POTENTIAL RISKS AND DISCOMFORTS**

Although the nature of this topic will make it highly unlikely to experience any risks or discomforts, please note that no one is under any obligation to answer any questions that may make them feel uncomfortable. If any of the participants need counseling after the research study they can contact the Social Worker, Ms. Melinda Wiese, and WCED School Psychologist, Mr. Michael Heine, is also available.

- **POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY**

There might not be a direct benefit to the learners, but it might make learners more aware of the importance of maternal fetal attachment and therefore motivate them to strengthen this relationship.

- **PAYMENT FOR PARTICIPATION**

Participation is voluntary, therefore no form of remuneration will be provided.

- **CONFIDENTIALITY**

Any information that is obtained in connection with this study and that can be identified with any participant or the school will remain confidential and will be disclosed only with the school or participant's permission or as required by law. Confidentiality will be maintained by means of pseudonyms (fictitious names) that will be used instead of real names to respect confidentiality.

The audio-recordings will be stored on the researcher's computer, which is password-protected.
No-one outside of the research team will have privileged access to any data and files. Accordingly, correspondence or other documentation will not be examined without clear authorisation. All names of people and places will be anonymised (or fictionalised) unless participants instruct otherwise. The results will only be available to the researcher, supervisor and participants. The results will be reported to the participants verbally during individual appointments.

The findings will be reported in a master's thesis without any identifiable data about the participants or the school where the research takes place. The information will be erased from the researcher's computer once the thesis has been completed.

- **PARTICIPATION AND WITHDRAWAL**

The selected learners can choose whether to participate in this study or not. Learners, who volunteer to take part in this study, may withdraw at any time without consequences of any kind. Learners may also refuse to answer any questions they don't want to answer and still remain in the study. The researcher may withdraw any participant from this research if circumstances arise which warrant doing so.

- **IDENTIFICATION OF INVESTIGATORS**

If you have any questions or concerns about the research, please feel free to contact the researcher: Lize Olivier at 0767749224; lizeolivier77@gmail.com or the supervisor of this study: Ms. C Louw at 021 808 2319; cl1@sun.ac.za.

- **RIGHTS OF RESEARCH SUBJECTS**

Participants may withdraw their consent at any time and discontinue participation without penalty.

SIGNATURE OF PRINCIPAL

The information above was described to me by Lize Olivier in English and I am in command of this language. I was given the opportunity to ask questions and these questions were answered to my satisfaction.

I hereby consent completion of the proposed study at Gordon High School. I have been given a copy of this form.

_____
Name of Principal

_____
Signature of Principal

24 April 2014
Date

SIGNATURE OF INVESTIGATOR

I declare that I explained the information given in this document to the school principal,

Lize Olivier (Researcher) — **Date** 24 April 2014

15 April 2013

To whom it may concern

I, on behalf of hereby give Lize Olivier, M.Ed. Psych. student from the Department of Educational Psychology at Stellenbosch University permission to conduct research at the school towards the completion of a master's thesis with the title: *Maternal fetal attachment during teenage pregnancy, at the school.*

The information regarding the scope of the study was explained to me by Lize Olivier. I was given the opportunity to ask questions and these questions were answered to my satisfaction.

I therefore grant consent for the completion of the proposed study at

ADDENDUM J

Approval letter REC

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Approval Notice
Response to Modifications- (New Application)

08-Apr-2014
OLIVIER, Lize

Proposal #: HS922/2013
Title: MATERNAL FETAL ATTACHMENT DURING TEENAGE PREGNANCY

Dear Mrs Lize OLIVIER,

Your **Response to Modifications -** ***(New Application)*** received on **25-Feb-2014**, was reviewed by the Research Ethics Committee: Human Research (Humanities) via Committee Review procedures on **26-Mar-2014** and has been approved.
Please note the following information about your approved research proposal:

Proposal Approval Period: **26-Mar-2014 -25-Mar-2015**

Present Committee Members:

Please take note of the general Investigator Responsibilities attached to this letter. You may commence with your research after complying fully with these guidelines.

Please remember to use your **proposal number** (**HS922/2013**) on any documents or correspondence with the REC concerning your research proposal.

Please note that the REC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

Also note that a progress report should be submitted to the Committee before the approval period has expired if a continuation is required. The Committee will then consider the continuation of the project for a further year (if necessary).

