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The relationship between maternal-foetal attachment, self esteem and social support in pregnant adolescents

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THE RELATIONSHIP BETWEEN MATERNAL-FOETAL ATTACHMENT, SELF ESTEEM AND SOCIAL SUPPORT IN PREGNANT ADOLESCENTS

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ABSTRACT.

Fifty pregnant teenagers (mean age 17.8, range 15-19) were recruited to take part in a semi-structured research interview investigating the relationships between self esteem, social support and maternal-foetal attachment. Three objective research instruments were employed: i) The Maternal-Foetal Attachment Scale (MFAS, Cranley, 1981), ii) The Support Behaviours Inventory (SBI, Brown, 1988) and iii) Rosenberg's Self Esteem Scale (RSE, Rosenberg, 1979). Measures of social support were derived from self-ratings and qualitative data was collected exploring the mother's relationship with her foetus.

Maternal-foetal attachment has been defined as the extent to which women engage in behaviours that represent an affiliation and interaction with their unborn baby or an enduring affectional tie and commitment (Cranley, 1981; Mercer and Ferketich, 1990). This study is a comparison study to that of Koniak-Griffin (1988) who investigated the relationship between self esteem, social support and maternal-foetal attachment in adolescents. Significant flaws were identified in Koniak-Griffin's study which included the use of a non-representative sample of teenagers who were institutionalised. Our population was selected from pregnant adolescents attending a large country health service area.

There is limited information available related to maternal-foetal attachment in adolescents. Pregnancy is the beginning of the woman sharing her body with another being and this event creates changes for the woman in the way she will perceive herself and the future relationship with the "unknown" baby (Kemp and Page, 1987). Evidence is increasing that the relationship

initiated by the woman with her unborn baby assists in maternal-role development. Current studies indicate that maternal-foetal attachment is an important aspect of the developmental tasks of pregnancy and influences maternal-infant attachment (Gaffney, 1988). The events of the prenatal period effect the degree to which the woman is prepared for the birth experience and the role of motherhood. Unless positive maternal-foetal attachment occurs for the adolescent mother, literature suggests that she will experience problems in her relationship with her infant.

The results indicated that Maternal-Foetal Attachment was significantly related to Self Esteem ($r = 0.359$, $p < 0.005$), and to the total number of people indicated as being supportive ($r = 0.271$, $p < 0.05$). There was no relationship, however, with the Support Behaviours Inventory measure. Interestingly, Maternal-Foetal Attachment was significantly related to perceived support from the teenager's father ($r = 0.294$, $p < 0.05$) but was not related to support from the mother ($r = 0.032$, ns.) a finding at odds with the literature. Maternal-Foetal Attachment was not significantly related to the age of the teenager, but was significantly related to gestation ($r = 0.49$, $p < 0.0005$). The Maternal-Foetal Attachment Scale was re-scored, removing items that were gestation-specific (i.e. that specifically primed for foetal movement responses) because it was reasoned that these were not measuring foetal attachment. Using the revised scale gestation was no longer related to maternal-foetal attachment, but self esteem and social support dispersion were significantly related. The conclusion is that the two most important variables in promoting maternal-foetal attachment are the pregnant mother's self esteem and the size of the social support network.

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CHAPTER 1.

INTRODUCTION.

During the time I worked as a midwife in the delivery suite of a large country hospital I became aware that there seemed to be a large number of adolescents having a baby. There was much discussion between medical practitioners on the need to conduct research related to pregnant adolescents and, as a midwife who is in a unique position to support and educate the adolescent in pregnancy and parenting skills, I decided to investigate the relationship between maternal-foetal attachment, self esteem and social support in pregnant adolescents.

The Midwives Data Collection for the 2650 post code of the Wagga Wagga city area for 1988 and 1990 to 1993 revealed that women between the maternal ages of 10 to 19 years accounted for 7.1 to 8.9% of all pregnancies (Midwives Data Collection, New South Wales Department of Health).

In 1989 the Shearman Report of "Maternity Services in New South Wales", found that country areas have a large proportion of adolescent mothers. This report identified the need for an adolescent out patient clinic to be available for the pregnant adolescent in Wagga Wagga. Since that time a social worker has been appointed to provide programs and support groups for the care of the pregnant adolescent in a public based midwifery antenatal clinic. The midwives provide antenatal care and education.

There was a need to investigate the factors that may influence maternal-foetal attachment and future maternal-infant attachment so that

the midwife could plan, implement, assess and evaluate the educational and support programs which would be appropriate for the adolescent. Maternal-foetal attachment is a term that refers to the feelings of affection the pregnant woman has towards her unborn baby. For the adolescent, the capacity to nurture and form positive attachment behaviours with her unborn baby and infant may be undermined by her own strivings to establish an adult identity and autonomy as well as possible unresolved issues from childhood (Moroz and Allen-Meares, 1991; Levine et al. 1985).

A further search of the literature revealed that there is a scarcity of information available related to maternal-foetal attachment in pregnant adolescents, and that few researchers have assessed maternal-foetal attachment in pregnant adolescents. It was decided to compare this study with a similar American study involving pregnant adolescents by Koniak-Griffin (1988) who investigated the relationship between self esteem, social support and maternal-foetal attachment in adolescents. Flaws were identified in this study which included the use of a non-representative sample of adolescents who were institutionalised.

Koniak-Griffin's study involved 90 adolescents from diverse ethnic and racial backgrounds who were all residents of maternity homes. The data gathering methods used in this study were, a background questionnaire, Coopersmith Self-Esteem Inventory, Norbeck's Social Support Questionnaire and the Maternal-Foetal Attachment Scale. Except for the self esteem inventory and the social support questionnaire similarities existed between the two studies. The reason for choosing the instruments for my study were; i) Rosenberg Self Esteem Scale has been successfully used with adolescents in other studies, ii) The Support Behaviour Inventory

not only measures "total" support but separately measures "other" and "partner" support, thus providing more information related to the support given to the adolescent. In the Koniak-Griffin study, the "School Form" of Coopersmith Self-Esteem Inventory was used. However no information has been provided on the suitability of using Norbeck's Social Support Inventory for the adolescent at their stage of cognitive development.

Although the overall findings of the Koniak-Griffin (1988) study did not support a strong relationship between self esteem, social support and overall maternal-foetal attachment four key variables were identified through regression analysis. The significant variables identified as a predictor of maternal-foetal attachment were; total functional support, total network size, planned pregnancy and the intention to keep the baby.

Flaws were identified in the Koniak-Griffin (1988) study which included the use of a non-representative sample of adolescents who were institutionalised in a Catholic maternity home and a Salvation Army facility. The pregnant adolescents were provided prenatal care programs, counselling and public education thus emotional and social support were possibly supplied within these centres by the care givers. Further support of the pregnant adolescent may have been provided by other pregnant adolescents within the centres. The sample included pregnant adolescents who did not plan to keep their baby therefore this aspect could affect maternal-foetal attachment. Twenty of the 90 subjects experienced pregnancy complications which may affect maternal-foetal attachment thus influencing the results. These subjects were possibly not representative of the total population but rather the the pregnant adolescents who were residents of the two licensed maternity homes.

From this review of the Koniak-Griffin (1988) research, it is apparent that knowledge of maternal-foetal attachment in adolescents is imprecise. It was therefore decided to reinvestigate the issue with a view to avoiding the flaws of the past research.

The current study also investigated the relationship between self esteem and social support to maternal-foetal attachment. Self esteem is an expression used to identify the emotional evaluation adolescents make about themselves, in the general form of approval or disapproval, while social support has been suggested as support that provides information, emotional, physical and appraisal support by others.

The literature review commences with a chapter on maternal role theory and maternal role attainment, a process whereby the pregnant woman achieves the ability to incorporate mothering behaviours into her established role and feel comfortable with her identity as a mother. Chapter 3 then reviews the main theories of attachment including maternal-foetal attachment. Chapter 4 focuses on adolescent psychosocial development and adolescent pregnancy. Chapter 5 identifies factors which may influence prenatal attachment while Chapter 6 discusses the implications of problems in prenatal attachment. Chapter 7 presents the research design and methodology followed by Chapter 8 with the results. Chapter 9 discusses and interprets the results of the study and Chapter 10 relates to the implications for midwifery practice and the conclusion.

CHAPTER 2.

MATERNAL ROLE THEORY.

Literature suggests that having a baby changes everything for the woman both within and around her. Nothing is the same again as the powerful physiological forces sweep her and the foetus along on this journey which becomes a "long term commitment with irreversible effects" (Kitzinger, 1992:1). She "crosses the bridge into womanhood" (Kitzinger, 1992:1) with the birth of her first baby, never returning to the previous state (Raphael-Leff, 1991; Kitzinger, 1992; Price, 1988; Breen, 1975). Some authors refer to this process as a "rite of passage" (Gibson, 1986). This journey for some women can be a beautiful time to enjoy while other women are overwhelmed and frightened. For some it is a gradual awakening (Gibson, 1986).

This chapter explores the literature and looks at the journey of pregnant women through the trimesters of pregnancy and maternal role attainment. Maternal role has been defined as "a process in which the mother achieves competence in the role and integrates the mothering behaviours into her established role set, so that she is comfortable with her identity as a mother" (Walker, Crain and Thompson 1986:352).

Basic Psychoanalytic Ideas

Brazelton and Cramer (1990) described the dawn of attachment to the unborn baby as the work of pregnancy which includes three stages, accepting the news, first stirrings of a separate being and learning about the baby-to-be. Further discussion is related to the task at birth.

The work of pregnancy involves the psychological and physical preparation of the parents-to-be on the conscious as well as unconscious level and feeling the responsibility of a new baby creates a sense of urgency. The expectant parents may experience feelings of power and ambivalence during pregnancy as well as the need to withdraw in order to reorganise and make adjustments. The pregnant mother may rearrange her whole life around that of the unborn baby. Pregnancy has been identified as a period of identity reformation, a period of reordering interpersonal relationships and interpersonal space, and a period of personality maturation (Rubin, 1975). The developing baby within the pregnant mothers body progressively becomes part of the experiential self. Sensory perceptiveness is heightened by the changes that occur in the appearance and functions of the body, particularly tactile and kinesthetic sensations which often cannot be shared or experienced by others. This sensory awareness causes a turning inwards as awareness of the unborn baby increases. The outer and inner world become compatible and real. From the inward turning the pregnant woman works at the transition of the baby and herself to the real outer world by adjusting, planning, building adapting and recruiting strength. Preparation in the form of nesting occurs and attending to minute details such as preparing the room for the baby's arrival and preparation of the baby's clothing. At times the woman is oversensitive and often over interprets meanings of various behaviours by others. Other women are responsive and accepting of the pregnant woman's search for meaning (Brazelton and Cramer, 1990; Raphael-Leff, 1991; Kitzinger, 1992; Mercer, 1985; 1986; Rubin, 1975).

Rubin (1975) identifies four maternal tasks of pregnancy, safe passage, acceptance of the child by significant others, binding-in and giving of

oneself. Two of the tasks are related to the external world and two to the internal world of the woman and her relationship with her baby. Three separate tasks associated with the stage of the developing foetus are suggested by other authors (Brazelton and Cramer, 1990; Bibring et al. 1961; Niemela, 1992). Four stages of maternal role attainment are identified by Mercer (1985); the anticipatory phase, the formal stage, the informal stage and the final stage which extends over the first year when the integration of the maternal role is achieved. When the inner work is complete the pregnant woman can look forward to the new role (Brazelton and Cramer, 1990: Bibring et al. 1961).

What is similar between authors is that there are specific phases or stages which are progressive and timed to key points in gestation, although Mercer (1985) suggests a fourth stage which extends over the first year of the infant's life. The following pages will be discussed according to the trimesters of pregnancy. The first trimester refers to the period of 1 to 13 weeks gestation, the second trimester from 14 to 27 weeks gestation and the third trimester from 28 to 40 weeks gestation.

First Trimester: Accepting the News

In the mid 1990s parents are often informed of the pregnancy prior to any changes in the womans body or morning sickness. Both parents are often euphoric as they enter this new phase in their lives and now the work of pregnancy begins as the reality sets in. Psychologically, this may be a time of crisis and struggles of pregnancy may surface as the parents want to be the "perfect" parents and not make the same mistakes as their own parents as a means of protecting their baby from an imperfect world (Brazelton and Cramer, 1990; Bibring et al. 1961).

The vulnerable pregnant woman becomes focused on not hurting her unborn baby and dreams of the possibility of the child being defective. Any dangers to the unborn baby are recalled during the pregnancy, things read, heard or seen on television, information available on the harmful effects of drugs, pollutions, alcohol, cigarettes and foods. A safe passage through pregnancy and childbirth is sought by the woman initially and this is related to the woman herself during the first trimester (Rubin, 1975; Stainton et al. 1992; Breen, 1975).

For some pregnant women this is a time of needing support from friends and professionals in a dependent type relationship. Emotional adjustments occur as the hormone levels and physical processes adjust. Days are spent in daydreaming and nights of sorting out dreams (Brazelton and Cramer, 1990; Bibring et al. 1961). During the time of seeking a safe passage the women may secure the acceptance of the child by significant others. No one task of pregnancy has been identified as more important than another, however, the acceptance of the child by the person the woman is intimately involved with signifies the success of the pregnancy for some women (Rubin, 1975; Stainton et al. 1992).

The relationships the pregnant woman has with each family member is unique and has its own intimacy, exclusiveness and bonds . This is a time that these relationship bonds are realigned to endure but not broken thus it becomes an achieved bond with individual family members. In the first trimester there is no binding-in (Rubin, 1975; Stainton et al. 1992) although acceptance of the foetus as part of the mothers self image is considered the first task of pregnancy (Mercer, 1985; 1986). "Binding in" is a process whereby the mothers idea of the unborn baby is incorporated into the

image of her body, "her self image and her ideal image" according to Rubin (1975:149).

The giving of one self as a task of pregnancy has been identified as intricate to mothering and adulthood. It involves more concentration over time with more intensive and extensive involvement by the pregnant woman. The unborn baby may be seen as more demanding, threatening, consuming and uncontrollable than if it was in the outside world, while on the other hand it may be viewed as a gift given to the pregnant woman, a gift that she may give to others. Some authors (Rubin, 1975; Stainton et al. 1992) consider the first trimester as one of evaluation and assessment of the demands, cost analysis and trade off possibilities are explored related to appearance of the body, relationship integrity, life style and space. The unborn baby at this time is not a reality but rather an abstraction in the mind of some mothers (Rubin, 1975; Stainton et al. 1992).

Although there are many approaches suggested in the literature related to pregnancy and the experiences of pregnancy, Raphael-Leff (1991) has suggested that while there are two main orientations towards pregnancy, motherhood and the baby; "facilitator" and "regulator". Some women fall between the two orientations but most women gravitate towards either end of the model of maternal orientation.

During the first trimester the "facilitator" "greets" the news of pregnancy, feels fulfilment and contains herself within the baby which is desired passionately just as a "little girl caring for her dolls" (Raphael-Leff, 1991:81). She cherishes her pregnant body and thinks of the miraculous event, exhibiting a radiance and is "content with her womb" (Raphael-Leff,

1991:81). In contrast the "regulator" may view the pregnancy as tedious, does not share the news with others, avoids emotional involvement in pregnancy and feels "switched on" to automatic, "disciplining herself not to give way to the pregnancy" (Raphael-Leff, 1991:83).

Second Trimester: First Stirrings of a Separate Being

During the fifth month the pregnant woman may experience delicate, stroking sensations like a butterflies wings or air bubbles as the unborn baby's movements are felt. These movements progress to become quite strong. This time may be considered by the mother as one of fusion with her unborn baby as she experiences the fluttering of life and early attachment occurs at this point in time. For some women feelings of attachment and motherhood occur long before conception while for others it can begin when the woman gives up contraception and conceives (Gibson, 1986). "When the mother begins to recognise the life of the foetus, she will unconsciously put herself in its place, identify with it" (Brazelton and Cramer, 1990: 21). Fantasies and symbolic wishes may become part of the pregnant womans world as she "returns to the womb" in a wish for fusion and a revisiting of her early rewarding relationship with her own mother. She sees the unborn baby as a mediator between herself and her own mother (Brazelton and Cramer, 1990:22). By the end of the second trimester an increased awareness of the unborn baby exists, attachment occurs and value is placed on the unborn baby. The mother may become very protective towards the unborn baby and avoids behaviours of taking risks or perceived risks, seeking prenatal care in order to protect the unborn baby and "make a good baby" (Rubin, 1975:146).

Further prenatal care is sought out in the form of books, magazines,

movies, television and other women who have experienced childbirth as well as doctors and midwives. "Like a honey-bee with sensitive 'antennae' quivering she gleans expertise from others around her and stores away information without even noticing it" (Raphael-Leff, 1991).

Self questioning and conflicts can appear at this time and if the pregnant adolescent feels a threat to her own identity with her mother these feelings may influence her relationship to the unborn baby. The unborn baby and later the infant is viewed as a rival by the adolescent (Brazelton and Cramer, 1990; Bibring et al. 1961).

Some authors (Rubin, 1975; Stainton et al. 1992) believe that during the first trimester the unborn baby is an idea, a generalised abstraction. In the second trimester the focus of pregnancy may move to the unborn baby and in the third trimester, critical issues evolve such as; whether the child be accepted based on sex or if it is deformed. This "binding in" then becomes the work for some women requiring total involvement. When foetal movements are experienced there is a dramatic change and the feeling of life within has been identified as a warm experience (Mercer, 1985; 1986). For some women this then commences a serious undertaking of the tasks of pregnancy. Rubin (1975:149) suggests that hormonal levels of oestrogen and progesterone increase during this time providing a a sense of inner peace and quiet and the woman may positively reflect on her self-image. Thus these harmonious feelings are ascribed and associated to the unborn baby within: binding-in. Some women see this as a romantic love which develops with a sense of being here and now, promoting a growing evaluation of the unborn baby. Investments are made for making a good baby in the form of providing a good home, in utero now and a household

later thus safeguarding and protection measures are implemented (Rubin, 1975; Stainton et al. 1992). The mother wonders whether her womb is spacious and safe for the unborn baby or whether it feels it is crammed in a dark place and worries about getting stuck on the way out at birth (Raphael-Leff, 1991).

Raphael-Leff (1991) suggests that the "regulator" feels undermined when quickening occurs and feels there is an alien force within her body. She views this as bizarre that two people can inhabit one. Interactions such as conversations with the unborn baby are avoided and she focuses on a sensible future. However the "facilitator" during this trimester is excited about the first flutters of foetal movement, communicates with her unborn baby and calls it a nickname. She attributes personality and characteristics to the unborn baby. While some "facilitators" engage in idealising optimal mothering of a perfect infant, the "regulators" may engage in "dis-identification" of the infant and "maternal denigration" (Raphael-Leff, 1991:85)

During the second trimester experiential exploration is related to the meaning of being-given-to rather than, giving. The third trimester involves working on "additional essential worth of the gifts of anothers concern, companionship and relief" (Rubin, 1975:151). Material objects such as gifts of food and clothing are viewed as symbols given to the unborn baby from family and friends thus acceptance and encouragement are experienced (Rubin, 1975; Stainton et al. 1992).

Third Trimester: Learning About The Baby-to-be

During this trimester the unborn baby is viewed as a separate being and

the house and clothes are prepared for the arrival. The pregnant woman may notice the cycles and patterns of the unborn baby's movements and sleep periods. The unborn baby may be compared to other children and labelled by the mother and referred to by a name associated with perceived characteristics by the mother. During this stage the unborn baby may respond to stimuli such as music and lights. Babies respond to classical music with gentle rhythmic movements but should rock music be introduced the movements become jerky and disorganised. The foetal heart rate changes in response to the stimuli and is very responsive to the sound of the mothers voice (Brazelton and Cramer, 1990).

The third trimester may herald a time of concern for herself and the unborn baby and a feeling of vulnerability occurs related to the bodily changes. Less agility and responsiveness in motor activities and functions is experienced. Everyday events such as revolving doors, crowds, speeding drivers, being close to another vehicle, running children become dangerous. The feelings of responsibility in protection of the unborn baby out weights the inability to move quickly. The hope is of a deliverance from the pregnancy situation as it becomes too burdensome, a long time. The women starts to play with the confinement date. In the eight month the pregnant woman is attending in different ways to the progressive psychosocial tasks of pregnancy (Rubin, 1975 ; Stainton et al. 1992).