This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki and the Guidelines for Ethical Research: Principles Structures and Processes 2004 (Department of Health). Annually a number of projects may be selected randomly for an external audit.

National Health Research Ethics Committee (NHREC) registration number REC-050411-032.

We wish you the best as you conduct your research.

If you have any questions or need further help, please contact the REC office at 0218089003.

Included Documents:
Interview Schedule
Permission letters
Research proposal
REC Application
DESC form
Informed consent

Sincerely,

Winston Beukes
REC Coordinator
Research Ethics Committee: Human Research (Humanities)

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Approval Notice

Response to Modifications- (New Application)

08-Apr-2014
OLIVIER, Lize

Proposal #: **HS922/2013**
Title: **MATERNAL FETAL ATTACHMENT DURING TEENAGE PREGNANCY**

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We wish you the best as you conduct your research.

If you have any questions or need further help, please contact the REC office at 0218089003.

Included Documents:
Interview Schedule
Permission letters
Research proposal
REC Application
DESC form
Informed consent

Sincerely,

ADDENDUM K

Participant consent forms

Child assent form - English

	STELLENBOSCH UNIVERSITY

PARTICIPANT INFORMATION LEAFLET AND ASSENT FORM

TITLE OF THE RESEARCH PROJECT:
MATERNAL FETAL ATTACHMENT DURING TEENAGE PREGNANCY

RESEARCHERS NAME(S): Lize Olivier

ADDRESS: 7 Rooiels Crescent
Gordons Bay
7151

CONTACT NUMBER: 076 774 9224

Dear Participant

You are invited to take part in a research project (Maternal fetal attachment during teenage pregnancy).

Please take some time to read the information presented here, which will explain the details of this project. Please ask me any questions about any part of this project that you do not fully understand. It is very important that you are fully satisfied and that you clearly understand what this research entails

and how you can be involved. In addition, your participation is voluntary and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to drop out of the study at any point, even if you do agree to take part.

What is RESEARCH*?*

Research is something that we do to find new knowledge about the way things (and people) work. We use research projects or studies to help us find out more how we can help children and teenagers.

What is this research project all about?

The researcher wants to explore what the thoughts and feelings of a pregnant teenager are about her unborn baby.

Why have I been invited to take part in this research project?

The study is about pregnant teenagers and you are suitable to take part in it. The researcher would like you to answer some questions about how you feel and what your thoughts are about your unborn baby. I would also like to know how you first felt when you found out that you are pregnant; if you have made any changes to your daily activities since you learnt that you are pregnant; what information you got about pregnancy; if you communicate with your baby; who supports you during your pregnancy and how; the prenatal care you receive during your pregnancy; whether you felt closer to your baby as your pregnancy developed and whether you know if your baby is a boy/girl and how you feel about that.

Who is doing the research?

The researcher is Lize Olivier; I am an Educational Psychology student.

What will happen to me in this study?

During the study you will be asked to answer some questions about your pregnancy and your relationship with your unborn baby, you need to give honest and correct answers to the researcher. You will also be asked to take part in a group discussion with other participants to talk about your relationship with your unborn baby. With your permission the answers will be recorded, only the researcher and supervisor will have access to the recording. The audio-recordings will be stored on the researcher's computer, which is password-protected**.** Your personal details will remain anonymous; this means that your name will not be mentioned to anyone. The information in the individual interviews that you give will only be seen and heard by the researcher and supervisor. The information in the group interview that you give will only be seen and heard by the researcher and supervisor and the other participants. You will also be asked to make a collage with art materials about your feelings towards you unborn baby and your pregnancy, this will also remain confidential and a false name will be used when the researcher puts a copy of this in her research thesis with your permission.

Can anything bad happen to me?

Nothing bad can happen to you. You might want to talk about your pregnancy some more after the study in which case you can contact Mr Heine, the School Psychologist, or Ms Wiese, the Social Worker.

Can anything good happen to me?

You may feel closer to your baby; you may also understand your relationship with your baby better. In future other teenage pregnant girls may also be helped to form a closer connection with their babies and you may also be able to support other pregnant teenage girls.

Will anyone know I am in the study?

The only people who will know that you are in the study are the researcher and her supervisor, your parents and yourself.

Who can I talk to about the study?

You can contact Ms C Louw at tel 021 808 2319 if you have any further queries or encounter any problems.