During the third trimester "binding-in" continues but not at the rapid rate of the second trimester. Some women feel trapped by the pregnancy, they want the baby but dislike the pregnancy. The pregnant woman may experience the inability to function in simple tasks and situations, hates her body and wishes to unburden her pregnancy, feeling conflict between

holding on to the baby and letting go of the pregnancy. The demands of this task introduce the fourth psychosocial task of pregnancy, that of giving of oneself (Rubin, 1975; Stainton et al. 1992).

The third trimester may renew awareness of the dangers of pregnancy and accentuate the dread. The attractive appearance of the second trimester is lost and replaced by a sense of loss as well as loss of confidence. "Blows" can be experienced by some pregnant women when others ask questions such as, "are you still pregnant?" Impending labour can be devastating to the woman as she considers whether the body of the baby can fit through a small passage thus this task is a dreaded one . For the pregnant woman giving birth is an experiencing of an inner experiential world (Rubin, 1975; Brazelton and Cramer, 1990; Raphael-Leff, 1991).

The third trimester for the "facilitator" is one of mourning for the foreseeable end of an intimate relationship with the unborn baby and she may have mixed feelings about the baby being ejected from the nest of the internal womb. The "facilitator" focuses on a natural birth and spontaneous birth and place importance on maintaining an intact and intimate relationship in a special reunion with her baby and partner (Raphael-Leff, 1991).

The "regulator", is worried about the birth, the loss of control and the impact of pain. She further feels that she is deprived of her defences, "left denuded and vulnerable, skinless and exposed 'like a snail' without its shell" (Raphael-Leff, 1991:87). The birth experience is viewed as an exam. She mistrusts her body and dreads the future with a "repulsive infant" who controls the mothers world (Raphael-Leff, 1991).

The closer the pregnant woman comes to the birth the more she views the unborn baby as a separate individual and feels protective toward her own perceived inadequacies and incompetence (Brazelton and Cramer 1990).

The Task at Birth

Birth heralds an abrupt end to the fusion with the foetus. The mother needs to adapt to a new being. She experiences fears of harming the baby and the enormous demands of a helpless baby which is totally dependent upon her (Brazelton and Cramer, 1990).

At the birth of the baby the bond between the mother and baby may be obvious however this attachment was developed and structured during pregnancy. At the birth there may be a sense of knowing, a shared history and shared experiences between the mother and baby. Now the final work of maternal role attainment over the first year post delivery begins. Maternal role attainment is achieved when the mother passes through the "challenges and demands of motherhood, "role strain", "ideal image of mothering behaviours and self-image" with the final pattern of "internalisation" of the maternal role (Mercer, 1985; 1986).

Rubin's Theory Of Maternal Role Attainment

Rubin, a nurse theorist developed a slightly different idea of pregnancy from those already presented. This theory of maternal role attainment has been very influential in the field of midwifery because it provides a framework for understanding the complex process in the transition of the woman to the maternal role.

Maternal role attainment has been defined as a process whereby the

mother achieves competence in the role, integrating mothering behaviours into her "established role set, so that she is comfortable with her identity as a mother" (Mercer, 1985:198). Role is defined by Rubin (1967a), as a cultural conceptual unit which involves performed actions by an individual to validate the position of occupancy. Actions and behaviours of a role are "acquired, conditioned, reinforced learnings and are culturally determined" (Rubin, 1967a). In other words, maternal role attainment is a process whereby the pregnant woman achieves the ability to incorporate mothering behaviours into her established role and feel comfortable with her identity as a mother.

Rubin (1967a:240) refers to "taking in" the maternal role as a continuous process. While it is quiet, it is not passive, and becomes motivated by the behaviour of the "wish or intent to become". This operation falls into five categories, two forms of "taking-on", two forms of "taking-in" and one of "letting-go" of a previous status or role. From these five categories, five operational stages have been developed. Rubin (1967a; 1967b) identified the five distinct operational stages in maternal role attainment as mimicry, role-play, fantasy, introjection-projection-rejection and grief work. A sixth category was that of identity for the purpose of completeness.

Mimicry is an active process of adopting behavioural manifestations such as dress, recognisable gestures and speech effects of the social position desired. According to Rubin (1967a:240) "every recalled or perceived attribute and characteristic of the role is studied and laboriously imitated in the expectation that this is "how", i.e., "like". For child bearing, birth and rearing of the child it is phase-specific. First time mothers are more likely to wear role-specific maternity clothing several months before it is needed.

Avoidance of certain activities occurs. These may include taboos on lifting, eating specific foods or not naming the baby during this phase. Initiation rituals are considered, related to the pregnancy and birth experiences of their own mother with the expectations that they will have similar experiences. For example a long labour, a big baby, order of either male or female baby. The "let down" of mimicry moves the woman into the next operation of role play.

According to Rubin (1967a) **role play** is similar to mimicry however it goes beyond the outward symbolic display to that of acting out of what is expected in this situation. It is not transferable to another person, is situation specific and usually of a short duration. The woman initiates certain stimuli and then observes the response. A positive response from other people signifies success and a negative response signifies failure. First time mothers "search the environment for a subject for role play" (Rubin 1967b`: 241). Women having a second or subsequent child review their memory for details of how they cared for their previous child. They are less likely to role play during pregnancy. This second stage of taking-on now moves to the taking-in stage of fantasy.

Fantasy is concerned with self and the woman fantasise about the unborn baby. These fantasies are increased after foetal movement occurs and the unborn baby is seen as an extension of self. It is seen as an extension of "self", "wished for self" and "dreaded self" (Rubin, 1967b). At this stage the woman may gather further information to substantiate, nullify or elaborate productions of fantasy. While early fantasies may be romanticised and free-flowing, later fantasies are body bound and dreaded. Fantasies of fear of harm to self occur and the woman feels vulnerable to

danger. A time of loneliness, silence darkness and aloneness are part of this stage (Caplan, 1962; Rubin, 1967a). This phenomenon is supported by observations on feminity by Erikson (1964). This stage leads into that of introjection-projection-rejection.

The stage of **introjection-projection-rejection** is similar to that of mimicry however it is more discriminatory in its selection of a search for models, role status , behaviour and events. Self is where the action begins. An outside model is found and the event or behaviour of the model is matched for a "fit" with the experience of the pregnant woman in relation to behaviour and events (Rubin, 1967a). If the "fit" is appropriate it is accepted, if it is inappropriate it is rejected.

This stage becomes the substance and sum of the talk of some women. Topics include pregnancy, delivery and rearing the child as well as personal relationships, clothing and all other issues associated with becoming a mother and being a woman. Words play a major part in this stage, however, non-verbal communication is important in determining approval or disapproval from significant others (Rubin, 1967a).

Identity is the end goal of role taking and occurs when the pregnant woman has a sense of being in a role and feeling comfortable with this role. Then role achievement is said to exist (Rubin, 1967a).

Grief Work is a letting go of a former identity or role rather than a role taking-on or a role taking-in stage. It is letting go of a role that is incompatible with that of a new role, becoming a mother. Resolution occurs rather than a finalisation of the grief work process. Grief work has

many facets and for the mother with other children it can be a period of disengagement of established ties (Rubin, 1967a).

Concluding Remarks

The literature reviewed presents diverse views throughout the trimesters of pregnancy and motherhood. There have been two general orientations to motherhood suggested by Raphael-Leff (1991): that of the "facilitator" and the "regulator", with the remaining mothers in the intermediatory group. The "facilitator" has been identified as one who gives in to the emotional turmoil of pregnancy while the "regulator" is against pregnancy and holds out (Raphael-Leff,1991).

Rubin has provided an important framework for understanding maternal role attainment. The childbearing period is a "preparatory period in maternal role acquisition" (1967b:345).

In general, however, all authors see pregnancy as a journey-one where the mother sorts out her emotional feelings about the past while anticipating and forming new feelings about her coming child. The next chapter considers in detail the formation and quality of attachment between the mother or care giver and the infant both before and after birth.

CHAPTER 3.

THEORIES OF ATTACHMENT.

Attachment or bonding is a process which has been understood throughout time by mothers, shepherds, farmers and midwives who have been familiar with the process of birth as it occurs naturally among mammals. It is broadly understood as a connection between the mother and the baby, a welding together the emotional and physical bonds for the continuation of a healthy relationship (Gaskin, 1990).

For the adolescent the capacity to nurture and form positive attachment behaviours with their infant may be undermined by their own struggle to establish an adult identity and autonomy as well as possible unresolved issues from their own childhood experience (Moroz and Allen-Meares 1991; Levine et al. 1985). These adolescent psychosocial issues are reviewed in Chapter 4.

This chapter reviews the literature in relation to the main theories of attachment which have been postulated by Bowlby (1969), Ainsworth (1973), Klaus and Kennell (1976). Further discussion relates to adult attachment theory and maternal-foetal attachment theory.

The primary figure in attachment literature, and the most influential is John Bowlby, who began research after observing the traumatic effects of separation of mothers and young children during World War II. Ainsworth became interested in attachment after observation studies of mother-infant separation during weaning in East Africa, and was further influenced by the work of Bowlby. Klaus and Kennell, paediatricians, became

concerned at the abrupt and unnecessary separation of the baby from the mother immediately after delivery. Their studies influenced and improved maternal care practices and the delivery experience for mothers allowing them time to have contact with their baby after delivery (Coffman, 1992).

Main (1991) explored the intergenerational transmission of attachment aspects which were initially the centre of Bowlby's interests. This theory of adult attachment corresponds with Ainsworth patterns of infant-parent attachment categories. Thus Main was influenced greatly by both Bowlby and Ainsworth in the development of adult attachment theory and its influence across the life span into the next generation.

In 1981, Cranley, a nurse researcher, recognised the need to develop an instrument for the measurement of maternal-foetal attachment in pregnancy. This then has become the maternal-foetal attachment scale which has been used in many studies with adult mothers (See Chapter 7). It has only been used in a limited way with adolescent mothers. Positive maternal-foetal attachment according to some authors is a predictor for positive maternal-infant attachment and influences attachment across the life cycle.

What is Attachment?

Attachment involves the formation and maintenance of an affectional tie. Bowlby sees it as seeking and maintaining close proximity with specific others (Bowlby 1969; 1973; 1980). While Ainsworth (1973) suggests that it is not only an affectional tie that is formed with specific others, but also the tie binds them together in space and endures over time. Bonding

according to Klaus and Kennell (1976), is a process that occurs soon after birth when the mother forms an affectionate attachment to her infant, demonstrating behaviours of touching activities, eye to eye contact, "en face" position and intimate communication directed towards the baby.

THEORIES OF ATTACHMENT

1. Bowlby

Bowlby (1969, 1973, 1980) formulated attachment theory as "strong emotional bonds to specific others" (Biringen, 1994: 404). Bowlby was influenced in his formulation of attachment theory by the work of Lorenz (1937) who researched and discovered imprinting and bonding by bird species to the mother figure. The young birds demonstrated attachment and sought close proximity to their first parental figure. This parental figure might not be the mother bird, or even a bird of another type. Work with infant Rhesus monkeys by Harlow (1958) also influenced Bowlby. It was discovered that the infant rhesus monkeys who were isolated from other monkeys preferred a wire surrogate mother covered with a soft material in preference to a wire surrogate mother which was not covered but supplied food. The motherless monkey formed an attachment to the cloth covered surrogate mother but showed no attachment to the wire surrogate mother. It was concluded from the research that the essential ingredients for attachment are softness and comfort contact. Children that form an attachment to a rag doll, teddy bear or blanket are found to derive emotional support from these objects (Biringen, 1994; Petersen, 1989).

Four principle theories related to maternal-infant attachment were postulated by Bowlby in 1972. These are: i) the infant has physiological needs which must be met, in particular, food and warmth, therefore it

becomes attached to its mother as she is the source of supplying these needs, ii) infants have a built in desire to relate to the breast of the mother, to possess it orally and suck on it, iii) infants desire to be touched and held by another human, iv) the infant resents expulsion from the womb and seek to return to the womb (Bowlby, 1972). Bowlby (1972) believes that attachment is reflected by any form of behaviour that results in maintaining a close proximity to a figure of attachment. It is believed that a secure infant attachment promotes psychological well being across the life span (Petersen, 1989; Fortier, 1988).

2. Ainsworth

Bowlby's theory of attachment was expanded by Ainsworth who provided an explanation that there are individual differences in the attachment relationship and promoted the concept of the caregiver as a secure base (Ainsworth, 1983).

Four major infant-parent attachment categories were developed by Ainsworth: secure, insecure-avoidant, insecure-ambivalent and insecure-disorganised/disorientated. Twenty six children and their parents were observed over a twelve month period using an experimental procedure known as the "strange situation" and each sequential episode was recorded: i) the infant and parent enter the room, ii) the infant plays in the presence of the parent, iii) a stranger enters the room, iv) the parent leaves the infant alone in the presence of the stranger and v) the mother returns to the room (Ainsworth, 1983).

The infant was categorised as **secure** if the infant showed signs of missing the parent, seeking close proximity when the parent returned and resuming

play. This infant behaviour is associated with maternal sensitivity to the infants communication and signals. The **insecure-avoidant** infant showed few signs of missing the parent and ignored their return to the room. According to Ainsworth et al. (1978) in Main (1991:146) this pattern of behaviour is associated with insensitivity by the mother to the infants signs and "specifically with rejection of attachment behaviour". The **insecure-ambivalent** infant is distressed when the parent leaves the room and is unable to settle on the return of the parent, expressing anger and seeking close contact at the one time. There is an association between the insecure-ambivalent infant and insensitivity and unpredictability of the mother. The **insecure-disorganised/disorientated** infant demonstrated disorganised and disorientated behaviours. No particular maternal behaviour has been identified for this category. Infants who are insecurely attached develop defensive thinking processes which disorganise, distort and may limit their access to memories, intentions, feelings and option recognition (Ainsworth, 1983; Main, 1991).

Beyond eighteen months of age, the strange-situation procedure is considered invalid to assess the quality of infant attachment to a specific person. At twenty two months toddlers who were considered securely attached to their mothers at twelve months of age were found to be "superior" in play which is exploratory and in language development in comparison to the nonsecure toddlers. At twenty four months the "secure" infants were better able to problem solve, seek and accept help from their mothers compared with the anxious-avoidant toddlers who were aggressive towards their mothers and sought help from others. The anxious-ambivalent toddlers excessively relied on their mothers and

demonstrated frustration behaviours. The toddlers at twenty four months who were securely attached effectively shared with their mothers whereas the anxious toddlers did not. At three and a half years of age, children securely attached to their mothers demonstrated socially competent behaviours in preschool and at five years of age were ego resilient and moderately controlled in kindergarten. However the anxious-avoidant children were over-controlled while the anxious-ambivalent children were under-controlled and both groups were "less ego resilient" (Ainsworth 1983:45) When presented with a picture of parent-infant separation, six year old children who had been secure since infancy offered a solution which was constructive while children who were insecure did not know what to do (Main, 1991).

3. Klaus and Kennell

Klaus and Kennell's theory of bonding refers to a "sensitive" period soon after birth when the mother and infant have contact and interact with each other, "skin-to-skin" (Tulman, 1981; Curry, 1982). Klaus and Kennell believe that mothers and infants experience a "period of peak responsiveness" soon after birth (Goldberg, 1983:1356) with a systematic progression of touching activities involving the fingertips, then hands. Maternal elation and excitement increases and time is spent in the "en face" position. Face to face contact is facilitated by arranging the newborns position (Olds et al. 1992). According to Klaus and Kennell, this period of time is considered to be critical for success or failure of attachment and to have long lasting effects for the mother and infant. The origins of this theory are based on that of imprinting and the work of Lorenz (Tulman, 1981). However research has shown that mothers develop positive attachment to their infants even if there is an absence of immediate

maternal-infant contact (Parkes et al. 1991). Although studies have found that early maternal-infant contact is associated with strong maternal-infant attachment (Norr et al. 1989). Midwives have been strong supporters of the findings of Klaus and Kennell encouraging early and extended maternal-infant contact, infants rooming-in with their mothers and providing mothers with a photograph of their premature or sick infant. Studies have found that these actions promote early and positive maternal-infant attachment (Coffman, 1992).

4. Main: Adult Attachment Theory

Literature suggests that intergenerational influences on the parent-infant relationship affect their transition to parenthood. Patterns of relationships such as parent-infant attachment are transmitted through generations (Cox et al. (1985).

The recent Adult Attachment Interview is structured entirely around the topic of attachment. It has three classifications: i) Dismissing, ii) Preoccupied and iii) Autonomous. A study was conducted using 100 mothers during the last trimester of their first pregnancy. The **autonomous** mothers demonstrated a balanced childhood experience while the **dismissing** mother seemed cut off from childhood attachment and the **preoccupied** mother was over involved in childhood experiences. It was confirmed that the mother's organisation of thoughts assessed prior to the birth of the infant is associated with her child's security of attachment at one year of age. The dismissing mother was reluctant to acknowledge attachment needs as they are possibly rejected by their own mother and now are often insensitive and unresponsive to their own infants needs (Fonagy et al. 1991). According to Main and

Goldwyn (in press) "not all mothers of secure infants were themselves secure as infants" (Moroz and Allen-Meares, 1991:463). However "mothers with insecurely attached infants felt less accepted by their parents as adults" (Moroz and Allen-Meares, 1991:463) thus demonstrating that insecure childhood attachment continued to dominate their life as an adult and their ability to provide a secure attachment with their own children. For the adolescent the capacity to nurture and form positive attachment behaviours with their infant may be undermined by their own development to establish an adult identity and autonomy as well as possible unresolved issues from their own childhood experience (Moroz and Allen-Meares, 1991; Levine et al. 1985).

The parents of the very secure infants categorised by Ainsworth were "highly coherent during the Adult Attachment Interview" (Main, 1991:142). While parents of Insecure-Avoidant and Insecure-Ambivalent infants were quite incoherent.

5. Cranley: Maternal-Foetal Attachment

In the mid 1970s maternal-infant attachment theory identified by Bowlby and by Klaus and Kennell was found to be inconsistent with women's pregnancy experiences. This led to an exploration of the notion that attachment relationships begin in the prenatal period, thus the concept of maternal-foetal attachment was developed (Cranley, 1992). The roots of these ideas may be traced to Deutsch (1944) cited in Condon (1985), who believed that some form of emotional attachment was formed by the mother to her unborn baby. Attachment at birth is a continuation of the process begun in pregnancy and exhibited by the mother as a sense of knowing, shared experience and shared history (Gaffney, 1986) and is the outcome

of attachment during pregnancy (Kitzinger, 1993).

Maternal-foetal attachment was defined by Cranley in Grace (1989:228) as the "extent to which women engage in behaviours that represent an affiliation and interaction with their unborn child". Initially attachment takes on the form of love for the foetus then an appreciation of it as a separate person. This is considered an important psychological task of pregnancy for the woman. Talking to the unborn baby, calling it a pet name, offering food, stroking the unborn baby are some of the behaviours of attachment (Koniak-Griffin, 1988). Early attachment is said to begin once perceptions of foetal movement are felt by the pregnant mother (Brazelton and Cramer, 1990). The maternal-foetal relationship is one that happens in the dark and interactions between the pregnant mother and her unborn baby are conducted over the months of pregnancy through a "veil" obscuring direct contact, sight, smell and hearing. Maternal-foetal attachment can be classified as either positive, neutral or negative. Positive maternal-foetal attachment occurs when the mother experiences a "falling in love" with the unborn baby while a neutral attachment refers to the minimising of attachment feelings and a negative attachment when the mother views the unborn baby with negative thoughts (Raphael-Leff, 1991).

The post birth maternal responsiveness in the first two years of an infants life is determined by effective adaption to sustaining a relationship to the unborn baby during the prebirth period (Oates and Heinicke, 1985). In 1977, Leifer reported maternal attachment to the unborn baby as strongly predictive of maternal-attachment, particularly in the first few days. Studies have found that maternal-child attachment is already present before mothers see or touch their infant (Condon and Dunn, 1988).

A study conducted by Carter-Jessop (1981) involved promoting maternal attachment through prenatal intervention to determine whether it enhanced maternal-infant attachment. The prenatal intervention involved encouraging the pregnant mothers to check the position of their unborn baby each day; describe their daily interactions with the unborn baby; talk and sooth the baby; press on the abdomen and notice whether this reduced the baby's kicking movements; rub; stroke and gently massage their abdomen over the baby. The findings of this study found that through prenatal interventions, maternal-infant attachment was enhanced. Maternal behaviours such as eye contact, talking to the baby, "en face" position, touching the baby's trunk and extremities with the palms of the hands and fingertips and encompassing and smiling at the baby were present (Carter-Jessop, 1981; Carson and Virden, 1984). These findings supported an earlier study by Leifer (1977) who found that women who display greater attachment behaviours during pregnancy had greater positive feelings towards the baby after delivery.

However, Gaffney (1988) suggests that the study conducted by Carter-Jessop had many limitations which included a small sample size, the fact that the reliability and validity of the study instruments were undermined and that the generalised study findings were considered risky. This author does not elaborate on what constitutes "undermined" or "risky".

Further studies conducted by Carson and Virden (1984) reflected discrepancies in their findings in that postnatal maternal-infant attachment behaviours were not different between a group who received the Carter-Jessop prenatal intervention compared to a second group who received directions on relaxation techniques in labour.

In 1989, Fuller administered the Cranley Maternal-Foetal Attachment Scale to thirty two women between thirty five and forty weeks gestation then observed the mothers with their infants on the second or third day post delivery using the Nursing Child Assessment Feeding Scale (interactive behaviours) and the Funke Maternal-Infant Interaction Assessment instrument. The findings from this study found a positive relationship between maternal-foetal attachment behaviours and maternal-infant interaction.

While these studies have shown contradictory and inconclusive evidence of the benefits of prenatal interventions for enhancing maternal-infant attachment, these findings have implications for the midwife who provides antenatal and postnatal education. Attachment is a developmental process and midwives are in a unique position to encourage and enhance this process pre and post birth as they provide the mother with education and support.

Maternal-foetal attachment is highly correlated to maternal-infant interactions and attachment (Olds et al. 1992). Failure to attach according to Cranley (1981b) has unfavourable effects on the development of the infant particularly the motor, mental and affective development. Friedman (1992) states that maternal-infant attachment is "crucial" as it affects the quality and nature of future attachment relationships which in turn influence the psychosocial and cognitive development of the child.

Concluding Remarks

This chapter has reviewed the literature related to attachment theorists and identified the important discoveries and issues proposed as factors of

attachment. Earlier theorists focussed on attachment between the mother and infant, expanding on the need for maintenance of a "close relationship across the life span" (Muller, 1992:6). A nurse researcher recognised that attachment occurs during pregnancy to the unborn baby and developed an instrument to assess attachment. Cranley believes that maternal-foetal attachment influences maternal-infant attachment. Main took the attachment process a step further and addressed the issues of adult attachment theory across intergenerational boundaries.

These theorists have contributed much to the understanding of the attachment process during pregnancy and the postnatal period. It is now important to consider how these factors may be influenced is the mother is an adolescent. The next chapter reviews the important findings on the emotional and psychological development of adolescents.

CHAPTER 4.

ADOLESCENT PSYCHOSOCIAL MATURITY.

Introduction

This chapter discusses the issues faced by the adolescent as they attempt to come to terms with their own identity and development as well as that of becoming a mother and achieving maternal role attainment.

Adolescent development

During adolescence a new experience occurs as biological, cognitive and social changes take place. The adolescent is essentially in a stage of psychosocial development and maturational turmoil between childhood and adulthood. Internal conflict for the adolescent and external conflict with parents occurs as the bonds of early childhood are broken to allow the adolescent growth of maturity (Heaven and Callan, 1990; Raphael-Leff, 1991). As Laursen and Collins (1994: 199) state, "conflict with and detachment from parents are normative pathways for adolescents to realign relationships and reduce anxieties". The adolescent then moves from dependence on their parents through a stage of peer group influence and activity to take on the adult role (Friedman, 1992).

Adolescence has been identified by Erikson (1968) as the fifth stage (one of identity vs identity confusion) of development across the lifespan. This fifth stage is charged with emotional and physical changes between the learned morality of the child and the developed ethics of adulthood. The adolescent experiences a "no man land" situation as they come to terms with the demands and roles of adult life (Erikson 1968; Heaven and Callan,

1990; Heaven, 1994; Peterson, 1989; Slee, 1993). The adolescents during this time indulge in experimentation in their social and educational environments to test different roles, behaviours, identities and personalities it can in addition to the positives outcomes lead to sexual promiscuity, alcohol and drug use, depression, suicide, delinquency and adolescent pregnancy (Medora et al. 1993). Identity formation and self-awareness flourish during adolescence. For the female adolescent, Erikson believed that there is a need for identity development which includes sex role learning as females need an intimate relationship as they are committed to nurture others (Heaven and Callan, 1990).

An important task is that of integration of the cognitive and biological changes along with freedom of choice and integration of peer as well as parental pressures. Social modelling takes place through television, magazines, friends and family with self exploration and role experimentation in discovering sexual and socio-emotional identity (Erikson, 1968; Heaven, 1994; Peterson, 1989; Slee, 1993; Hurrelmann and Engel, 1992). The media do not encourage high moral standards and through magazines and television "sex" is portrayed "without responsibility", "out of the family context", "outside marriage" and as a means of solving lifes problems (Nunnerley, 1985:244). Thus the changes in attitudes, morals, discipline and sexual freedom has an influence on the developmental maturity of the adolescent. One could argue that there are excessive pressures on adolescents as they are targeted by the sex, fashion and food industry. The principle pressure is to be socially accepted by their peer group. It is through interaction with the social environment that the adolescent develops behaviour patterns which become the behavioural norm (Kossakowski, 1974).

Relationships with parents often deteriorate during adolescence, and this can be in the form of poor communication, lack of problem solving and increased levels of parent-adolescent conflict. The consequence of this breakdown can be dropping out of school, running away from home, adolescent pregnancy or marriage, delinquency, attempted suicide or drug use (Heaven and Callan, 1990; Grace et al. 1993; Laursen and Collins, 1994). This period is one of adolescent-parent misunderstandings and experimentation in sexual activities. Parents often increase their control over their daughters after menarche as they fear sexual pressures and a potential adolescent pregnancy (Holmbeck and Hill, 1991). However, Bandura (1964) found that parents were not more prohibitive or controlling with adolescent sons. Keddie (1992) states that a lack of parent-daughter interaction influences sexual activities and a higher pregnancy rate was associated with the absence of the father from the home. According to Medora et al. (1993:160, "the majority of pregnant adolescents come from single parent families". The adolescent daughter felt alienated and "estranged from their mother before becoming pregnant" (Keddie, 1992: 875). However not all adolescent-parent relationships deteriorate and many adolescents report either getting on "very well", "well" or "fairly well" with their parents (Heaven and Callan, 1990:35). Thus the adolescent-parent relationship can be harmonious and continuous. Unplanned or unintended pregnancy can occur as the adolescent negotiates through the difficult transition to adulthood (Romig and Bakken, 1990).

According to Marcia (1966; 1980) in Heaven (1994), central to the formation of identity is crisis and commitment. Thus Marcia expanded on Erikson's model of development. Adolescent crisis involves attitude and behaviour options while commitment refers to the personal effort by the adolescent in

attitude and behaviour. Crisis and commitment vary between adolescents. There are several important keys to a quality healthy family relationship and this is "separateness and self-assertion in family interaction" (Grotevant and Cooper, 1985) which allows for respect for individual opinions. For the adolescent, conflict with parents is a positive behaviour as it aids in learning and practicing skills of conflict resolution, assertive behaviours and role taking (Holmbeck and Hill, 1991). However Slee (1993) states that this period is not always "stormy" for the adolescent and for many it is uneventful and undramatic.

According to Erikson's model there are a number of key phases that characterise adolescence. **Identity diffusion** refers to the inability to resolve the crisis of identity and is characterised by indecisiveness and poor self-esteem. Poor self esteem is associated with sexually experienced adolescent females and pregnancy (Keddie, 1992). **Identity foreclosure** is the failure to resolve and confront a developmental crisis, settling prematurely on a role rather than exploring the available options. **Moratorium** results in a resolved sense of identity although it involves prolonging of the crisis past adolescence. **Identity achievement** signals the completion of the adolescent period as the identity crisis has been resolved successfully (Heaven, 1994; Peterson, 1989; Arehart and Hull Smith, 1990; Boyes and Chandler, 1991; Bilsker and Marcia, 1991; Lavoie, 1994). Adolescents who have formed and achieved a stable identity generally exhibit levels of higher self esteem and are have a positive inner directed behaviour capacity (Craig-Bray et al. 1988).

Adolescent Pregnancy

The quality of the emotional bonding of the adolescent to their parents may

mediate the potential risk of adolescent pregnancy. It has been suggested that through pregnancy the adolescent attempts to gain a loving relationship through a child or have a child as a means of renewing their relationship with their mother (Romig and Bakken, 1990). The consequences of pregnancy for the adolescent involve the struggle by the adolescent for an individual identity and personal autonomy (Raphael-Leff, 1991). Some pregnant adolescents may be mature enough to cope with the responsibility of rearing a child while others are not.

It has been suggested that some adolescents become pregnant to "resolve" problems, while others wish to "punish" their mother, escape from unhappy family life or repeat their mothers adolescent pregnancy. Although many earlier studies focussed on the complex relationship of the pregnant adolescent to her mother, more recent studies have found no difference between the mother's nurturance as perceived by pregnant and non pregnant adolescents. However, study findings suggest that a "secure" mother-daughter relationship is associated with a lower likelihood of unintended pregnancy (Raphael-Leff, 1991).

Becoming an adolescent mother involves the responsibility of caring for a helpless infant. This coincides with the period when the adolescent is struggling with developmental issues (Burke and Liston, 1994). For the adolescent Sommer et al. (1993) found that prenatal and postnatal maternal cognitive readiness affected parenting stress and maternal-infant interactions. The parenting role is very difficult as the adolescent struggles to meet the demands of their own developmental and maturational needs while at the same time attempting to meet the needs of the dependent infant (Moroz and Allen-Meares, 1991). The needs of the adolescent are often in

conflict with that of the infant. The developmental immaturity of the adolescent mother interferes not only with the mothering process but also the maternal attachment process (Norr and Roberts, 1991). The adolescent mother is expected to mother the infant and is in need of mothering herself (Raphael-Leff, 1991).

Concluding Remarks

The period of adolescence is one of moving between childhood and adulthood. This progression towards adulthood is marked by phases or stages of achieving levels of cognitive and psychosocial development to establish independence from parents and maintain interdependence as the adult identity is attained and integrated into a personal value system. The adolescent may experience a significant psychosocial challenge as they attempt to adapt to the pregnancy and forthcoming parenthood (May and Mahlmeister, 1994).

The next chapter will consider in detail some specific variables that are considered important in setting the scene for maternal foetal attachment.

CHAPTER 5.

FACTORS HYPOTHESISED TO INFLUENCE PRENATAL ATTACHMENT.

There are many factors which could be hypothesised to influence prenatal attachment such as major life events such as the death of a family member, divorce or accidents. These multitude of individual problems which could beset the pregnant woman will not be reviewed but instead the focus will be on the two key factors identified in the literature as having a major influence on prenatal attachment.

Positive self esteem and social support for the pregnant adolescent have been identified as providing a sense of mastery or control, as they reduce feelings of helplessness and promotes maternal-foetal attachment. This chapter reviews the literature related to self esteem and social support and there effects on adolescent maternal-foetal attachment.

Self Esteem

Self esteem has been defined as the degree to which one values oneself (Rosenberg, 1965; 1979) while for the adolescent it is defined as the emotional evaluation adolescents make about themselves in the general form of approval or disapproval (Medora et al. 1993). There are two primary sources of self esteem. The "reflected appraisal of significant others and one's accomplishments" (Kemp and Page, 1987:196) which is a socially derived self evaluation (Patten, 1981) Schweitzer et al. (1992:84) believe that there is no reason to "discriminate between self-concept and self esteem" as they are interdependent and further states that there is a

complex relationship between self esteem and the psychological adjustment of the adolescent with females exhibiting symptoms more frequently than males. According to Coopersmith (1981:5) a person arrives at a self appraisal just prior to middle childhood and it remains "relatively stable and enduring over a period of several years". Motherhood can effect the woman's self esteem in either a positive or a negative manner (Kemp and Pond, 1992).

Adolescent pregnancy often occurs as a response to low self esteem (low ego strength), thus creating conditions for an unplanned pregnancy as they avoid taking birth control precautions as their ego may be poorly structured as a result of an early chaotic life experience (Patten, 1981). Studies have found that the pregnant adolescent has a low self esteem and low self concept (Patten, 1981; Zongker, 1977) and teenage pregnancy is also associated with low self esteem (Streetman, 1987). Contradictions exist in the literature which indicates that it is not possible to determine whether low self esteem preceded pregnancy as a risk factor or if it is the result of early pregnancy (Keddie, 1992). Pregnant adolescents scored very low on items which measured "sense of personal worth and how they perceived themselves in relation to their families" (Keddie, 1992:876) while Zongker, (1977) found that school aged mothers demonstrated a low self esteem. However studies by Robinson and Frank (1994) found that pregnant adolescents and adolescent mothers did not have a low self esteem or negative views of themselves. Further findings by these authors state that sexual activity was not related to self esteem. Held (1981) found that self esteem in pregnant adolescents showed an average score to other populations. Some pregnant adolescents perceived the future birth of the baby as a ticket to happiness and greater prestige (Medora et al. 1993).

The results of these studies reviewed are contradictory and need further research to tease out the relationship between variables.

Pregnancy for some mothers was associated with maternal-foetal attachment and a positive self esteem. Earlier research has suggested that the self esteem of the pregnant adolescent would improve during pregnancy. However when compared with non pregnant adolescents, the pregnant adolescents reported lower self esteem, feelings of unworthiness and inadequacy than the non pregnant adolescents. Although other studies have shown that pregnant adolescents have a "healthy" prenatal self concept (Lindeberger, 1987).

Self esteem can affect the mother's behaviours toward the unborn baby and is related to prenatal and postnatal maternal attachment (Kemp and Pond, 1992). An individual with a positive self esteem is more effective in meeting the environmental demands such as a high risk pregnancy or birthing complications than an individual with a negative self esteem (Coopersmith, 1967; Rubenstein et al. 1990). Should there be a high risk pregnancy the mother experiences feeling of failure, guilt and blame. This can apply to some pregnant adolescents who are more likely to have a high risk pregnancy than a pregnant adult (Rubenstein et al. 1990). If they have a poor self esteem and social support network they are less likely to seek prenatal care (Higgins et al. 1994).

Any high risk events perceived by the woman which threatens either her health or that of the foetus can compromise and limit the achievement of the developmental tasks of pregnancy. These perceptions by the woman negatively impinge on her self esteem and her feelings toward the unborn

baby. The pregnant woman may avoid attachment behaviours toward the foetus as a protective mechanism to avoid distress, disappointment and minimise grief (Kemp and Page, 1987) fearing the baby may not survive. It is suggested that a significant relationship exists between high risk pregnancy and low self esteem, unplanned pregnancy and low self esteem. A planned pregnancy provides some mother's with a sense of control and mastery over pregnancy and increases self esteem.

The women experiencing a high risk pregnancy who demonstrated a low self esteem may believe they are unable to accomplish the task of protecting their unborn baby. However Kemp and Pond (1992) were unable to determine whether the high risk pregnant woman had a low self esteem prior to pregnancy. The only way to do this would be to use a prospective study design, an expensive yet accurate methodology which has not as yet for applied to this area.

Further findings of this study found that pregnant women with a normal or high risk pregnancy both developed attachment feelings towards their unborn baby thus supporting the "developmental theory that a woman's attachment to her foetus is based on the accomplishment of a developmental task" (Kemp and Pond, 1992:203). Medical complications in some pregnant adolescents are effected by psychosocial factors (Turner et al. 1990).

Writings by Rubin (1977), Leifer (1977) and Cranley (1981) imply that there are two variables that affect maternal-foetal attachment, self-concept and anxiety. The perception of self has been identified as crucial to developing a positive relationship with the unborn baby (Gaffney, 1986). However

studies have demonstrated that there is not a significant relationship between maternal-foetal attachment and self concept. The explanation provided by Deutsch (1945) is that the woman with a "low self concept may experience a vacation of the ego during pregnancy" (Gaffney, 1986:98). What is meant here is that maladaptive ways of thinking, including negative evaluation of the self, is temporarily ameliorated during the period of pregnancy. That is, she may assess herself in a self-denigrating way ordinarily, but is able to view pregnancy as not requiring to be anything else but 'pregnant'. Some pregnant women become less worried by guilt and anxiety in relation to others and their own evaluation of their behaviour.

In contrast, Curry (1990) states that the ego is very vulnerable during pregnancy. Self esteem intrudes on our daily activities and influences what we say, how we act and how we respond to stimuli, how we direct our efforts and the "ego sweats" when any of these behaviours are inappropriate according to Rosenberg (1979). Thus the person may experience discomfort, anxiety and have a need to hurriedly repair the wound to one's personal perfections.

Some adolescents with a low self esteem may experience not only instability of their self image but vulnerability and social isolation. As social support increases, low self esteem and anxiety decrease (Rosenberg, 1965). Higgins et al. (1994:27) found that "women with low self esteem have difficulty in seeking social support ".

The function of self esteem is learned throughout life and develops through social and family relationships over time. Positive self esteem and social support provide a "sense of mastery and reduces feeling of helplessness"

influencing prenatal and postnatal satisfaction (Higgins et al, 1994:27).

Social Support

Social support has been identified as support which provides "information, nurturance, empathy, encouragement, validating behaviour, constructive genuineness, sharedness and reciprocity, instrumental help, or recognition of competence" (Brown, 1986). There are four types of support, emotional, informational, physical and appraisal support. **Emotional** support involves feeling of being loved, cared for and trusted while **informational** support refers to the provision of information by others. **Physical** support is direct help and **appraisal** support is being told by others that one is performing in the role thus allowing for self evaluation. Each type of support meets different needs (Mercer, 1986). Social support is an important element in completing successfully the tasks of pregnancy in particular acceptance of the unborn baby by self and others (Rubin, 1975).

For the pregnant adolescent the biological changes are often "accompanied by major alterations in their relationships with their family and friends" (Boyce et al. 1985). It may involve a change of residence during the pregnancy and disruptions of their routine each day. Existing social support may be compromised or be withdrawn. The impact of social support is critical for the pregnant adolescent as they face many stressors and changes in their life with few resources available to help them. Social support has a favourable impact on the outcome of pregnancy and general health (Koniak-Griffin et al. 1993). Childbearing, giving birth and caring for a baby may place enormous strain on the adolescent increasing their dependence on others (Cutrona, 1989). Social support for the adolescent enhances the experience of motherhood (Oakley, 1992) and significantly

improves maternal-infant interaction and attachment (vonWindeguth and Urbano, 1989).

There is much debate in the limited literature available related to social support and maternal-foetal attachment in pregnant adolescents. Literature identifies that the presence of social support for the pregnant adolescent is an important predictor for both maternal-foetal attachment and maternal-infant attachment. Frodi et al. (1984) cited in Koniak-Griffin (1988) observed that a social support network is positively related to mother-infant attachment in the adolescent while Mercer (1982) found a positive relationship between "informational support" and maternal-foetal attachment in the adolescent. However other studies did not find a correlation between overall social support and maternal-foetal attachment or overall social support and maternal-infant attachment (Koniak-Griffin, 1988). This view is supported by an earlier study which found there was no positive relationship identified between social support and the "mothers' attitudes toward their pregnancies or babies" (Tietjen and Bradley, 1985:119).

Zachariah (1985) cited in Koniak-Griffin (1993:45) failed to find a "significant relationship between social support and maternal-foetal attachment" in a group of low risk pregnant women in Canada. Total functional support and the size of the network are predictors of prenatal attachment in some pregnant adolescents. Several studies have identified that social support has a positive effect on the relationship of the pregnant adolescent to their attachment of the foetus and facilitates positive maternal-child relationships (Koniak-Griffin, 1993). Although there is limited information available related to pregnant adolescents and prenatal

attachment (May, 1992). Research findings related to adolescent parenting are often contradictory as there is a lack of well controlled research designs and a diversity of the populations (Kemp et al. 1990).