You can contact the Committee for Human Research at (021) 938-9075 if you have any concerns or complaints regarding any aspect of the research.

What if I do not want to do this?

You are under no obligation to take part in the study and even if your parents gave their permission, you still do not have to take part. You can also decide to refuse to take part in the study at any time without getting in trouble with anyone.

Do you understand this research study and are you willing to take part in it?

YES	NO

Has the researcher answered all your questions?

YES	NO

Do you understand that you can pull out of the study at any time?

YES	NO

_____ _____

Signature of Child Date

Child assent form - Afrikaans

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INLIGTINGSTUK EN TOESTEMMINGSVORM VIR DEELNEMERS

TITEL VAN NAVORSINGSPROJEK:

DIE GEHEGTHEIDSBAND TUSSEN DIE MOEDER EN HAAR ONGEBORE BABA TYDENS TIENERSWANGERSKAP.

NAVORSER(S): LIZE OLIVIER

ADRES: ROOIELS 7
GORDONS BAAI
7151

KONTAKNOMMER: 076 774 9224

Geagte deelnemer

Jy word vriendelik uitgenooi om deel te neem aan ’n navorsingsprojek. (Die gehegtheidsband tussen die moeder en haar ongebore baba tydens tiener swangerskap).
Lees asseblief die inligting in hierdie brief aandagtig deur; dit beskryf die besonderhede van die navorsingsprojek. Jy is welkom om my gerus enige vrae te vra oor enige deel van die projek wat jy nie verstaan nie. Dit is baie belangrik dat jy heeltemal tevrede is en verstaan waaroor die navorsing handel en hoe jy betrokke kan wees daarby. Jou deelname aan die navorsing vrywillig. As jy verkies om nie aan die navorsing deel te neem nie sal dit jou nie op enige wyse negatief affekteer nie. Jy kan ook tydens die navorsing op enige stadium daarvan besluit om nie verder deel te neem daaraan nie, sonder enige slegte gevolge.

Wat is navorsing*?*
Navorsing is iets wat ons doen om nuwe kennis oor hoe dinge (en mense) werk uit te vind. Ons gebruik navorsingsprojekte of studies om ons te help om meer uit te vind hoe ons kinders en tieners kan help.

Waaroor gaan hierdie navorsingsprojek?
Die navorser wil graag ondersoek wat die gedagtes en gevoelens is van swanger tieners oor hulle ongebore baba.

Hoekom vra julle my om aan hierdie navorsingsprojek deel te neem?
Die navorsingstudie handel oor swanger tieners en daarom is jy geskik om deel te neem daaraan. Die navorser wil graag hê dat jy vrae moet beantwoord oor jou gedagtes en hoe jy voel oor jou ongebore baba. Ek wil graag ook weet hoe jy gevoel het toe jy uitgevind het dat jy swanger is; of jy enige veranderinge gemaak het aan jou daaglikse aktiwiteite vandat jy swanger is; watter inligting jy oor swangerskap bekom het; of jy met jou baba kommunikeer; wie ondersteun jou tydens jou swangerskap; watter prenatale versorging het jy al gekry; het jou gevoel teenoor jou baba versterk sedert die begin van jou swangerskap; weet jy wat die geslag van jou baba is, en hoe voel jy daaroor?

Wie doen die navorsing?
Die navorser is Lize Olivier; Ek is 'n Opvoedkundige Sielkunde student.

Wat sal in hierdie studie met my gebeur?
Gedurende die studie sal jy versoek word om sommige vrae te beantwoord oor jou swangerskap en jou ongebore baba; jy moet eerlike en korrekte antwoorde aan die navorser gee. Jy sal ook gevra word om aan 'n groepgesprek deel te neem saam met ander deelnemers van die studie waartydens jy ook versoek sal word om sommige vrae te beantwoord oor jou swangerskap en jou ongebore baba. Met jou toestemming sal die antwoorde van beide gesprekke opgeneem word, slegs die navorser en supervisor het toegang tot die opgeneemde inligting. Die oudio-opnames sal op die navorser se rekenaar gestoor word wat beskerm word deur 'n wagwoord. Jy sal ook versoek word om 'n Collage te maak met kunsartikels; met jou toestemming sal 'n kopié hiervan anoniem in die navorser se tesis gepubliseer word.
Jou persoonlike besonderhede sal anoniem bly; dit beteken dat jou naam nie genoem sal word aan enige iemand nie. Die inligting wat jy verskaf is vertroulik en sal slegs deur die navorser en haar supervisor gesien en gehoor word.