The support of the partner is positively related to maternal adjustment and effective mothering while social support from networks members often had negative affects on the pregnancy. It is suggested that women who have negative attitudes towards pregnancy have conveyed these thoughts to the pregnant woman (Tietjen and Bradley, 1985). The support of the spouse has a "powerful" effect on maternal role transition and parental adjustment (Crnic et al. 1984). This key support significantly effects the quality of mother infant interaction and attachment not only during the early infant period but also at twelve months. Support for the pregnant adolescent from family, friends and the father of the baby is important in promoting a positive parental attitude toward the baby (Kissman, 1990; Burke and Liston, 1994; Turner et al. 1990).

Debate exists in the literature related to the positive effects of social support on health status. Studies cited in Turner et al. (1990) found that there is a relationship between social support and pregnancy complications. Those with low social support networks were three times more likely to experience complications in pregnancy and during labour. Thus maternal-foetal attachment and maternal-infant attachment may be compromised. However Norbeck et al. (1985) states that there is a lack of agreement on how social support buffers and protects health. Aaronson (1989:4) refers to the modification effects of social support as the "stress-buffering hypothesis" which proposes that the "effect of social support on health has the ability to mitigate stress". Social support is "associated with fewer

childbirth complications" (Albrecht and Rankin, 1989:51) and enhances health thus benefiting the well-being of the mother and the growth of the unborn baby (Oakley et al. 1990; Ferketich and Mercer, 1990). This view is further supported by controlled trials which found evidence that social support enhances the adjustment to motherhood and provides confidence and maternal control reducing the risk of pregnancy and childbirth complications (Elbourne et al. 1991).

Cutrona (1989) believes that social support provides positive coping skills and there is a link between good coping skills and health. Social support has a relationship to the health of the unborn baby and the children of adolescent mothers with long term consequences according to Barrera (1982). However, Hodnett (1993) comments on eleven published randomised trials involving 8,000 pregnant women in nine countries combined by meta-analysis which found that there is no link between social support and lower rates of preterm birth but suggests that social support continue for the pregnant mother.

Dormire et al. (1989: 329) found that "social support is related to the adaption to the parental role of first-time adolescent mothers", predicting a more positive attitude toward the infant as well as a "sense of competence in the role". It fosters the development of reciprocal mother-infant interactions and attachment and improved health of the infant as well as long term positive consequences for both mother and infant (Barrera, 1982).

Concluding Remarks

A review of the literature has revealed contradictory findings related to

factors which may influence self-esteem and social support in pregnant adolescents. However the literature indicates that there is a need for positive feedback to enhance self esteem and a good social support network to enhance positive adjustment by the adolescent to pregnancy and the future parenting role. The next chapter reviews research on why prenatal attachment is important for the maintenance and enhancement of emotional and psychological wellbeing.

CHAPTER 6.

IMPLICATIONS OF PROBLEMS IN PRENATAL ATTACHMENT:

This chapter discusses the importance of attachment across the lifespan, the effects of an unplanned pregnancy and pregnancy complications on maternal-foetal and maternal-infant attachment. Also reviewed are the potential for child abuse, postnatal depression and other effects on the lifespan stemming from early problems in attachment.

Importance Of Attachment Across The Lifespan

Fonagy et al. (1991:891) state that Bowlby's attachment theory "provides a plausible explanation for the social transmission of relationship patterns across generations". Attachment influences relationships from childhood, "across the lifespan, and even into the next generation" (Fonagy et al. 1991:891). The expectant mother's attachment to her unborn baby influences the quality of the future mother-infant relationship. It has been suggested that attitude and feeling of most mothers toward the unborn baby predict the initial and subsequent interactions towards the neonate (Reading et al. 1984). The "strength and character of attachment will influence the quality of all future bonds to other individuals" according to Chess and Thomas (1982:215). Josten (1982) found that mothers who are unable to care for their unborn baby in utero are unable to "care for" their infants well being. The more intense the relationship of the pregnant mother to her foetus the shorter the time lag after delivery for strong maternal-infant attachment behaviours to take place. Caplan (1961) thinks that this is because the continuity of the relationship has only been interrupted by the mechanisms of delivery.

An early study by Leifer (1977) found that maternal-foetal attachment was predictive of maternal-infant attachment (Condon and Dunn, 1988). Women who displayed attachment behaviours in pregnancy had greater positive feeling towards their infant after delivery, demonstrated by the amount of eye contact, smiling, touching and talking (Cohen et al, 1991). Attachment of the mother to the unborn baby is highly correlated to postpartum interactions and attachment between the mother and the infant (Olds et al, 1992; Cranley, 1981b).

Affects Of An Unplanned Pregnancy On Attachment

Olds et al. (1992) cite a study by Pascoe and French (1989) which found that an unplanned pregnancy had negative affects on maternal-foetal attachment and maternal-infant attachment. As most adolescent pregnancies are unplanned and the majority of adolescent mothers raise their children as single parents (Zubrzycki et al. 1991) one could assume that attachment could be compromised. Attachment which has its origins in pregnancy can also be affected by "environmental, social and individual characteristics" (Fuller, 1989: 434). A planned pregnancy has been positively correlated with "increased maternal-foetal attachment behaviours" (Lerum et al. 1989:16).

Affects On Maternal-Infant Attachment

Interaction between the adolescent mother and their infant play a significant role in effecting the developmental outcome of the children. Although little is known of the factors that place the children of adolescent mothers at risk of developmental problems studies have shown that "consistent deficits of cognitive development have been found in children" of some adolescent mothers (Levine et al. 1985: 23) such as scoring low on intelligence

scales at eight months, four years and seven years as well as lower levels of reading skills (vanWindeguth and Urbano, 1989). Children of adolescent mothers may suffer intellectual, emotional and physical difficulties as adolescent mothers demonstrate less expressiveness, less verbal and facial expressions, less delight and less positive regard toward their infant. Some interaction patterns are more problematic than adult mothers. During play with their infant the adolescent mother may be less inventive, patient, appropriate and less positive with their infant (Culp et al. 1991).

Some school age children of adolescent mothers may have greater cognitive and behavioural problems than children of adult mothers. The very young adolescent mother may be developmentally immature and not "ready' to mother her children. A study by McAnarney et al. (1986) set out to determine the relationship between maternal interactive behaviours of adolescent mothers with their 9-12 month old infants. As the infant became ambulatory the adolescent mother became impatient, limiting the infants ability to play and the freedom to explore the surroundings. Securely attached infants devote much time to exploring (Main, 1991). The younger the maternal age of the adolescent mother the "less accepting, less accessible, and less sensitive" mothering behaviours were demonstrated toward their infant of approximately one year of age (McAnarney et al. 1986: 588; Passino et al. 1993). There was a significant correlation between the age of the adolescent and more negative vocalisation towards the infant. Some younger adolescent mothers demonstrated more negative vocalisations towards their infant compared to some older adolescent mothers. Some younger adolescent mothers were less likely to initiate and reinforce their infants vocalisations or interact verbally compared to some older adolescent mothers. Some adolescent mothers use "less high-

pitched voice, touching and synchronous movements" than adult mothers towards their infant (Levine, 1985:23) Moroz and Allen-Meares (1991) also found that adolescent mothers were less likely to cradle their infant during feeding and less likely to gaze at their infant frequently. The adolescent parent may have inadequate knowledge of child cognitive and language development as they may be less verbal and less responsive during interactions with their infant. Adolescent mothers were more likely to "play" with their newborn baby however they often touched their infants in an aggressive or unpleasant manner according to a study comparing older and younger mothers expectations of infant development (Norr and Roberts, 1991). A less optimal care-giving environment may be provided for the infant by some adolescent mothers as they may lack education, experience financial deprivation, lack emotional and social support. Further difficulties are associated with social isolation, deficits in nutrition knowledge, poor housing, lack of transport access and child health care (Levine, 1985; Zubrzyki et al. 1991). Adolescent mothers may experience more stress than adult mothers and this is detrimental to the well-being of both the mother and the infant, thus affecting their ability to function effectively as a parent (Passino et al. 1993; Zuravin, 1988).

Development in maturity interferes with the maternal attachment process of the adolescent mother (Norr and Roberts,1991). Adolescent mothers often focus on the "here and now" and may be unable to take into account the future or the implications of their behaviour toward their infant (Kemp et al. 1990). Sommer et al. (1993) found that adolescent mothers were unprepared in prenatal and postnatal cognitive readiness for parenting although some studies found that they are as sensitive , involved and interact with their infant as adult mothers. "Pregnant adolescents have

personality styles which may not be conducive to effective parenting" (Passino et al. 1993:99).

Many studies have found that adolescent mothers display fewer maternal attachment behaviours toward their infant as well as less nurturing and stimulation. Some adolescent mothers under the age of eighteen years of age demonstrated less maternal attachment behaviours in the first three days postpartum than older adolescent mothers. However Norr and Roberts (1991) did not specify the maternal attachment behaviours in their article.

The relationship between age and maternal attachment behaviours was moderately strong in a study comparing some adolescent mothers with some adult mothers for observed attachment behaviours with their infants (Norr and Roberts, 1991). This study supports previous study findings of Ragozin et al. (1982) who found that there is a positive relationship between maternal age and maternal attachment behaviours such as nurture and vocalisation towards the infant. Degenhart-Leskosky (1989) found that the pregnant adolescent and adolescent mother is interested in the physical care of themselves and the physical needs of their infant rather than in education related to infant behaviours and maternal-infant interaction. They may have an expectation that the baby will provide them with unconditional love and may believe that the baby will care for them rather than for them to care and nurture the baby (Foley, 1991). Zuravin asks the question, "can young mothers be expected to understand the needs of a child for stability and security when their own needs are so similar?" (1988:91).

This section has reviewed the literature related to factors which may

influence adolescent maternal-infant attachment. The literature suggests that some adolescent mothers have different parenting styles and interact with their infant in a different manner compared to some adult mothers. It was also suggested that the younger the adolescent mother the less likely that they would interact verbally with their infant compared to some older adolescent mothers.

Pregnancy Complications Which Could Affect Or Delay Attachment

One of the major risks of adolescent child-bearing may be to the baby. The rates of perinatal death are higher in children born to some adolescent mothers than for any other age group less than thirty five years. Children of adolescent mothers are more than twice as likely to die in the first year of life than children of adult mothers (Siedlecky, 1984; Foley, 1991). For the adolescent mother there could be complications and time delays in becoming acquainted with their newborn baby. Pregnant adolescents are at greater risk of delivering premature and low birth weight babies as well as at risk of infant mortality, birth defects and mental retardation of their infants (Rubenstein et al. 1990). However Turner et al. (1990) cite several studies which have reached a contrary conclusion. The finding was that pregnant adolescents were not at greater risk of complications than pregnant adults while Held (1981; Barrera, 1982) stated that eighteen year old and older adolescents are at an optimal age of childbearing and have less problems than older pregnant adults. Psychosocial factors have been identified as a risk for medical complications during pregnancy. Thus literature is contradictory related to adolescent high risk pregnancy and should be viewed with caution.

Mothers of preterm infants may experience parenting difficulties as normal mother-infant attachment may be disrupted by prolonged separation particularly if the infant is transferred to the city for specialist care. Anxiety has direct negative effects on maternal-infant attachment according to Mercer and Ferketich (1990). This view is well supported by earlier studies and literature which shows that anxiety and depression caused by a sick infant can inhibit positive maternal-infant interaction and attachment although some research shows that high-risk pregnant woman demonstrate a greater maternal-foetal attachment than low-risk pregnant women as they place higher value on the foetus (Ferketich, 1990).

Potential Risk Of Child Abuse

The most common factor in the lives of some mothers who may abuse or neglect her infant is a lack of empathy in their own lives. Poor responses by some mothers toward the infant often begins in the antenatal period and are "related to poorly developed maternal-foetal attachment or insufficient bonding" (Olds et al. 1992: 1133).Child abuse has been identified as a symptom of "bonding failure" (Adler et al. 1991:351). Chess and Thomas (1982:216) state that "ominous consequences are predicted if bonding is inadequate in the first year of life". Child abuse occurs as a result of a "failure of adequate mother-infant bonding" according to Egeland and Vaughn (1981:78). However their studies found no evidence that bonding failure is a cause of child abuse.

Children of some adolescent parents are often victims of child abuse as the parents may be too immature to cope with a crying baby and are unable to understand how this "doll-like plaything" has a mind of its own (Tift, 1985). Low birth weight , child abuse and neglect and school failure are examples

of the problems of infants of some adolescent parents (Chamberlin, 1992). This cycle is likely to be repeated by the child thus perpetuating the cycle of child abuse, neglect and school failure as they possibly become adolescent parents. Stress produced by the pregnancy and parenting in adolescence leading to child abuse was identified by Kinard and Klerman (1980). Child abuse is complex and has many causes although mothers of less than twenty years of age have been significantly over represented in reports of child abuse in some countries(Zuravin, 1988; vonWindeguth and Urbano, 1989).

The literature reviewed related to adolescent parenting and potential child abuse was limited, often contradictory and provided inconclusive information on this topic. Therefore it should be viewed with extreme caution.

Postnatal Depression

Postnatal depression can occur after childbirth in some mothers irrespective of age, class and culture and may effect or disrupt the quality of the mother-infant relationship. There are many causes and risk factors suggested in the literature and one of these is that depression may develop in pregnancy and progress to postnatal depression. A number of studies (Lineberger, 1987; Fleming et al. 1988; Cutrona, 1989; Ferketich and Mercer, 1990) have investigated depression in pregnancy and its link to postnatal depression. Some of these studies have assessed the mother during pregnancy and several times during the first year post delivery. Other factors which may apply to the adolescent mother will be reviewed in the following section.

Postnatal depression has been defined by Reynolds et al. (1988) as an emotional disorder which occurs in the first month postpartum and may remain for up to two years. It is characterised by feelings of sadness, tearfulness, self reproach or guilt, irritability, fatigue, depressed appetite, sleep disturbances, inability to cope with the baby, marital and sexual dysfunction, a moderate to severe risk of suicide and infanticide. The effect of postnatal depression has been described by Welburn (1980) in Searle (1987:82) as "the black rose blooms, energy gone underground, behind a black curtain like the night of the soul, the extinguishing of a flame...how the baby perceives this as the cloud moves over the sun, we can only guess".

Pregnancy and childbirth even when planned are one of the most momentous and stressful events both physically and emotionally for the mother, particularly in a first pregnancy and failure to achieve adaption places the mother at risk of difficulties (Barnett, 1990). Field et al. (1985) believe the events of pregnancy and childbirth can precipitate and aggravate postnatal depression thus affecting the early maternal-infant relationship. The woman who has conflicts towards the mothering role and is unprepared for motherhood (role diffusion and loss of identity) can progress to postnatal depression (Searle, 1987).

A comparison study between adolescent and adult pregnant women found there was a significant relationship between anxiety and self confidence in the prenatal period for the adolescent. Adolescents may express concern at their ability to be a parent and to cope with the unexpected demands of parenthood. In adolescence this can be more difficult since there are demands to work "simultaneously on the developmental tasks of pregnancy, parenthood and adolescence and their cognitive skills may not

be fully developed" (Pond and Kemp, 1992: 120). The mother-infant relationship will be negatively affected if the mother feels negative about her ability in the capacity of a mother. Researchers have found an inverse relationship between anxiety and prenatal maternal-foetal attachment. Prenatal attachment is linked to postnatal attachment and parenting confidence for up to two years. However other research has found no difference between the stress experienced between adolescent and adult mothers (Becker, 1987). Although Morse (1993) believes that stress during pregnancy is a predisposing factor for postnatal depression. Studies found that the pregnant adolescent may experience depression, worthlessness, helplessness and a need for punishment. These feelings in the prenatal period can follow on into the postnatal period. However adolescent depression may be labelled as "emotional turmoil related to maturational changes" (Lineberger, 1981:181).

During the second week of the second trimester of pregnancy women were investigated and the study revealed that nine percent had clinical depression and this increased to twelve percent in the postpartum period. Multiple regression analyses identified that postnatal depression can be predicted in pregnancy if there is a history of childhood depression, high risk pregnancy, low self esteem and high stress (Morse, 1993; Hopkins et al. 1984). Other factors which were identified are isolation, social deprivation, loneliness, unplanned pregnancy and no partner. Some of the risk factors for postnatal depression identified by Barnett (1990) may apply to the adolescent. These are: adolescent pregnancy, no partner when the baby arrives, unplanned or unwanted pregnancy, pregnancy at risk, social isolation, stress and a poor relationship with own mother. This is supported by earlier authors, Williams and Searle (1989) who stated that the very

young in age, stressful life events, poor social supports and poor parental relationships were risk factors for postnatal depression. A planned pregnancy has been positively related to maternal-foetal attachment behaviours and maternal-infant attachment behaviours (Lerum et al. 1989) while a lack of social support has been identified as a direct link to depression in the antenatal and postnatal period (Ferketich and Mercer, 1990).

Morse (1993) found that postnatal depression has long term adverse effects on the maternal-infant attachment relationship. Maternal-infant attachment and interaction behaviours has been described as a "dance" between the mother and the infant with both being "tuned in" and these behaviours are rhythmic with "escalating cycles of engagement and disengagement" (Milgrom, 1994:30). Concern was expressed by Lee and Gotlib (1989) that children of depressed mothers were at risk for a range of emotional adjustment difficulties. Cogill et al. (1986) found that children had significant intellectual deficits if maternal depression occurred in the first year of the child's life as it impairs maternal-infant interaction and attachment, immobilising the maternal role of the mother. Mothers with postnatal depression are unresponsive to the infants cues, are quite withdrawn, with flatness of affect, displaying difficulties with maternal-infant interaction and attachment. While some studies have found that the cognitive development of the children is adversely affected and the quality of maternal-infant interaction and attachment is poor, other research has produced inconsistent findings (Murray and Cooper, 1991). Mothers with depression have a higher frequency of children who experience insecure attachment than those who do not experience depression. After a brief separation from the depressed mother, on reuniting the child exhibits

behaviours of avoidance and resistance toward the mother (Stein et al. 1991).

Children of depressed mother had greater difficulties in expressive language than children of non-depressed mothers, thus affecting the quality of maternal-infant interaction up to nineteen months after birth (Stein et al. 1991). Bettes (1988) investigated maternal depression and motherese or infant directed speech and found that interaction and utterances toward the infant were brief compared to non-depressed mothers. This view is supported in an earlier article by Breznitz and Shearman (1987) on speech patterning in the discourse of well and depressed mothers and their young children. Their research found that mothers who were depressed vocalised less and were slow to respond to their infant compared to non-depressed mothers.

In 1985, Field et al. published their study reporting that children of depressed mothers displayed low interaction behaviours. However the authors acknowledge that this behaviour did not affect the developmental milestones of the infant. Stein et al. (1991) support the earlier findings of Field et al. (1985) that there is a reduction in the quality of maternal-infant interaction when the mother has postnatal depression. Nevertheless these authors admit that some of the mothers had good interactions with their children and rated high or warm in their score.

Effects On The Lifespan

Main (1991:136) identified that young children are more vulnerable than older children or adults to "unfavourable attachment-related experiences" as they have a greater dependence on others. According to Bowlby (1973)

cited in Main (1991), children may develop "multiple models of the attachment figure" thus creating unfavourable patterns of interaction. However a child may develop and maintain an insecure-ambivalent attachment to one attachment figure despite intense contradictory experiences.

Concluding Remarks

Positive maternal-foetal attachment has been identified as a predictor for positive maternal-infant attachment, which in turn influences relationships across the lifespan into the next generation. A planned pregnancy is more likely to have a positive effect on maternal-foetal attachment than an unplanned pregnancy. The pregnant adolescent may or may not be at greater risk of pregnancy and birth complications which could compromise or delay attachment. The literature was contradictory and inconclusive in supporting the view that some adolescent mothers are at greater risk of pregnancy and birth complications.

The age of the adolescent mother is thought to have an influence on maternal-foetal attachment and maternal-infant attachment and interactive behaviours. The research literature was limited and often contradictory and inconclusive in relation to the possibility that the some adolescent mothers were more likely to abuse their children. Therefore it should be viewed with extreme caution.

Postnatal depression has many and varied risk factors according to the literature. Therefore, most mothers rather than just specifically adolescent mothers may be at risk. Although there is increasing evidence that

psychosocial factors are significant in the development of postnatal depression.

Summary of Chapters 2 to 6

It is clear from the above review that an important precursor to maternal-infant attachment is maternal-foetal attachment. Since maternal-foetal attachment occurs during the difficult stages of psychological growth which characterise the 9 months of pregnancy, it is likely to be vulnerable to certain threats, such as poor self esteem and low social support. Given the added psychosocial development difficulties of adolescents, one could confidently propose that the pregnant adolescent is particularly vulnerable to disruptions in the development of maternal-foetal attachment. As yet, there is no clear research on this issue. The only published study on the relationship between self esteem and social support and maternal-foetal attachment in adolescents has been found to be flawed (see introduction). It was therefore considered important to investigate the issue empirically. The next chapter outlines the research design of the study.

CHAPTER 7.

RESEARCH DESIGN AND METHODOLOGY.

Purpose And Research Question

Aim

The aim of this study is to investigate the relationship between maternal-foetal attachment, self esteem and social support in pregnant adolescents. The specific broad based question addressed is:

Is there a relationship between maternal-foetal attachment, self esteem and social support in pregnant adolescents.

Research Hypothesis

1. High self esteem is positively associated with maternal-foetal attachment in adolescents.
2. Amount and quality of social support is positively associated with the adolescent mother's attachment to her foetus.

A. Pilot Study

A pilot study was conducted using three pregnant adolescents who were interviewed using an early version of the protocol. This revealed deficits in the original demographic questionnaire and the interview questions. One of the questions of the recorded interview was changed from "how close do you feel to your baby?' to "how do you feel about your baby?". This was because the former question elicited only 'closed' answers (e.g. "very" or "very close").

After this study it was decided to add Rosenberg's Self Esteem Scale (RSE,

Rosenberg, 1979) and The Support Behaviour Inventory (SBI, Brown, 1988) and expand the original research question to include the relationship between maternal-foetal attachment, self esteem and social support in pregnant adolescents.

B. Main Study

Sample

The population was selected from pregnant adolescents attending a large country health service area. These pregnant adolescents at the time of a semi-structured research interview (June to July, 1995) were attending a public based midwifery antenatal clinic. The pregnant adolescents had an age range of 15 to 19 years (mean age of 17.8), a gestation range of 6 to 41.6 weeks (mean gestation of 25 weeks). The final study sample was 50 pregnant adolescents.

A consent form was signed by the participant before the semi-structured interview and after they were provided with information regarding the study purpose and project. Pregnant adolescents under the age of sixteen years had their consent form signed by either a parent or guardian after they agreed to participate. All pregnant adolescents in the final sample met the sample criteria set out in the research design.

Setting

Data was gathered through the hospital based midwifery antenatal clinic of a large country hospital. This agency was selected because it has the most number of pregnant adolescents attending this facility compared to a private hospital in the same area. In the selection of the centre it was necessary to consider the extent of other professional commitments to the

project. Without the support of midwifery professionals within the antenatal clinic, collection of the data would be difficult. The midwives promoted the study to the pregnant adolescents thus they were informed and all who were approached were happy to be involved in the project.

Instruments

i) The Maternal Foetal Attachment Scale (MFAS, Cranley, 1981).

The Maternal-Foetal Attachment Scale (MFAS) is a 24 item scale with 5 subscales. The subscales assess five aspects of the relationship of the mother and foetus. These include: differentiation of self from the foetus, interaction with the foetus, attributing characteristics to the foetus, giving of self and role-taking. The scale and subscale are scored on a scale of 1 to 5, with 5 being the most positive statement. For item 22 the scoring is reversed. A mean score is then calculated by dividing the sum of the item scores by the number of items answered (Cranley, 1995). Cranley (1995) has supplied normative data on the scale. There is a co-efficient reliability of .85 for the the scale with a range of .83 to .87 reliability for the subscales (personal communication).

Studies Conducted By Cranley Using the MFAS

Cranley (1981a)

A study of 71 women at 35 to 40 weeks gestation found that the newly developed Maternal-Foetal Assessment Scale did not correlate with the Neonatal Perception Inventory Scores. Contrary to expectations no correlation was found between maternal-foetal attachment and maternal-infant attachment in this study. However there was a correlation between Maternal-Foetal Attachment with social support ($r = .51$, $p < .01$) and stress

(r = .41, p < .01). Validity was examined in this study using intercorrelations performed among the subscales and the total scale. Cranley (1981a) reports that all subscales were positively associated with the total scale (r = .61 to .83). Correlations among subscales were also positive (r = .29 to .60). The Maternal-Foetal Assessment Scale for this study included a subscale entitled, "Nesting" which has since been removed from the Maternal-Foetal Assessment Scale. For this study the scale demonstrated a co-efficient reliability of .85 with a range of .52 to .73 reliability for the subscales (Cranley, 1995, personal communication).

Cranley (1981b)

Cranley (1981b) investigated the relationship of parents with their unborn. The two studies involved 30 women interviewed at 34 weeks gestation and 3 days post partum. The findings showed that there was no relationship between maternal-foetal attachment and self esteem but there was a relationship between the presence of social support from family, friends and professional care givers to maternal-foetal attachment.. Perceived stress by the mother had a negative association with maternal-foetal attachment (Cranley, 1981b).

The second study involved 100 expectant fathers attending childbirth classes. It was found that there was a positive relationship between the marital relationship and paternal-foetal attachment.

Cranley, 1984

A study by Cranley (1984) related to social support as a factor in the development of parents' attachment to their unborn involved two studies. The first study used material collected from an earlier study of 30 women

(1981b). The findings showed that there was a positive relationship between total social support and maternal-foetal attachment. The second study utilised a questionnaire to investigate the relationship between foetal-attachment and marital satisfaction and involved 326 couples. The results from this study found a positive association between marital relationship and attachment to the foetus for both men ($r = .30$, $p < .01$) and women ($r = .32$, $p < .01$).

Heidrich and Cranley, 1989

The effects of foetal movement, ultrasound scans and amniocentesis on maternal-foetal attachment were investigated by Heidrich and Cranley (1989). Ninety one women with a normal pregnancy completed the Maternal-Foetal Assessment Scale during the second trimester (14 to 27 weeks gestation). This study found that women who reported feeling foetal movements early in pregnancy had higher maternal-foetal attachment score and perception of foetal development. Women who had genetic amniocentesis had lower attachment scores before the procedure. However one month after the procedure, attachment scores were not significantly different to the other women. Ultrasound scans had no effect on either maternal-foetal attachment or perception of foetal development scores. Feeling of foetal movement early in pregnancy appeared to be positively related to attachment to the foetus.

Some Other Studies Using the Maternal-Foetal Assessment Scale

The Maternal-Foetal Attachment Scale is the pre eminent scale of maternal-foetal attachment. It has been used in a wide variety of research contexts to address a number of research questions.

I) Curry (1987) investigated the maternal behaviours of 63 hospitalised pregnant women using 2 semi structured interview guides, MFAS, Tennessee Self-Concept Scale, Sarason Life Experience Survey, Leiderman's Prenatal Self-Evaluation Questionnaire, a measure of pregnancy risk and the Norbeck's Social Support Questionnaire. Self concept scores were positively related to MFAS scores. Content analysis revealed that women distinguished between pregnancy complication and the foetus. Thus maternal-foetal attachment was not compromised.

ii) Davis and Akridge (1987) investigated the effect of promoting intrauterine attachment in 22 first time mothers on post delivery attachment. The experimental group of 10 women received an attachment enhancing intervention. The MFAS was administered during pregnancy and the Avant Maternal Attachment Assessment Scale on the second to fourth day post delivery. No significant differences in maternal-infant attachment was found between the two groups.

iii) Fuller (1989) investigated the relationship between maternal-foetal attachment and maternal interaction in 32 women between the 35 and 40 weeks gestation. Instruments were the MFAS, Nursing Child Assessment Feeding Scale (NCAFS) and the Funke Mother-Infant Interaction Assessment (FMIIA). This study found that maternal-foetal attachment was significantly and positively related to maternal-infant interaction as measured by the the maternal subscales of the NCAFS and the FMIIA.

iv) Gaffney (1986) examined the relationship between maternal-foetal attachment, self concept and anxiety in a sample of 100 women in the third trimester (28 to 40 weeks). The instruments used were the MFAS,

Tennessee Self-Concept Scale and Strait-Trait Anxiety Inventory. There was a negative correlation (r = .26, p .01) between MFAS scores and state anxiety The remaining scores were insignificant in relation to the MFAS score.

v) Grace (1989) administered the MFAS to 69 pregnant women from 16 weeks gestation at monthly intervals until delivery to determine is there is a development of maternal-foetal attachment in pregnancy. Four to 6 weeks after delivery the women completed the 'What Being the Parent of a New Baby is Like' (WPL) scale. Total MFAS and subscale score increased over pregnancy except for the "Giving of Self" subscale. Total MFAS and subscale scores were affected significantly by time x subject interactions.

vi) Kemp and Page (1987) compared maternal prenatal attachment in 53 normal and 32 high-risk pregnancies. They used the MFAS and a questionnaire about the current pregnancy. There was no significant difference between high and low risk women.

vii) Lerum et al. (1989) explored the relationship of maternal age, quickening, and physical symptoms of pregnancy to the development of maternal-foetal attachment in 80 pregnant women. Each woman completed the MFAS and the Pregnancy Symptoms Checklist (PSC). Maternal age and physical symptoms were not found to be significantly correlated to maternal-foetal attachment. Quickening as well as the degree and frequency of foetal movement were correlated ($p < 0.0001$).

viii) Wayland and Tate (1993) examined the associations between maternal-foetal attachment and the pregnant adolescents perceived

relationship with her mother and the baby's father. The study involved three instruments, MFAS, Relationship With Mother (RELMO) scale and a demographic survey. There was a significant relationship correlation between maternal-foetal attachment and the adolescent's perceived close relationship with her mother ($r = 0.37$, $p < 0.01$) and the baby's father, gestation and marital status.

This section has reviewed 8 studies using Cranley's Maternal-Foetal Attachment Scale in conjunction with other assessment instruments. Many variables have been associated with maternal-foetal attachment in various studies although three have consistent correlations in the studies. These are quickening, gestation and risk status. Both quickening and gestation have been positively correlated to maternal-foetal attachment (Grace, 1989; Heidrich and Cranley, 1989; Lumley, 1980, 1982; Leifer, 1980; LoBiondo-Wood, 1985; Reading et al. 1984; Vito, 1986) while pregnancy risk status has been found to have no correlation with maternal-foetal attachment (Curry, 1987; Kemp and Page, 1987; Mercer et al. 1988).

Other Maternal-Foetal Assessment Scales

There are several other maternal-foetal assessment scales although the one mostly commonly used is Cranley's Maternal-Foetal Attachment Scale and that is why this current study has used this instrument. Some of the other maternal-foetal attachment instruments are:

i) Vito (1986), a revised version of the Cranley scale (MFAV), added a 5 item nesting subscale.

ii) Hauck (1985), has 5 subscales for the 44 item scale entitled, "Amount of

Preparation for Parenthood During Pregnancy", "Anticipated Adjustment to Parenthood", "Ambivalence about Becoming a Parent", "Closeness to and Enjoyment of the Baby".

iii) Rees (1980), Prenatal Tool consists of 39 Likert-type items arranged on a 6 point response set from "strongly agree" to "strongly disagree". It has two scales, one is "Feelings of Motherliness" (FOM) and the second is entitled "Conception of the Foetus as a Person" (CFP).

iv) Josten (1982), developed the Prenatal Assessment of Parenting Guide and it has five areas of assessment, "Perception of Complexities of Mothering", "Attachment", "Acceptance of Child By Significant Others", "Ensures Physical Well-being" and "Parental Problems".

v) Heidrich and Cranley (1989) designed the Perception of the Foetus (POF) scale which consists of 10 items describing intrauterine life and foetal development with a scale from 1 to 5. The higher scores indicated a greater degree of development.

This section has briefly reviewed 5 of the prenatal scales which have been suggested as a measurement for maternal-foetal attachment. However in a review of the literature there is a scarcity of information on these scales and how accurate they are in determining maternal-foetal attachment.

Validity and Reliability of the Maternal-Foetal Attachment Scale

Validity and reliability of the Maternal-Foetal Attachment Scale are reported by Cranley (1981a; 1984). However concerns about the "validity of the instrument and the ability to represent the dimensions of prenatal

attachment" have been expressed (Muller, 1992:18). Many studies using the Maternal-Foetal Assessment Scale have revealed inconsistent and sometimes conflicting results. Validity is supported when the outcomes of the research are "consistent with the theory supporting a construct" (Muller, 1992:14).

Further shortcomings related to the scale are identified by Cranley (1992:23). The first is that the "subscales while relating to other variables, have never shown to have satisfactory reliability estimates". It was decided not to use the subscales in the current study for this reason. Secondly the items which will be discussed later may suggest activities to the pregnant women that may not have occurred to them, and upon reflection may be endorsed. However, Cranley (1992) believes that the Maternal-Foetal Attachment Scale despite its shortcomings does measure behaviour and feelings of the mother towards her unborn baby but cautions against using the subscales separately.

This section has discussed the Cranley's Maternal-Foetal Attachment Scale and identified other studies conducted by Cranley and some other studies which have used the Cranley Maternal-Foetal Attachment Scale. Further discussion has related to other Maternal-Foetal Attachment Scales, the validity and reliability of the Cranley Maternal-Foetal Attachment Scale and the concerns expressed by both Muller (1992) and Cranley(1992) regarding the scale. However there is no other scale that has been used as extensively as the Cranley Maternal-Foetal Attachment Scale to measure maternal-foetal attachment.

ii) Rosenberg's Self Esteem Scale (RSE, Rosenberg, 1979).

Rosenberg's Self Esteem Scale is an 11 item 4 point Likert scale with a coefficient of reproducibility of 93% and a coefficient of scalability for items of 73% and scalability for individuals of 72%. It measures the aspect of self-acceptance of self esteem. Internal consistency is very satisfactory with r = 0.87 to 0.87. It has a total score of forty four. Self esteem can be either low, moderate or high.

The Rosenberg Self Esteem Scale is practical, easy to administer, can be completed in two or three minutes and is found to be well suited for adolescent assessment (Rosenberg 1965; 1979). It has good face validity. It was chosen for this study because of the smaller number of questions compared to the more lengthy scale of the Coopersmith Self-Esteem Inventory (School Form).

iii) The Support Behaviour Inventory (SBI, Brown, 1988).

The Support Behaviour Inventory is a 11 item 6 point Likert-type scale that purports to measure satisfaction with "partner" support (boyfriend, spouse, mate) separate from "others" support. The Cronbach alpha reliability coefficients range from .90 to .96.

Social support was measured using 8 measures. The first three measures were derived from the Support Behaviour Inventory(SBI). The other 5 were constructed specifically for this study.

1) support from partner (sbi part)

2) support from others (sbi other)

3) total support (partner plus other) (sbi tot). The maximum scores for partner and other support is 66 with a combined maximum total sore of 132.

4) Social Support Dispersion (SS no)

The questionnaire included a checklist of significant people in the adolescent's life and asked them to indicate how many people they talked to about their pregnancy. The raw score was used as this measure (SS no).

5) Social Support Mean Rating (SS me)

The subjects were asked to rate on a 1 to 9 rating scale (from very unsupportive to very supportive) the degree of support of each person nominated as someone they talked to about their pregnancy. This generated a mean total supportiveness score (SS me).

6) Mother's Support (m+)

The subjects were asked to rate how helpful their mother had been on a 1 to 9 scale (from not helpful to very helpful).

7) Father's Support (f+)

The subjects were asked to rate how helpful their father had been on a 1 to 9 scale (from helpful to very helpful).

8) How Many Days, See or Speak With Partner (p time)

The subjects then were asked how many days their partner/boyfriend speaks or sees the subject in days per week (where 0 = less than once a week, 1 = 1 day a week ... 7 = 7 days a week).

iv) Four taped recorded interview questions.

I was interested in the adolescents responses to a number of questions targeting attachment (Q3), general well being (Q1), news of pregnancy (Q2) and future expectations of life with an infant (Q4).

Questions

1. What are the good things and the bad things for you at the moment?
2. What was your life like around the time you found out you were pregnant?

Prompts: was the pregnancy expected?

how did you feel about the news?

3. How do you feel about your baby?
4. What do you think life will be like in 10 months time?

Prompt: will you have support from anyone?

v) General Demographic Questionnaire was developed specifically for this study to elicit information about the mother.

The questionnaire asked questions related to age of the pregnant adolescent, gestation, marital status, living arrangements and suburb. Further questions related to education level completed or tertiary studies, which High School was attended and whether sex education classes were attended. Employment issues were considered, level of fortnightly take home income and how adequate was the income and how much money would be satisfactory each fortnight.

The section on pregnancy asked how many times the adolescent has been pregnant, how many living children does she have now and is she

planning to keep the baby, have it adopted or "don't know".

Social support questions in the questionnaire have been discussed in a previous section of this chapter related to social support.

In the section entitled "Mother and Father", questions were asked concerning whether mother was still living, father still living, are both parents living together, if not, how old were you when they separated? Further questions asked how many children does the mother of the adolescent have including herself and how old was the mother when she had her first baby. The questions were asked, does your mother know you are pregnant and does your father know you are pregnant?

The "Partner/Boyfriend" section asked age of partner/boyfriend, whether the adolescent has a steady relationship, how many months they have been with this person, does he know about pregnancy and whether he will be informed of pregnancy.

Contraception relates to whether the pregnancy was planned or unplanned, what type of contraception was used over the last 12 months, whether a contraceptive method was used at the time of the becoming pregnant and who is responsible for contraception.

The full protocol and questionnaire appears in Appendix A to E.

Method

Pregnant adolescents were identified by clinic staff and were then invited to participate in an "adolescent pregnancy study" by the author. Most of the

interviews were conducted in the adolescents home by prior arrangement with the investigator although some also occurred in a private room of the clinic. Informed consent was sought and obtained from the adolescent and her parent guardian (if under 16 years of age) using the Consent Form in Appendix F. Following some brief introductory comments the demographic questionnaire was administered by the author by asking each question verbally to the subject.

After question Number 9 the tape recorder was turned on and the 4 qualitative questions were asked in turn. If the subject had difficulty answering the questions the question was repeated, and the specific prompts were used. The tape recorder was then turned off and the final questions were asked face to face. The final task for the subject was to self complete the 3 research questionnaires by filling in their responses. The tape recorded responses were made prior to any questions or questionnaires specifically about attachment, self esteem and social support. This helped to ensure that the audio-recorded responses were uncontaminated by cues or prior questions on the area of interest.

Exclusion Criteria

In an effort to control many of the variables believed to have a negative effect on maternal-foetal attachment, pregnant adolescents who had terminated their pregnancy or were planning to terminate their pregnancy were excluded from the study. It is unknown how many had terminated their pregnancy as they would have attended the Family Planning Clinic. It is known that there were at least 3 pregnant adolescents who were not approached to participate in this study as they were planning to terminate their pregnancy. They attended the midwives clinic to confirm their

pregnancy and were then referred to the Family Planning Clinic.

Data Analysis

Data collected was analysed utilising a statistical computer based package, Statview. It was decided to use Pearson correlations to investigate relationships between the predicted variables. Then the different variables were combined in a series of systematic steps to determined the best model to predict maternal-foetal attachment. Using a multiple regression approach the criterion for statistical significance was set at $p < 0.05$.

Concluding Remarks

This section has outlined the various steps taken in the research design and methodology related to the relationship between maternal-foetal attachment, self esteem and social support in pregnant adolescents.

CHAPTER 8.

RESULTS.

Data are presented in relation to maternal-foetal attachment, self esteem and social support in pregnant adolescents. Other significant factors will be identified and discussed.

Response Rate

A total of 50 pregnant adolescents were invited by the researcher to participate in the final study and 100% agreed to be interviewed between 6 to 41.6 weeks gestation.