Kan enigiets fout gaan?
Niks slegs kan met jou gebeur nie. Jy sal dalk na die studie met iemand wil gesels oor jou swangerskap en in daardie geval kan jy Mnr. Heine, die skoolsielkundige, of Mev. Wiese, die sosiale werkster kontak.

Watter goeie dinge kan in die studie met my gebeur?
Jy mag dalk nader voel aan jou baba, jy mag dalk ook jou verhouding met jou baba beter verstaan. In die toekoms kan ander swanger tieners dalk ook gehelp word om 'n sterker gehegtheidsband met hulle babas te vorm en jy sal dalk ook ander swanger tieners kan help.

Sal enigiemand weet ek neem deel?
Die enigste persone wat sal weet dat jy deelneem aan die studie is die navorser, supervisor, jou ouers en jyself.

Met wie kan ek oor die studie praat?
Jy kan Mev. C. Louw kontak by tel 021 808 2319 as jy enige verdere vrae het of probleme ervaar.

Jy kan ook die Komitee vir Menslike Navorsing kontak by tel (021) 938-9075 as jy enige besorgdhede het of ongelukkig is met enige aspek aangaande die navorsing.

Wat gebeur as ek nie wil deelneem nie?
Jy is onder geen verpligting om deel te neem aan die studie nie en selfs al het jou ouers ingewillig vir jou om deel te neem kan jy steeds weier. Jy mag ook enige tyd tydens die studie weier om verder deel te neem daaraan sonder om in die moeilikheid te kom by enige iemand. Deelname aan die studie is heeltemal vrywillig.

Verstaan jy hierdie navorsingstudie, en wil jy daaraan deelneem?

JA NEE

Het die navorser ál jou vrae beantwoord?

JA NEE

Verstaan jy dat jy kan ophou deelneem net wanneer jy wil?

JA NEE

_____ _____
Handtekening van kind Datum

Parental consent form - English

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CONSENT TO PARTICIPATE IN RESEARCH

MATERNAL FETAL ATTACHMENT DURING TEENAGE PREGNANCY
Parental Consent

Dear Parent /Guardian

Your child is invited to take part in a research study conducted by Lize Olivier, a Masters Educational Psychology student from the Educational Psychology Department at Stellenbosch University. The research results will form part of my thesis for degree purposes. Your daughter has been selected to participate in this study because the study is about teenage pregnancy.

1. PURPOSE OF THE STUDY

This study is designed to describe and to explore what the attachment relationship is between the pregnant teenager and her unborn baby.

2. PROCEDURES

If you give consent for your child to participate in this study, we shall ask her to do the following things:

- We will ask her to attend one individual, hour long, interview and one half an hour focus group interview with the researcher at her school
- During the interviews the researcher will ask her some questions about her feelings, thoughts, activities and support during pregnancy focusing on her relationship with her unborn baby. This relationship is also called maternal fetal attachment.
- With her permission the interviews will be audio recorded. She can review the audio recording of the interview and if she would like the researcher to erase any part of it she can do so.
- We will also ask her to make a collage with art materials (supplied by the researcher) about her feelings and thoughts about her baby and pregnancy.

3. POTENTIAL RISKS AND DISCOMFORTS

There are no potential risks. She might have the need to talk to someone after the study in which case she can contact the WCED school psychologist, Mr. Michael Heine, or the social worker, Ms. Melinda Wiese.

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

The participants might gain knowledge about the importance of the special relationship that they have with their unborn baby, and this may strengthen the relationship.

5. PAYMENT FOR PARTICIPATION

The participants will not receive any payment for the study, and there will not be any costs involved.

6. CONFIDENTIALITY

The information that will be collected will be confidential; the identity of your child will stay anonymous throughout the research process. Only the researcher, her supervisor and the participant will have access to this information. The information that is gathered will be stored on the computer of the researcher which is password protected. The findings of the research will be discussed with the participants and will only be reported with their permission.

If the information gathered during the interviews is being published in the thesis of the researcher, your child's identity will remain anonymous. All names of people and places will remain anonymous (or fictional names will be used) unless participants instruct the researcher to use their real name.