The pregnant adolescents were recruited through the Parenting Centre (midwives antenatal clinic) in a large country health service area. All pregnant adolescents attending the clinic from June to July, 1995 participated in the study project. The sample was compared to other published studies of pregnant adolescents in different regions of Australia and was found to be highly similar (See Table 1).

Maternal Characteristics

The 50 adolescents involved in the study were aged between 15 and 19 with a gestation range of 6 to 41.6 weeks. The raw number and percentage of maternal characteristics for the sample are summarised in Table 2. Thirty six were first time mothers while 14 were expecting their second baby, and one mother had a twin pregnancy. Four of the pregnant adolescents were married, 36 had partners while 10 never see the father of the unborn baby. The age range of the husbands or partners was 17 to 32

Table 1 Wagga Wagga Study Compared to Other Studies

Studies	This Study Wagga Wagga (1995)	Illawarra (1990)	Western Sydney (1989)	South Australia (1991)	South Australia (1987)	Tasmania (1984)	Western Australia (1981)
Study Title	The Relationship Between Maternal-Foetal Attachment, Self Esteem and Social Support in Pregnant Adolescents	Teenage Pregnancy In the Shoalhaven	Teenage Pregnancy In Western Sydney	Teenage Pregnancy in South Australia 1986 - 1988	Teenage Pregnancy Decisions: The role of unemployment	Adolescent Pregnancy	Teenage Pregnancies in Western Australia
Focus of Study	Maternal-foetal Attachment	Teenage Pregnancies and Terminations	Obstetric performance of teenagers	Teenage Pregnancy	Unemployment and ex-nuptial conception	Obstetric performance of adolescents	Perinatal mortality and low birth weight infants of teenagers
Age	15 - 19 years	15 - 19 years	< 17 years	13 - 19 years	14 - 20 years	< 18 years	14 - 19 years
Education Completed	Year 8 6% Year 9 28% Year 10 38% Year 11 18% Year 12 10%	Not Stated	Not Stated	Not Stated	Primary School .6% Year 8 2.6% Year 9 13.5% Year 10 34.0% Year 11 31.7% Year 12 15.0% Tertiary 2.6%	Not Stated	Not Stated
Employment	Employed 24% Unemployed 48% Student 28%	Not Stated	Not Stated	Unemployed 17.1% Housewives 32.2% Students 5% > Unemployment 14.5% (1986) to 20.6% (1988)	Employed 39.7% Unemployed 42.2% Student 9.4% Other 8.7%	Not Stated	Not Stated
Marital Status	Single 54% Married 8% Defacto 38%	Single 55% Married/Defacto 35% Not Stated 10%	Married 4.1%	Single 58..1% Other 41.9%	Single 63.7% Married 14.9% Defacto 18.5% Seperated 2.9% Divorced .2% Widowed .2%	Not Stated	Not Stated

Table 2 Subject Characteristics (n = 50)

Characteristics	n	%
What is your age?		
15	2	4%
16	6	12%
17	11	22%
18	14	28%
19	17	34%
Gestation		
1-13 weeks	8	16%
14-27 weeks	18	36%
28-40 weeks	24	48%
What is your present marital status?		
Single	27	54%
Married	4	8%
Defacto	19	38%
Which suburb are you living in?		
Suburb no.1	10	20%
Suburb no.2	6	12%
Suburb no.6	5	10%
Suburb no.8	5	10%
Suburb no.9	7	14%
Remaining 11 Suburbs	17	34%
Living Arrangements		
Live alone	8	16%
Your parents	14	28%
His parents	2	4%
Boyfriend/Partner/Husband	20	40%
Friends	5	10%
Other	1	2%
Education Completed		
Year 8	3	6%
Year 9	14	28%
Year 10	19	38%
Year 11	9	18%
Year 12	5	10%
School Attended		
School A	18	36%
School K	9	18%
School W	6	12%
3 Schools in area	5	10%
Schools outside area	12	24%
Tertiary Studies		
None	25	50%
CES course	9	18%
TAFE	16	32%
Did you attend sex education classes?		
Yes	45	90%
No	5	10%

Characteristics (cont)	n	%
Employment		
Employed	12	24%
Unemployed	24	48%
Student	14	28%
Income (fortnightly-take home)		
No income	1	2%
< $100	1	2%
$100 - $200	11	22%
$201 - $300	18	36%
$301 - $400	6	12%
$401 - $500	6	12%
$501 - $600	2	4%
>$600	2	4%
Not recorded	3	6%
How adequate is your income?		
very inadequate - inadequate	23	46%
inadequate - neither	12	24%
neither - adequate	4	8%
adequate - very adequate	8	16%
Not recorded	3	6%
Pregnancy		
Primip (1st pregnancy)	36	72%
Multip (2nd or > pregnancy)	14	28%
twin pregnancy	1	x%
Do you plan to keep the baby?		
Yes	49	98%
Don't know	1	2%
Is your mother living?		
Yes	50	100%
Is your father living?		
Yes	47	94%
No	3	6%
Are your parents living together?		
Yes	20	40%
No	27	54%
Father deceased	3	6%
How old were you when they separated?		
< 1 year	4	8%
1 - 9 years	16	32%
10 -17 years	7	14%
How many children does your mother have including self?		
2 children	7	14%
3 children	16	32%
4 children	13	26%
5 children	10	20%
6 children	2	4%
7 children	1	2%
8 children	1	2%

Characteristics (cont)	n	%
How old was your mother when she had her first child?		
15 years	2	4%
16 years	3	6%
17 years	4	8%
18 years	8	6%
19 years	10	20%
> 19 years	23	46%
Does your mother know about your pregnancy?		
Yes	50	100%
Does your father know about your pregnancy?		
Yes	40	80%
No (3 deceased)	10	20%
Do you have a steady relationship?		
Yes	37	74%
No	13	26%
How many months have you been with this person?		
2 - 4 months	13	26%
13 - 24 months	12	24%
25 - 36 months	6	12%
37 - 48 months	4	8%
49 - 60 months	2	4%
No relationship	13	26%
How old is he?		
17 - 19 years	19	38%
20 - 25 years	22	44%
26 - 32 years	9	18%
Does he know you are pregnant?		
Yes	50	100%
No	0	
Is your pregnancy planned or unplanned?		
Planned	8	16%
Unplanned	42	84%
What type of contraceptive method have you used in the last 12 months?		
Pill	31	62%
Condom	10	20%
None	9	18%
Were you using a contraceptive method at the time you became pregnant?		
Yes	17	38%
No	33	66%
Contraception Responsibility		
Your responsibility	6	12%
Partner responsibility	0	-
Shared responsibility	44	88%

years. Twenty seven parents of the pregnant adolescent were no longer living together and two fathers were deceased. Twenty seven mothers of the pregnant adolescent had their first baby between 15 and 19 years of age. Forty two of the pregnancies were unplanned or unintended, 9 adolescents were using no form of contraception, 10 were using a condom and thirty one were using the pill.

Test of Hypothesis 1

Maternal-Foetal Attachment vs Self Esteem

The self esteem scores for the pregnant adolescents ranged from 15-44. Only one adolescent had a score of 15 and the remaining adolescents had a score of 21-44. The pregnant adolescent who had a score of 15 did not reflect this in the recorded interview although when the interview ceased she then talked about the problems experienced. She stated that she felt guilt over being forced to have an abortion by her family last year, felt upset to find out she now has an adopted sister somewhere, is not speaking to her mother and feels trapped by the current pregnancy.

The results from Rosenberg's Self-Esteem Scale (RSE) showed that there was a significant relationship between maternal-foetal attachment and self esteem ($r = 0.359$, $p < 0.005$) as measured by the Rosenberg Self Esteem Scale. Hypothesis 1 is therefore supported: high self esteem is associated with higher maternal-foetal attachment.

Test of Hypothesis 2

Maternal-Foetal Attachment vs Social Support

The raw scores for the 8 measures and the other social support measures appear in Table 3. Then the intercorrelations were investigated and appear in Table 4.

Table 3. Mean and Standard Deviations for the 8 Measures of Social Support Scores (N = 50).

measure	mean	standard deviation
1. sbi tot	96.76	28.87
2. sbi part	56.47	11.84
3. sbi other	54.04	10.57
4. SS no	9.04	3.13
5. SS me	7.56	.93
6. m +	8.0	1.79
7. f +	6.02	2.60
8. P week	6.52	1.48

Table 4. Intercorrelations of Social Support Measures.

	sbi tot	sbi part	sbi other	SS no	SS me	m +	f +	P week
sbi tot								
sbi part	0.80*							
sbi other	0.42*	0.31*						
SS no	0.32*	0.06	0.10					
SS me	0.46	0.50	0.21	-0.03				
m +	0.18	0.03	0.30	0.09	0.06			
f +	0.01	-0.03	-0.06	0.10	-0.04	0.02		
P week	0.16	0.19	-0.20	0.18	0.13	-0.17	-0.009	

* $p < 0.05$

sbi tot	=	Social Support Behaviour Inventory, total support
sbi part	=	Social Support Behaviour Inventory, partner support
sbi other	=	Social Support Behaviour Inventory, other support
SS no	=	number of supportive people
SS me	=	social support mean rating
m+	=	perceived support from own mother
f+	=	perceived support from own father
P week	=	times during the week seen or speaks to partner

It was interesting how much each measure was related to each other, with intercorrelations appearing in Table 4.

From this it can be seen that the three Social Support Behaviour Inventory measures are highly intercorrelated, and that the total Social Support Behaviour Inventory score (sbi tot) is also correlated with the Social Support Dispersion (SS no), (measure 4). None of the other social support measures were correlated with each other. The self generated Social Support Dispersion (SS no) measure therefore appears to be tapping the same elements as the SBI. The other measures perhaps are not as useful as general social support measures, but may be tapping specific aspects of social support.

The relationship between social support measures and maternal-foetal attachment were calculated. The correlations appear in Table 5.

Table 5. Correlations Between Social Support Measures and Maternal-Foetal Attachment.

	r	p
sbi tot	0.13	ns
sbi part	0.07	ns
sbi other	0.04	ns
SS no	0.27*	$p < 0.05$
SS me	-0.07	ns
m +	0.03	ns
f +	0.29*	$p < 0.05$
p week	-0.07	ns

As can be seen from this table, only the Social Support Dispersion (SS no) and Father's support (f+) measures were related to maternal-foetal attachment.

Results indicated that there is no significant relationship between Maternal-Foetal Attachment and social support using Brown's Social Support Behaviour Inventory. There were also no significant relationships between maternal-foetal attachment and total social support ($r = 0.13$,ns), maternal-foetal attachment and partner support ($r = 0.07$,ns) and maternal-foetal attachment and other support ($r = 0.04$,ns). However maternal-foetal attachment was significantly related to perceived support from the adolescent's father ($r = 0.29$, $p < 0.05$) but was not related to support from the mother ($r = 0.03$, ns.) a finding at odds with the literature. Hypothesis 2, that the "amount and quality of social support is positively associated with the adolescent mother's attachment to her foetus" was therefore supported by the SS no measure. The additional relationship found between the father's support and maternal-foetal attachment is interesting and will be discussed in the next chapter.

Further Analysis

Maternal-Foetal Attachment vs Gestation

This study found that the Maternal-Foetal Attachment Scale scores increased as the gestation increased ($r = 0.49$, $p < 0.0005$).

Number Of Children vs Maternal-Foetal Attachment

It was with interest to see if there was a difference between those experiencing their first pregnancy vs those into their second pregnancy. This was because those who experienced pregnancy before may be more

sensitive to their pregnancy cues and able to express their attachment to their foetus. There were two forms of prior pregnancy identified:

1) Those who had been pregnant but had miscarried (3 subjects; gravida 2, parity 0).

2) those who had carried and delivered live babies and were having their second baby (11 subjects; gravida 2, parity 1). The correlations with maternal-foetal attachment are shown in Table 6. As can be seen there is no influence from either gravida or parity.

Table 6. Number of Children vs Maternal-Foetal Attachment

mfas	vs	grav	r = -0.056	ns	grav = no children
	vs	para	r = 0.170	ns	para = with children

Prediction of Maternal-Foetal Attachment Using a Combination of Variables into a Linear Regression Model

From the correlation data above it was with interest to discover is if there was a better explanation using a linear combination of variables, making a regression line. Scatter plots of the three variables that were significantly correlated to maternal-foetal attachment are shown in figures 1, 2 and 3. From inspection of the plots there are no obvious distortions that would suggest that the data is unduly influenced by one or two subjects. In figure 3 the data point at the lower left hand corner appears an outlier and this person's interview material was investigated. This person with a score of 15 did not reflect this in the recorded interview although when the interview ceased, she talked about her problems in more detail. She expressed a feeling of guilt over being forced to have an abortion by her family last year, felt upset to find out she now has an adopted sister somewhere, is not speaking to her mother, and feels trapped by the current pregnancy. It could not justified from this information to remove this person from the analysis.

Figure 1. Maternal-Foetal Attachment vs Social Support Number (SS no)

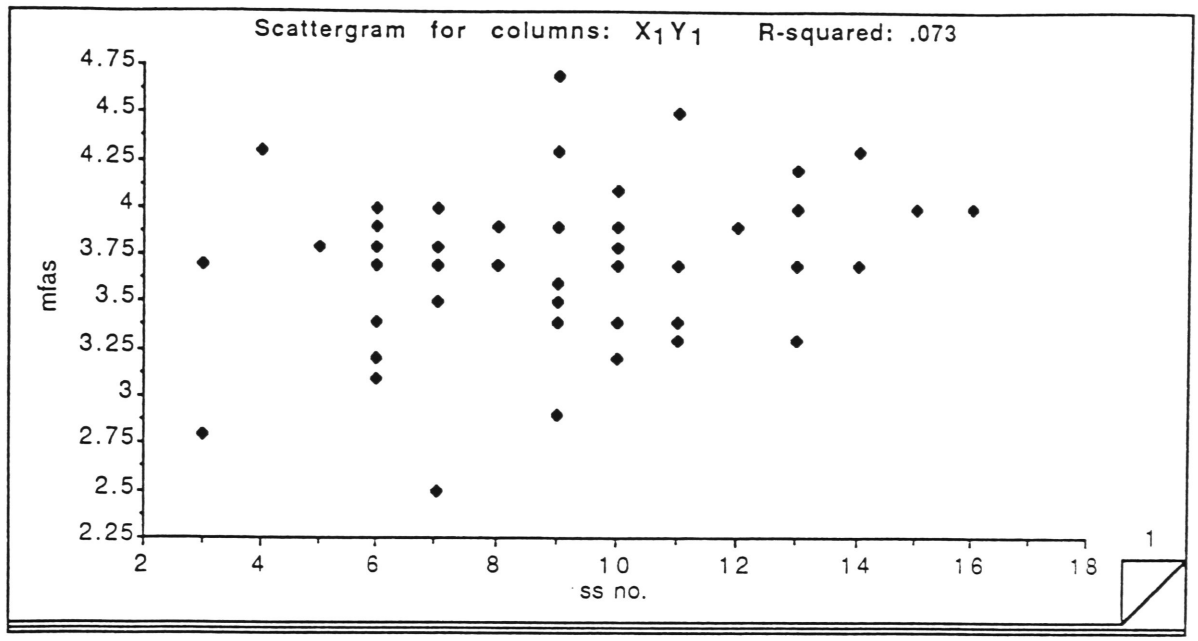


Figure 2. Maternal-Foetal Attachment vs Father Support (F+)

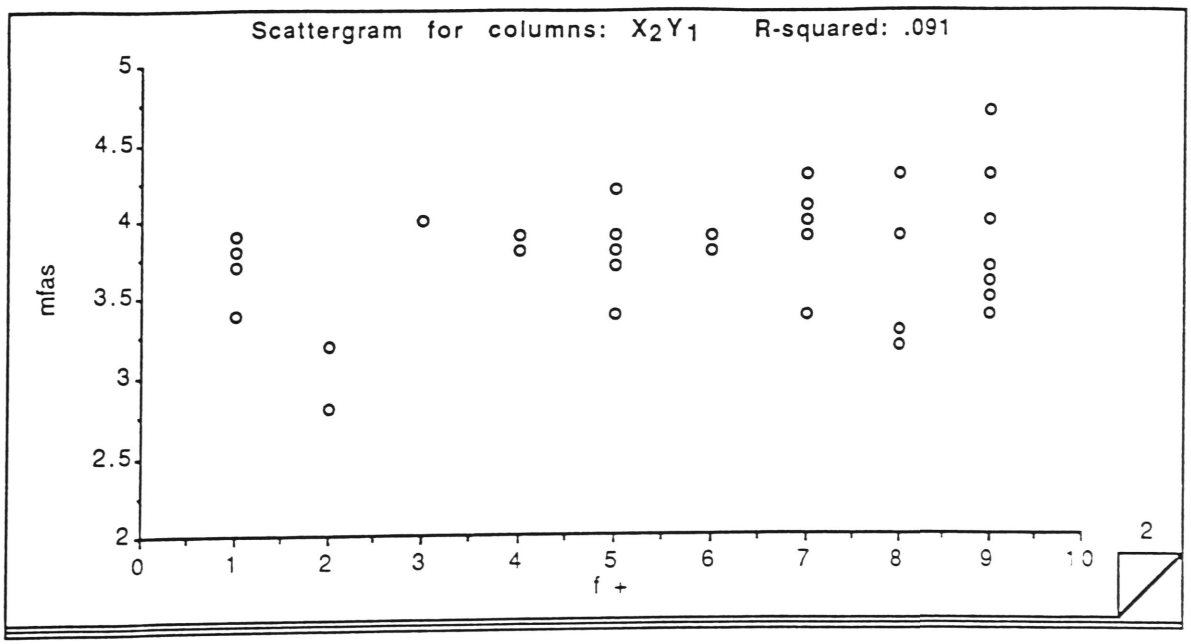
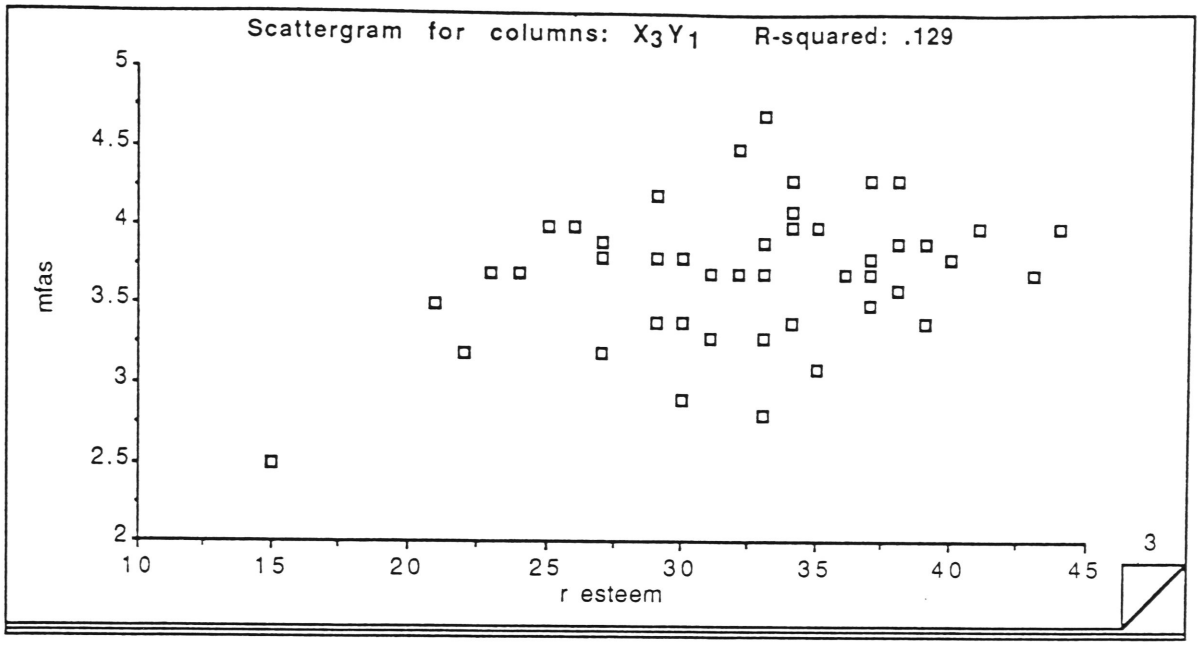


Figure 3. Maternal-Foetal Attachment vs Self Esteem (r esteem)



A series of systematic steps were employed to investigate the ability of various combinations of variables to predict maternal-foetal attachment using standard multiple regression analysis. A summary of the steps with the resulting r squared and F statistics is given in Table 7 (steps 1,2 and 3).