7. PARTICIPATION AND WITHDRAWAL

Participation in this study is voluntary and if you refuse that your daughter participates in the study there will be no negative consequences to yourself or your daughter in any way. You may also choose to withdraw your child from the study at any stage during the research without any negative consequences.

The researcher may ask your child to withdraw from the study before it has finished, if the researcher feels that it is in the best interest of your child or if she does not follow the study plan agreed to.

8. IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact the research supervisor Ms. C. Louw at tel: (021) 21 808 2319.

In the case of an emergency after the completion of the study you can contact Mr M. Heine (WCED School psychologist) at 083 357 6110 and/or Ms. Melinda Wiese (Social Worker) at 083 701 2329.

9. RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact Ms Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development, Stellenbosch University.

SIGNATURE OF RESEARCH SUBJECT OR LEGAL REPRESENTATIVE

The information above was described to me by Lize Olivier in English and I am in command of this language or it was satisfactorily translated to me. I was given the opportunity to ask questions and these questions were answered to my satisfaction.

I hereby consent that the participant may participate in this study. I have been given a copy of this form.

_____

Name of Subject/Participant

_____

Name of Legal Representative (if applicable)

_____ _____

Signature of Subject/Participant or Legal Representative **Date**

SIGNATURE OF INVESTIGATOR

I declare that I explained the information given in this document to _____ [*name of the subject/participant]* and/or [his/her] representative _____ [*name of the representative]. [He*/she] was encouraged and given ample time to ask me any questions. This conversation was conducted in [*Afrikaans/*English/*Xhosa/*Other*] and [*no translator was used/this conversation was translated into* _____ by _____].

_____ _____

Signature of Investigator **Date**

Parental consent form - Afrikaans

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INWILLIGING OM DEEL TE NEEM AAN NAVORSING

DIE GEHEGTHEIDSBAND TUSSEN DIE MOEDER EN HAAR ONGEBORE BABA TYDENS TIENERSWANGERSKAP
Ouer Toestemming

Geagte Ouer/Voog

U dogter is uitgenooi om deel te neem aan ’n navorsingstudie wat uitgevoer gaan word deur Lize Olivier, ’n Meestersgraad student in Opvoedkundige Sielkunde, van die Departement Opvoedkundige Sielkunde aan die Stellenbosch Universiteit. Die navorsingsresultate sal deel vorm van my tesis vir graaddoeleindes. U dogter is as moontlike deelnemer aan die studie gekies omdat die studie handel oor tienerswangerskap.

1. DOEL VAN DIE STUDIE

Die studie is ontwerp om die gehegtheidsband tussen die swanger tiener en haar ongebore baba te beskryf en te eksploreer. Die gehegtheidsband wat tydens swangerskap ontwikkel het belangrike positiewe gevolge vir die swanger tiener sowel as haar ongebore baba. Die navorser wil graag ondersoek instel hoe die gehegtheidsband ontwikkel en beïnvloed word tydens tienerswangerskap.

2. PROSEDURES

Indien u inwillig vir u kind om aan die studie deel te neem, sal ons haar vra om die volgende te doen:

- Ons sal haar vra om ’n een uur lange individuele onderhoud met die navorser en een half uur lange groeps onderhoud saam met ander deelnemers en die navorser by te woon by haar skool Hoërskool Gordon High. Sy sal ook gevra word om ‘n Collage te maak waarvoor die navorser materiaal sal verskaf.
- Gedurende die onderhoude sal die navorser haar ’n paar vrae vra oor haar gevoelens, gedagtes, aktiwiteite en ondersteuning gedurende haar swangerskap. Die fokus sal wees op haar verhouding met haar ongebore baba. Hierdie verhouding word ook die gehegtheidsband tydens swangerskap tussen moeder en kind genoem. Sy sal gevra word om haar gevoelens en gedagtes oor haar swangerskap en ongebore baba uit te druk deur die skep van haar collage.
- Met u dogter se toestemming sal die onderhoude op oudioband opgeneem word. Sy kan die klank opname van die onderhoude hersien en as sy verkies dat die navorser enige gedeelte van die opname moet uitvee sal die navorser dit doen.

3. MOONTLIKE RISIKO’S EN ONGEMAKLIKHEID

U dogter mag moontlik die behoefte hê om na die studie met iemand te gesels en indien dit die geval is, kan sy Mnr Mike Heine die WKOD distrik sielkundige kontak by tel: 083 357 6110 of Me. Melinda Wiese die WKOD distriks maatskaplike werkster kontak by tel: 083 701 2329 vir verdere berading.

4. MOONTLIKE VOORDELE VIR PROEFPERSONE EN/OF VIR DIE SAMELEWING

Die deelnemer se kennis mag moontlik verbreed oor die belangrikheid van die spesiale verhouding wat sy het met haar ongebore baba, wat die versterking van die verhouding tot gevolg kan hê.

5. VERGOEDING VIR DEELNAME

Die deelnemer sal geen vergoeding vir deelname aan die studie ontvang nie en daar sal ook geen koste vir die deelnemer wees om deel te neem aan die studie nie.

6. VERTROULIKHEID

Enige inligting wat ingesamel sal word, is vertroulik; die identiteit van u kind sal deurgaans anoniem bly tydens die navorsingsproses. Slegs die navorser, haar supervisor en die deelnemer sal toegang hê tot die inligting. Die inligting wat ingesamel word sal elektronies gestoor word op die rekenaar van die navorser en word beskerm deur 'n wagwoord. Die harde kopie van die collage sal vernietig word en net die digitale kopie sal saam met die ander inligting wat ingesamel is elektronies gestoor. Die bevindinge van die navorsing sal met die deelnemers bespreek word en sal slegs met hulle toestemming gerapporteer word.

Indien die inligting wat tydens die navorsing ingesamel is gepubliseer word in die tesis van die navorser, sal u kind se identiteit anoniem bly. Alle name van mense en plekke sal anoniem bly (of fiktiewe name sal gebruik word) tensy deelnemers die navorser instruksie gee om hulle regte naam te gebruik.

7. DEELNAME EN ONTTREKKING

Deelname aan die studie is vrywillig en indien u weier dat u dogter deelneem aan die studie sal daar geen negatiewe gevolge vir uself of u dogter wees nie. U mag ook besluit om u dogter te onttrek van die studie gedurende enige fase van die navorsingsproses met geen negatiewe gevolge nie.

Die navorser kan u dogter vra om aan die studie te onttrek voor dit voltooi is, indien die navorser voel dat dit in die beste belang van u kind sal wees of as sy nie die studieplan volg soos ooreengekom is nie.

8. IDENTIFIKASIE VAN ONDERSOEKERS

Indien u enige vrae of besorgdheid omtrent die navorsing het, staan dit u vry om in verbinding te tree met die hoofondersoeker, Me. L. Olivier by tel: 0767749224, of die navorsingsupervisor, Me. C. Louw by tel: (021) 808 2319.

Indien u dogter na die voltooiing van die navorsing graag met iemand wil praat, kan u Mnr Mike Heine die WKOD distriks sielkundige kontak by tel: 083 357 6110 of Me. Melinda Wiese die WKOD distriks maatskaplike werkster kontak by tel: 083 701 2329.

VERKLARING DEUR PROEFPERSOON OF SY/HAAR REGSVERTEENWOORDIGER

Die bostaande inligting is aan my gegee en verduidelik deur Lize Olivier in Afrikaans en ek is dié taal magtig of dit is bevredigend vir my vertaal. Ek is die geleentheid gebied om vrae te stel en my vrae is tot my bevrediging beantwoord.

Ek gee hiermee toestemming dat die deelnemer aan die studie mag deelneem. 'n Afskrif van hierdie vorm is aan my gegee.

_____
Naam van proefpersoon/deelnemer

_____
Naam van regsverteenwoordiger (indien van toepassing)

_____ _____
Handtekening van proefpersoon/deelnemer of regsverteenwoordiger **Datum**

VERKLARING DEUR ONDERSOEKER

Ek verklaar dat ek die inligting in hierdie dokument vervat verduidelik het aan [*naam van die proefpersoon/deelnemer*] en/of sy/haar regsverteenwoordiger [*naam van die regsverteenwoordiger*]. Hy/sy is aangemoedig en oorgenoeg tyd gegee om vrae aan my te stel. Dié gesprek is in [*Afrikaans/*Engels/*Xhosa/*Ander*] gevoer en [*geen vertaler is gebruik nie/die gesprek is in _____ vertaal deur _____*].

_____ _____
Handtekening van ondersoeker **Datum**

Goedgekeur Subkomitee A 25 Oktober 2004