In the first step it was clear that f+ (father's support) and r esteem (self esteem) were negatively influencing the distribution as seen in the Beta Coefficient table (neither were significant). In the second step, self esteem was dropped from the equation and it was found that the ability to predict actually worsened, with only 27.7% of the variance of maternal-foetal attachment explained, compared with nearly 30% in the first step. In the third step f+ was dropped and r esteem was reinserted and this created the best model to predict maternal-foetal attachment, with 42.2% of the variance of maternal-foetal attachment explained. It was clear that gestation contributed a large amount of variance so this was kept in the equation throughout all stages.

Table 7. Step 1. Multiple Regression Analysis of Maternal-Foetal Attachment (MFA) vs 4 predictor variables - Social Support Dispersion (SS no), Father's Support (f+), Self Esteem (r esteem) and Weeks of Gestation (gest).

Multiple Regression Y_1:mfas 4 X variables

DF:	R:	R-squared:	Adj. R-squared:	Std. Error:
39	.547	.299	.219	.321

Analysis of Variance Table

Source	DF:	Sum Squares:	Mean Square:	F-test:
REGRESSION	4	1.534	.384	3.733
RESIDUAL	35	3.596	.103	p = .0124
TOTAL	39	5.13		

Residual Information Table

SS[e(i)-e(i-1)]:	e ≥ 0:	e < 0:	DW test:
7.904	22	18	2.198

Note: 10 cases deleted with missing values.

1

Multiple Regression Y_1:mfas 4 X variables

Beta Coefficient Table

Parameter:	Value:	Std. Err.:	Std. Value:	t-Value:	Probability:
INTERCEPT	2.599				
ss no.	.033	.017	.283	1.917	.0634
f +	.03	.02	.213	1.473	.1497
r esteem	.011	.01	.153	1.051	.3004
gest	.014	.005	.359	2.474	.0184

2

Multiple Regression Y_1:mfas 4 X variables

Confidence Intervals and Partial F Table

Parameter:	95% Lower:	95% Upper:	90% Lower:	90% Upper:	Partial F:
INTERCEPT					
ss no.	-.002	.068	.004	.062	3.675
f +	-.011	.071	-.004	.064	2.169
r esteem	-.01	.032	-.007	.028	1.105
gest	.002	.025	.004	.023	6.12

3

Table 7. Step 2. Multiple Regression Analysis of Maternal-Foetal Attachment (MFA) vs 3 predictor variables - Social Support Dispersion (SS no), Weeks of Gestation (gest) and Father's Support (f+).

Multiple Regression Y_1:mfas 3 X variables

DF:	R:	R-squared:	Adj. R-squared:	Std. Error:
39	.526	.277	.217	.321

Analysis of Variance Table

Source	DF:	Sum Squares:	Mean Square:	F-test:
REGRESSION	3	1.421	.474	4.596
RESIDUAL	36	3.709	.103	p = .008
TOTAL	39	5.13		

No Residual Statistics Computed

Note: 10 cases deleted with missing values.

1

Multiple Regression Y_1:mfas 3 X variables

Beta Coefficient Table

Parameter:	Value:	Std. Err.:	Std. Value:	t-Value:	Probability:
INTERCEPT	2.908				
ss no.	.036	.017	.309	2.124	.0406
gest	.014	.005	.371	2.558	.0149
f +	.033	.02	.234	1.63	.1117

2

Multiple Regression Y_1:mfas 3 X variables

Confidence Intervals and Partial F Table

Parameter:	95% Lower:	95% Upper:	90% Lower:	90% Upper:	Partial F:
INTERCEPT					
ss no.	.002	.07	.007	.064	4.511
gest	.003	.025	.005	.023	6.541
f +	-.008	.073	-.001	.066	2.658

3

Table 7. Step 3. Multiple Regression Analysis of Maternal-Foetal Attachment (MFA) vs 3 predictor variables - Social Support Dispersion (SS no), Weeks of Gestation (gest) and Self Esteem (r esteem).

Multiple Regression Y_1:mfas 3 X variables

DF:	R:	R-squared:	Adj. R-squared:	Std. Error:
49	.649	.422	.384	.333

Analysis of Variance Table

Source	DF:	Sum Squares:	Mean Square:	F-test:
REGRESSION	3	3.718	1.239	11.179
RESIDUAL	46	5.1	.111	p = .0001
TOTAL	49	8.818		

No Residual Statistics Computed

1

Multiple Regression Y_1:mfas 3 X variables

Beta Coefficient Table

Parameter:	Value:	Std. Err.:	Std. Value:	t-Value:	Probability:
INTERCEPT	2.222				
ss no.	.041	.015	.301	2.633	.0115
gest	.021	.005	.5	4.382	.0001
r esteem	.019	.008	.265	2.322	.0247

2

Multiple Regression Y_1:mfas 3 X variables

Confidence Intervals and Partial F Table

Parameter:	95% Lower:	95% Upper:	90% Lower:	90% Upper:	Partial F:
INTERCEPT					
ss no.	.01	.072	.015	.067	6.932
gest	.011	.031	.013	.029	19.199
r esteem	.003	.035	.005	.033	5.391

3

The resulting regression equation from Step 3 is as follows: mfas = 2.22 + 0.041 x SS no + 0.021 x gest + 0.019 x r esteem. As can be seen from Step 3, this equation was highly significant ($F = 11.179$, $p < 0.001$) and each variable significantly contributed to the equation.

In conclusion it can be seen that a combination of gestation,self esteem, and total number of people nominated as supportive best predicts maternal-foetal attachment.

Given the high correlation between maternal-foetal attachment and gestation, the results created interest and somewhat concern, that part of the Maternal-Foetal Attachment Scale was not measuring psychological attachment, but merely the effect of gestation. After looking at the Maternal-Foetal Attachment Scale items it was discovered that items 3, 6, 9, 16, 17, 20, 21 and 24 reflected foetal behaviour (Fb) and were intact more related to foetal movement and growth rather than attachment per se. These Fb items are summarised in Table 8.

Table 8. Foetal Behaviours (Fb) of the Maternal-Foetal Attachment Scale.

3.	I enjoy watching my tummy jiggle as the baby kicks inside.
6.	I wonder if the baby feels cramped in there.
9.	I can almost guess what the baby's personality will be from the way she/he moves around.
16.	It seems my baby kicks and moves to tell me it's eating time.
17.	I poke my baby to get him/her to poke back.
20.	I stroke my tummy to quiet the baby when there is too much kicking.
21.	I can tell that the baby has hiccoughs.
24.	I grasp my baby's foot through my tummy to move it around.

The Maternal-Foetal Attachment Scale was rescored excluding these Fb items and again the relationship with gestation, self esteem and social support was looked at. The results confirmed the suspicions: with the Fb items removed, the correlation with gestation was now non significant: $r = 0.149$. The relationship with the other two variables remained significant (self esteem $r = 0.436$, $p < 0.005$; SS no $r = 0.289$, $p < 0.05$). In fact the self esteem rating correlation was higher than previously ($r = 0.436$ vs $r = 0.359$) which suggests that the mother's emotions were being measured more than the foetal behaviours. To confirm the predictions, the relationship between gestation and Fb items alone was looked at: the relationship was high $r = 0.677$, $p < 0.0005$, and the relationship with r esteem and SS no were both insignificant. This suggests a possible problem in the Maternal-Foetal Attachment Scale, with the inclusion of items that relate more to physical gestation than psychological factors.

The regression equation was reanalysed, deleting gestation, and only using the Maternal Attachment (MA) variables. The results are in Table 9. The results are now able to explain 25% of the variance of the Maternal-Foetal Attachment Scale (revised), with both self esteem and SS no significantly contributing to the occasion.

Table 9. Multiple Regression Analysis of Maternal Attachment (MA) vs 2 predictor variables, Social Support Dispersion (SS no) and Self Esteem (r esteem).

Multiple Regression Y_1:M A mean 2 X variables

DF:	R:	R-squared:	Adj. R-squared:	Std. Error:
49	.495	.245	.213	.35

Analysis of Variance Table

Source	DF:	Sum Squares:	Mean Square:	F-test:
REGRESSION	2	1.867	.933	7.639
RESIDUAL	47	5.742	.122	p = .0013
TOTAL	49	7.609		

No Residual Statistics Computed

1

Multiple Regression Y_1:M A mean 2 X variables

Beta Coefficient Table

Parameter:	Value:	Std. Err.:	Std. Value:	t-Value:	Probability:
INTERCEPT	2.882				
ss no.	.03	.016	.236	1.848	.0709
r esteem	.027	.008	.406	3.177	.0026

2

Multiple Regression Y_1:M A mean 2 X variables

Confidence Intervals and Partial F Table

Parameter:	95% Lower:	95% Upper:	90% Lower:	90% Upper:	Partial F:
INTERCEPT					
ss no.	-.003	.062	.003	.057	3.415
r esteem	.01	.044	.013	.041	10.094

3

In summary, the most important factor in maternal-foetal attachment is probably the adolescents self esteem, followed closely by the dispersion (total number) of people she has available to talk to her about her pregnancy. This study was unable to show a relationship with support from the mother, probably in part because almost all mothers (94%) were rated as supportive. Thus a "ceiling" was reached in respect to this variable.

CHAPTER 9.

DISCUSSION AND INTERPRETATION OF RESULTS.

Throughout this study, maternal-foetal attachment in pregnant adolescents has been investigated in relation to self esteem and social support. This chapter endeavours to discuss the results of this study and include interview comments related to these factors and relevant links to the current literature. The implications for midwifery practice will be discussed in chapter ten.

Maternal-Foetal Attachment vs Self Esteem

Rosenberg's Self-Esteem Scale (RSE) is used to determine self esteem and has a total score of forty four. Self esteem can be either low, moderate or high. The self esteem scores for the pregnant adolescents ranged from 15-44. Only one adolescent had a score of 15 and the remaining adolescents had a score of 21-44. The pregnant adolescent who had a score of 15 did not reflect this in the recorded interview although when the interview ceased she then talked about the problems experienced. She stated that she felt guilt over being forced to have an abortion by her family last year, felt upset to find out she now has an adopted sister somewhere, is not speaking to her mother and feels trapped by the current pregnancy.

The results from Rosenberg's Self-Esteem Scale (RSE) showed that there was a significant relationship between maternal-foetal attachment and self esteem. Prior to the administration of this scale the participants were asked the question, "What are the good things and the bad for you at the moment?" Some of their comments support the results found using the Rosenberg's Self-Esteem Scale.

Interview Comments to "What are the good things and the bad for you at the moment?"

Low Self Esteem

*Self Esteem Score: 21; MFAS: 3.5

"Um, having to move back home, droppin' out of school, bein' pregnant at such a young age...I'm gunna introduce life to the new world and hope it has a good life".

*Self Esteem Score: 22; MFAS: 3.2

"Um, there is no good thing about it at the moment. There is absolutely nothing except I'm going to, I'll have a, an extra probably some, an extra person to feed and I mean and love. That's a that's a positive thing...I guess I'm too young. I haven't lived my life. I want to do so much, I want to travel...I think that's about it. Just life itself, it's just wrong time. Completely wrong time but I mean you make a mistake and it happens, I guess"

*Self Esteem Score: 27; MFAS: 3.2

"Living with my parents, I'm always fighting and having arguments with them and everything that's basically it. Haven't got a father for the baby and either doesn't know or is not taking any notice of it or doesn't really care".

High Self Esteem

*Self Esteem Score: 38; MFAS: 3.9

"At the moment concerning this baby, it couldn't be better...there is nothing hanging over my head with it. It's really good".

*Self Esteem Score: 37; MFAS: 4.3

"Oh, the good is that just the feeling that I've got a baby on the way"

*Self Esteem Score: 44; MFAS: 4.0

"Well some of the good things are that I'm looking forward to having the baby and my partner's happy about it too. My parents are happy".

These extracts demonstrate a variety of perspectives on self esteem. Some adolescents are clearly confused, with self doubt and apprehension for the future. Such feelings could well be expected to interfere with attachment. Other adolescents, in contrast, were optimistic and felt their self was enriched by the pregnancy.

This qualitative data serves to highlight and deepen the quantitative findings which indicate a statistical relationship between the variables. Here we see these relationships as they are meaningful to the adolescent.

Studies related to the relationship between maternal-foetal attachment and self esteem have been inconclusive and contradictory, while some have found a positive correlation others have found no relationship between maternal-foetal attachment and self esteem. However this study has found a significant relationship between maternal-foetal attachment and self esteem

Maternal-Foetal Attachment vs Social Support

Social support was measured using the Support Behaviour Inventory(SBI) which measures separately partner support and other support and can be combined to measure overall or total support. The maximum scores for partner and other support is 66 with a combined maximum total sore of 132.

Results indicated that there is no significant relationship between

Maternal-Foetal Attachment and social support using the Social Support Behaviour Inventory. There were no significant results for Maternal-foetal attachment and total social support, maternal-foetal attachment and partner support and maternal-foetal attachment and other support. However an individual rating scale was developed to assess support from the adolescent's mother and the adolescent's father which demonstrated different results. Maternal-foetal attachment was significantly related to perceived support from the adolescent's father but was not related to support from the mother. This finding is at odds with the literature. Studies have described the adolescent as being in conflict with their mother (Keddie, 1992). Some adolescents who perceived their relationship with their mother as close had greater maternal-foetal attachment scores (Wayland and Tate, 1993).

It may be that the study did not find a relationship between maternal-foetal attachment and supportiveness from the mother because almost all mothers were rated as highly supportive, thus there may be a "ceiling" effect using this measure. It is interesting that the additional support from the adolescent's father seemed to have a positive effect on attachment. It maybe that a supportive father helps to moderate feelings of guilt and shame; feelings which may be associated with an unwanted or unexpected pregnancy.

The adolescents were asked in the recorded interview , "will you have support from anyone?' prior to the administration of the Support Behaviour Inventory and prior to the social support rating scale in the questionnaire. These are some of their comments related to support given by the adolescents.

Interview Comments to "Will you have support from anyone?'

Low Social Support

* SBI Total: 45; SS no: 5; Mother Support: 3; Father Support: 4; MFAS: 3.8

"Me Mum wasn't talking to me and me and me boyfriend was havin' hassles... Um, yeah, me boyfriend if he stays around... Um, na, I just used to doin' everything on me own now so it doesn't matter. I may as well do everything else on me own".

* SBI Total: 52; SS no: 6; Mother Support: 9; Father Support: 9; MFAS: 3.7

"Um, lost a few friends over it but that's not real important to me. Family support, that's about it".

* SBI Total: 54; SS no: 6; Mother Support: 7; Father Support: 6; MFAS: 4.0

"I get a lot of help from my family so like my brother sticks by me...my Dad's more of less a father figure. Dad's always there for me".

High Social Support

* SBI Total: 95; SS no 6; Mother Support: 9; Father Support: dec; MFAS: 3.8

"Mum's going to look after the baby if Peter's working so we've got lots of friends and lots of family that we can fall back on to if we ever really need any help in any way whether it be financial or any way what so ever. We've got everybody".

* SBI Total: 103; SS no:6; Mother Support: 5; Father Support: 2; MFAS: 3.2

"I don't speak to my father anymore. My father was just. I don't know we fought like nothing else. Yeah, I'll have um, I'll have my family, I know I will.

Um...friends, my boyfriend. Yeah, I'll have the support".

*SBI Total: 113; SS no: 13; Mother Support: 9; Father Support: dec; MFAS: 3.3

"The family,oh the negative feedback from my aunty. Sort of wanted me to terminate the pregnancy and I mean she said, "not that I'm not supporting you but there are other options" but she, I mean she hassled me on the phone for about half an hour but she's fine with it now. She is Dad's sister".

*SBI Total: 123; SS no: 13; Mother Support: 6; Father Support: dec; MFAS: 4.0

"He didn't want to be a Dad and when I told his Mum, she turned around and didn't believe me and then when I went in to hospital she said, "Well I hope it dies" and she was just really mean and my Mum wasn't real nice".

These comments from the adolescents show a variety of perspectives of social support. Some reveal a loss of friends, conflict with their mother or father while others have high family and friend support. The last comment had a high SBI Total score and a high Social Support number of people nominated and perceived by the adolescent as supportive and yet the comments reveal issues which may effect maternal-foetal attachment. However the Maternal-Foetal Attachment score was high. This then demonstrates the importance of the number of people who are supportive.

This study found that adolescent mothers have a greater maternal-foetal attachment if they perceive they have support from their own fathers. This perception of the adolescents relationship with her father is important. Mothers of pregnant adolescents were found to be very supportive even

although some experienced shock at the initial news. Some of the adolescents described their mothers as either "getting used to the idea" or "coming around". Most adolescents described an extensive network of support from relatives and friends.

Maternal-Foetal Attachment vs Gestation

This study found that the Maternal-Foetal Attachment Scale scores increased as the gestation increased. This finding is supported by the literature as maternal-foetal attachment increased as the birth date approached (Wayland and Tate, 1993). It was further supported by comments made by the pregnant adolescents in a recorded interview prior to completing the Maternal-Foetal Attachment Scale (MFAS). They were asked, "how do you feel about your baby?".

Interview Comments to "How do you feel about your baby?".

* Gestation: 6.3 weeks; MFAS: 3.1 (mean)

" I don't really know...I dunno".

* Gestation: 10 weeks; MFAS: 3.4 (mean)

"I can't really say that because I, I mean, I'm only probably about four weeks so, I can't really say. It's kind of weird actually".

* Gestation: 16 weeks; MFAS: 3.7 (mean)

"I feel it growing inside me and I think oh its really weird and I love it and I love being pregnant".

* Gestation: 17.6 weeks; MFAS: 3.7 (mean)

"I don't know...do not have a clue".

* Gestation: 18.1 weeks; MFAS: 3.7 (Mean)

"I don't know, it's sort of. It's only just started moving. I'm only just starting to get attached to it now so I suppose tomorrow will help. You know what I mean, my ultrasound".

* Gestation: 20.6 weeks; MFAS: 3.9 (Mean)

"Oh, I love it. I've just had my ultrasound and seen it movin' around and I know it's in there now and I've just started feeling it kick and stuff".

* Gestation: 21 weeks; MFAS: 4.3 (mean)

"Um, I don't know whether it is love that I feel for it yet but I just feel a lot for it at the moment".

* Gestation: 24.1 weeks; MFAS: 3.7 (mean)

"Well, she kicks a lot or she or he kicks a lot...we both sorta spend a day just sitting there watching it kick and you know getting all clucky and yeah so close, really close, I guess".

* Gestation: 30.6 weeks; MFAS: 3.6 (Mean)

"Like it's part of me. Something growing and kicking. It's nice".

* Gestation: 32.4 weeks; MFAS: 3.9 (Mean)

"I love it, it's not even here and I still love it. So it's really different kind of love like to what I feel for me family and everything".

* Gestation: 33.3 weeks; MFAS: 3.9 (Mean)

"I love it already. It's magic, it's hard to describe, it's just overwhelming, really".

* Gestation: 35.2 weeks; MFAS: 3.8 (Mean)

"It's mine, it's inside me, it's bein' born".

* Gestation: 39.3 weeks; MFAS: 4.0 (Mean)

"Oh, pretty excited at the moment 'cause it's going to be here soon. I just can't wait to be able to hold it instead of just feeling it inside".

*Gestation 41.6 weeks; MFAS: 4.3 (Mean)

"Excited, I want and I'm really excited about having it".

These comments provided to the question on how the pregnant adolescent felt towards their unborn baby demonstrate a progression in attachment behaviours and feeling as the pregnancy progressed. However, a fifteen year old at 21 weeks gestation scored high on the MFAS with a mean score of 4.3. This is supported by the literature which states that a strong attachment feeling can occur prior to conception, immediately after conception and early in pregnancy (Gibson, 1986).

Implications For Further Research

More research is needed related to maternal-foetal attachment in pregnant adolescents as the literature identifies few studies and a scarcity of information related to the complex issues of adolescent psychosocial development, maternal-foetal attachment, maternal role attainment, maternal-infant attachment and the influence of attachment across the lifespan.

A further study using the same interview questions involving adult mothers could be conducted and then both studies could be analysed and

compared for maternal-foetal attachment. Future studies could use other measurements of maternal-foetal attachment or use the Cranley Maternal-Foetal Attachment and another method to measure maternal-foetal attachment and compare the results of both instruments. A longitudinal study could be conducted extending from pregnancy into the first year of life assessing maternal attachment of adolescent mothers. An investigation is needed related to the perceived support by the pregnant adolescent of own father and its influence on the pregnancy and future parenting.

Through continued research of maternal-foetal attachment in pregnant adolescents will provide greater understanding of the subject, thus planning of appropriate programs can be implemented.

Comparison Study With Koniak-Griffin Study

This is a comparison study to that of Koniak-Griffin (1988) who investigated the "Relationship Between Social Support, Self-Esteem and Maternal-Foetal Attachment in Adolescents".

Using regression analysis Koniak-Griffin (1988) identified four predictors of maternal-foetal attachment; total network size(the same findings as the current study), total functional support available, a planned pregnancy and the intention to keep the baby (the current study only choose subjects who were to keep the baby). These four variables account for 32% of the variance in maternal-foetal attachment.

The current study used regression analysis and identified a combination of gestation, self esteem, and total number of nominated people as supportive as the best predictor of maternal-foetal attachment. These three variables account for 42% of the variance in maternal-foetal attachment.

Concluding Remarks

While caution must be taken in generalising the findings of this study based on maternal-foetal attachment in pregnant adolescents, the results clearly indicate that maternal-foetal attachment is significantly related to progression of gestation, self esteem and total number of people nominated as supportive. Social support as measured using the Social Support Behaviour Inventory was not a significant factor in maternal-foetal attachment. However the scores derived from the questionnaire rating scale indicate that the pregnant adolescents perception of support from their own father and also the total number of people considered or perceived as being supportive was important.

CHAPTER 10.

IMPLICATIONS FOR MIDWIFERY PRACTICE AND CONCLUSION.

The results of this study provide midwives with information that can be used in planning and implementing care for the pregnant adolescent. Midwives are in a unique position as they provide antenatal education during pregnancy and postnatal care after delivery. There is a need for the midwife to carefully assess the pregnant adolescents perceived social support, feelings about themselves and feelings towards their unborn baby.

Midwifery Implications

The midwife needs to provide a family centred approach, actively involving not only the pregnant adolescent but also the family; assessing the gap between the desired support by the pregnant adolescent and the actual available support.

Prenatal education and childbirth classes should be specific to meet the needs of the pregnant adolescents stage of developmental maturity and if necessary the midwife may need to provide information and counselling on a one-to-one basis or do home visits. However to involve the pregnant adolescent with significant other people in her life in childbirth classes with other adolescents, enhances and develops further support systems. Involvement in a peer group of other pregnant adolescents provides not only greater support but also more acceptable prenatal care. Research has identified that specialised prenatal adolescent programs enhance positive perinatal outcomes and there are fewer pregnancy and birth complications (Slager-Earnest, 1987). Prenatal programs then becomes another source

of social support for the adolescent as some families may be unable to provide the support desired by the adolescent. The results of the present research found that strengthening social support networks may promote high levels of Maternal-foetal attachment. The midwife may need to organise transportation to the prenatal classes, find a place for the adolescent to live or refer these issues to a social worker.

The midwife could promote maternal-foetal attachment concepts in the prenatal classes as these classes provide the opportunity to weave these concepts into the educational teaching about parenting as well as labour and delivery. Methods for developing a relationship with the unborn baby can be facilitated and explored such as stroking or patting the abdomen, talking to, feeling and identifying foetal parts.

Maternal-foetal attachment has been identified as an important aspect of the development tasks of pregnancy and influences maternal-infant attachment. Early exchanges between the mother and her infant provide a positive foundation on which to build relationships across the lifespan.

The pregnant adolescents need to feel comfortable with the contact with midwives in all aspects of care. They need to be provided the opportunity and be allowed the freedom to discuss situations and fears. By developing a trusting relationship with the pregnant adolescent the midwife can encourage, assist and provide guidance in pregnancy to increase maternal self esteem and self confidence.

The midwives antenatal clinic provides a personal service to the pregnant adolescents attending prenatal care and childbirth classes. Findings from this

study show that only 36% of pregnant adolescents perceived the midwife as someone they could talk to about their pregnancy. It may have been the same midwife nominated by the adolescents. The Social Support range was 5 to 9 with Mean score of 7.2 which indicates that of those nominated most midwives are "Supportive" according to the rating scale. However, there is a clear need for midwives to increase their profile as carers of pregnant women. Through their care and concern midwives may be able to enhance the adolescent's self esteem by building trusting relationship, a factor found in this research to be predictive of maternal-foetal attachment.

Conclusion

The aims of this research project have been to investigate the relationship between maternal-foetal attachment, self esteem and social support in pregnant adolescents.

The review of the literature revealed that few studies have investigated maternal-foetal attachment in pregnant adolescents. This important process of maternal-foetal attachment in pregnant adolescents has implications for maternal-infant attachment, which may in turn influence attachment across the lifespan, and attachment transmitted through generations.

The consequence of pregnancy for the adolescent not only involves the establishment of identity experienced by a first time mother but also that of the struggle for individual identity with personal autonomy as they negotiate the difficult transition to adulthood.

The pregnant adolescent needs the support, both physical and psychological, of their family and friends for a positive maternal-foetal attachment and future

maternal-infant attachment to occur. Positive feedback and encouragement increases the pregnant adolescent's self esteem which in turn influences positive maternal-foetal attachment.

Maternal-foetal attachment is an important developmental task of pregnancy and it appears that there is a measurable relationship between the pregnant adolescent and their unborn baby. This study identified that maternal-foetal attachment in the pregnant adolescent is influenced by self esteem, social support dispersion, and perceived support from their own father.

Appendix A.

WAGGA WAGGA TEENAGE PREGNANCY QUESTIONNAIRE

Compiled by:
MAVIS SMITH

Postgraduate Student
Department of Nursing
University of Wollongong
1995

DATE _____

INSTRUCTIONS: Please tick (✓) a box or provide answer/answers to the question.

1a) Date of Birth _____

1b) What is your age? _____ YEARS

2) When is your baby due? _____ DATE

3) What is your PRESENT marital status?

1. NEVER MARRIED ..... ☐
2. MARRIED ..... ☐
3. DEFACTO ..... ☐
4. SEPARATED ..... ☐
5. DIVORCED ..... ☐
6. WIDOWED ..... ☐

4) Which suburb are you living in?

SUBURB_____

LIVING ARRANGEMENTS

5) Where were you living when you became pregnant?
(Please tick (✓) as many boxes as apply.)

1. ALONE IN YOUR FLAT OR HOUSE ..... ☐
2. WITH YOUR PARENT(S) ..... ☐
3. WITH HIS PARENT(S) ..... ☐
4. WITH BOYFRIEND/PARTNER/HUSBAND ..... ☐
5. WITH FRIENDS ..... ☐
6. OTHER ..... ☐
   (Please specify _____)

SCHOOLING

6A) What level of education have you completed?

PRIMARY SCHOOL..... ☐

SECONDARY SCHOOL

1. YEAR 8 ..... ☐
2. YEAR 9..... ☐
3. YEAR 10..... ☐
4. YEAR 11..... ☐
5. YEAR 12..... ☐

WHICH HIGH SCHOOL DID YOU ATTEND?

_____

6B) TERTIARY STUDIES

1. TAFE..... ☐
2. UNIVERSITY..... ☐
3. CES COURSE..... ☐

7) Did you attend sex education classes in school? YES ☐ NO ☐

EMPLOYMENT

8) At the time you became pregnant, were you:

1. EMPLOYED

   Full-time..... ☐

   Part-time..... ☐

   If you work what do you do?

   _____

2. UNEMPLOYED ..... ☐
3. A STUDENT ..... ☐

INCOME

9a) What is your fortnightly (take home) income?

$100 - $200 ☐
$201 - $300 ☐
$301 - $400 ☐
$401 - $500 ☐
$501 - $600 ☐
More than $600 ☐

9b) How adequate is your income?
(Please circle number)

very inadequate		inadequate		neither adequate or inadequate		adequate		very adequate
1	2	3	4	5	6	7	8	9

9c) How much money do you believe is satisfactory each fortnight? _____

PREGNANCY

10a) How many times, have you been pregnant (including this pregnancy)? _____

10b) How many living children do you have now? _____

11) Which of the options below best describes what you want to do about your pregnancy?

1. KEEP THE BABY..... ☐
2. HAVE THE BABY ADOPTED..... ☐
3. DON'T KNOW..... ☐

---

12) Who have you talked to about your pregnancy?
(Please rate how supportive they have been (please circle number))

	very unsupportive		unsupportive		neither supportive or unsupportive		supportive		very supportive
	1	2	3	4	5	6	7	8	9
BOYFRIEND/PARTNER..... ☐	1	2	3	4	5	6	7	8	9
YOUR MOTHER ..... ☐	1	2	3	4	5	6	7	8	9
YOUR FATHER ..... ☐	1	2	3	4	5	6	7	8	9
YOUR SISTER ..... ☐	1	2	3	4	5	6	7	8	9
..... ☐	1	2	3	4	5	6	7	8	9
..... ☐	1	2	3	4	5	6	7	8	9
YOUR BROTHER..... ☐	1	2	3	4	5	6	7	8	9
..... ☐	1	2	3	4	5	6	7	8	9
..... ☐	1	2	3	4	5	6	7	8	9
OTHER RELATIVES..... ☐	1	2	3	4	5	6	7	8	9
FRIEND 1..... ☐	1	2	3	4	5	6	7	8	9
FRIEND 2..... ☐	1	2	3	4	5	6	7	8	9
..... ☐	1	2	3	4	5	6	7	8	9
BOYFRIENDS MOTHER..... ☐	1	2	3	4	5	6	7	8	9
BOYFRIENDS FATHER..... ☐	1	2	3	4	5	6	7	8	9
PRIEST/MINISTER..... ☐	1	2	3	4	5	6	7	8	9
SCHOOL COUNSELLOR..... ☐	1	2	3	4	5	6	7	8	9
SOCIAL WORKER..... ☐	1	2	3	4	5	6	7	8	9
TEACHER..... ☐	1	2	3	4	5	6	7	8	9
MIDWIFE..... ☐	1	2	3	4	5	6	7	8	9
LOCAL DOCTOR..... ☐	1	2	3	4	5	6	7	8	9
..... ☐	1	2	3	4	5	6	7	8	9
..... ☐	1	2	3	4	5	6	7	8	9
..... ☐	1	2	3	4	5	6	7	8	9

MOTHER AND FATHER

13) Is your Mother living? YES ☐ NO ☐

14) Is your Father living? YES ☐ NO ☐

15) If both your parents are living, are they still together? _____

IF NO, how old were you when they separated?

YEARS _____

16) How many children does your Mother have (including yourself)? _____

17) If you know, how old was your Mother, when she had her first child?

_____ YEARS

18a) Does your Mother know that you are pregnant? YES ☐ NO ☐

18b) If your Mother knows about your pregnancy, would you describe your Mother's attitude to your pregnancy - (please circle number)

not helpful			moderately helpful			very helpful		
1	2	3	4	5	6	7	8	9

19a) Does your Father know that you are pregnant? YES ☐ NO ☐

19b) If your Father knows about your pregnancy, would you describe your Father's attitude to our pregnancy - (please circle number)

not helpful			moderately helpful			very helpful		
1	2	3	4	5	6	7	8	9

PARTNER/BOYFRIEND

20a) Do you have a steady relationship? YES ☐ NO ☐

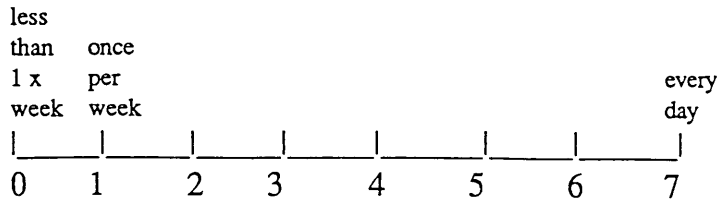
IF YES, how many months have you been with this person? _____

20b) How old is he? _____YEARS

21a) Does he know you are pregnant? YES ☐ NO ☐ DON'T KNOW ☐

21b) If he does not know, will you tell him? YES ☐ NO ☐ DON'T KNOW ☐

22) How often does he see or speak to you at the present time? (please circle number)



22b) How many times over the last 4 weeks? _____

CONTRACEPTION:

23) Is your pregnancy planned or unplanned?

PLANNED ..... ☐
UNPLANNED ..... ☐

24) What type of contraceptive method have you used in the last 12 months? (Please tick (✓) as many boxes as apply.)

1. THE PILL ..... ☐
2. I.U.D. (i.e. Coil, Copper 7) ..... ☐
3. CONDOM (ie French letter Rubber)..... ☐
4. FOAM SPERMICIDE ONLY..... ☐
5. DIAPHRAGM AND SPERMICIDE ☐
6. DIAPHRAGM ONLY ..... ☐
7. WITHDRAWAL ..... ☐
8. RHYTHM ..... ☐
9. OTHER ..... ☐
10. NONE ..... ☐

25) Were you using a contraceptive method at the time you became pregnant?

YES ☐ NO ☐

26) Do you feel that responsibility for contraception is -

1. YOUR RESPONSIBILITY ..... ☐
2. YOUR PARTNER'S RESPONSIBILITY ..... ☐
3. SHARED RESPONSIBILITY ..... ☐

Appendix B.

PREGNANCY

Please respond to the following items about yourself and the baby you are expecting. There are no right or wrong answers. Your first impression is usually the best reflection of your feelings.

Make sure you mark only one answer per sentence.

	I think or do the following:	definitely yes	yes	uncertain	no	definitely no
1.	I talk to my unborn baby.					
2.	I feel all the trouble of being pregnant is worth it.					
3.	I enjoy watching my tummy jiggle as the baby kicks inside.					
4.	I picture myself feeding the baby.					
5.	I'm really looking forward to seeing what the baby looks like.					
6.	I wonder if the baby feels cramped in there.					
7.	I refer to my baby by a nickname.					
8.	I imagine myself taking care of the baby.					
9.	I can almost guess what my baby's personality will be from the way she/he moves around.					
10.	I have decided on a name for a girl baby.					
11.	I do things to try to stay healthy that I would not do if I were not pregnant.					
12.	I wonder if the baby can hear inside of me.					
13.	I have decided on a name for a boy baby.					
14.	I wonder if the baby thinks and feels "things" inside of me.					
15.	I eat meat and vegetables to be sure my baby gets a good diet.					
16.	It seems my baby kicks and moves to tell me it's eating time.					
17.	I poke my baby to get him/her to poke back.					
18.	I can hardly wait to hold the baby.					
19.	I try to picture what the baby will look like.					
20.	I stroke my tummy to quiet the baby when there is too much kicking.					
21.	I can tell that the baby has hiccoughs.					
22.	I feel my body is ugly.					
23.	I give up doing certain things because I want to help my baby.					
24.	I grasp my baby's foot through my tummy to move it around.					

Appendix C.

FEELINGS

INSTRUCTIONS

We all have some kind of "picture" of ourselves we carry with us. Please **circle the number** that best indicates how much you agree or disagree that each of the statements describe yourself.

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. Feel that you're a person of worth, at least on an equal basis with others.	1	2	3	4
2. Feel that you have a number of good qualities.	1	2	3	4
3. All in all, feel that you are a failure.	1	2	3	4
4. Feel you are able to do things as well as most other people.	1	2	3	4
5. Feel you do not have much to be proud of.	1	2	3	4
6. Take a positive attitude toward yourself.	1	2	3	4
7. On the whole, feel satisfied with yourself.	1	2	3	4
8. Wish you could have more respect for yourself.	1	2	3	4
9. Feel useless at times.	1	2	3	4
10. At times think you are no good at all.	1	2	3	4
11. Feel like you have control over your life.	1	2	3	4

Thank you for filling out this questionnaire.
Are there any comments you would like to make?

Comments:

_____

_____

_____

_____

Appendix D.

SUPPORT:

The next set of questions asks how satisfied you are with the amount of support you receive from your partner and/or other people.

First of all, do you have a partner? NO ( )
YES ( )

Please read the list of statements describing different types of support. Please circle the number which applies to the support you receive from your partner and other people.

		PARTNER						OTHER PEOPLE					
		Very Dissatisfied					Very Satisfied	Very Dissatisfied					Very Satisfied
1.	Shares similar experiences with me	1	2	3	4	5	6	1	2	3	4	5	6
2.	Helps keep up my morale	1	2	3	4	5	6	1	2	3	4	5	6
3.	Helps me out when I'm in a pinch	1	2	3	4	5	6	1	2	3	4	5	6
4.	Shows interest in my daily activities and problems	1	2	3	4	5	6	1	2	3	4	5	6
5.	Goes out of his/her way to do special or thoughtful things for me	1	2	3	4	5	6	1	2	3	4	5	6
6.	Allows me to talk about things that are very personal and private	1	2	3	4	5	6	1	2	3	4	5	6
7.	Lets me know I am appreciated for the things I do for him/her	1	2	3	4	5	6	1	2	3	4	5	6
8.	Tolerates my ups and downs and unusual behaviour	1	2	3	4	5	6	1	2	3	4	5	6
9.	Takes me seriously when I have concerns	1	2	3	4	5	6	1	2	3	4	5	6
10.	Says things that make my situation clearer and easier to understand	1	2	3	4	5	6	1	2	3	4	5	6
11.	Lets me know that he/she will be around if I need assistance	1	2	3	4	5	6	1	2	3	4	5	6

INTERVIEW SCHEDULE:

Question No. 1.

I'd like you to talk to me for a few minutes about your life at the moment-the good things and the bad-what it is like for you. Once you have started I shall be here listening to you; but I'd rather not reply to any questions you may have until a five minute period is over. Do you have any questions you would like to ask now,. before we start? OK. So, I'd like you to talk to me for a few minutes about your life at the moment-the good things and the bad-what it is like for you.

Question No. 2.

What was your life like around the time you found out you were pregnant?

Prompts: was the pregnancy expected?

how did you feel about the news?

Question No. 3.

How do you feel about your baby?

Question No. 4.

What do you think life will be like in ten months time?

Prompt: will you have support from anyone?

Appendix F.

University of Wollongong

Human Research Ethics Committee

Consent Form

Teenage Pregnancy Study

Researcher : Mavis Smith
Supervisor : Brin Grenyer
Lecturer
Department of Nursing

This research programme is designed to identify issues related to the pregnant teenager.

Your involvement in this questionnaire and interview may provide valuable information which may help nurse midwives in the care of pregnant teenagers. The information you volunteer may also assist towards my Master of Science (Midwifery) Honours degree under the supervision of Brin Grenyer in the Department of Nursing at the University of Wollongong.

This interview is to help us learn more about your experience of pregnancy. We will be inviting you to tell us a little about how you are experiencing your pregnancy, the good and the bad, how it is for you. We will ask you to complete some questionnaires, and with your permission we would like to tape record some of the interview to help us remember what you have said so that we can develop an understanding of your experiences along with other pregnant women we have interviewed.

The information you give us will be treated with strict confidence and only the interviewer and lecturer will have access to the questionnaire and tape. Your name will not be used on the tape, nor will you be identified in the results of the study. The tape will be destroyed after a period of 5 years in accordance with the University's Code of Practice - Research. In the event of any future report your anonymity will be protected by not revealing any personally identifiable information you choose to give us.

If you have any enquires regarding the conduct of the research please contact the Secretary of the University of Wollongong Human Research Ethics Committee on (042) 213079.

You are free to withdraw from the research at anytime.

I understand that the data collected will be used to help the interviewer and lecturer to learn more about the experience of pregnancy and I consent for the data to be used in that manner.

Signature : .....

Parent/Guardian : .....
(If under 16 years)

Name (please print) .....

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