PERINATAL TRAUMA AND THE AFTERMATH: Attachment, Social Support, Parental Rearing, Meaning of Loss & Mental Health

By

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Abstract

This thesis investigates perinatal trauma and perinatal mental health, including obsessive compulsive, post-traumatic stress, panic, social phobia, agoraphobia, general anxiety, major depression and postnatal depression symptoms within attachment theory's perspective. It aims to give insight into both caregiving and caretaking experiences of mothers in the pursuit of understanding the aftermath of perinatal trauma. Thus it aims to understand first of all, interrelated factors like attachment styles, social support and parental rearing experience in predicting perinatal mental health including anxiety specific symptoms. Then it examines the mediational relationship between support and attachment styles and draws attention to understanding the importance of this relationship in relation to practical implications. This thesis also aims to understand the differences and similarities in various trauma experiences. The final aim of this thesis focuses on the experience of perinatal trauma and the relationship between mothers who experienced previous perinatal trauma and the subsequent infant.

The thesis employs both qualitative and quantitative analysis. The aim of the quantitative studies is to provide understanding of factors that are related to the mental health of women who experienced perinatal trauma (infant loss / difficult childbirth). This is achieved over three studies. *Study 1* aims to understand the relationship between prenatal postnatal trauma experiences, support, attachment styles and mental health. *Study 2* looks into mediational relationship between perceived support from significant others, attachment (anxiety – avoidance) in predicting perinatal mental health. Finally *Study 3* examines the difference between women who experience trauma with loss and women who have experienced trauma without loss. In addition, a qualitative study aimed to focus on individuals' trauma

experiences and their relationship with their subsequent infant in a more detailed fashion. This is achieved over two studies. *Study 4* aims to explain mothers' understanding of their loss experience and their perception of their relationship with their subsequent infant.

The results of the thesis draw attention to the importance of attachment styles, social support and memories of parental rearing experiences in predicting both general perinatal health symptoms and specific mental health symptoms (OCD, PTSD, panic, social phobia, agoraphobia, general anxiety disorder, major depression & postpartum depression). It also highlights the importance of understanding the mediational relationship between attachment styles and emotional support received from significant others and the importance of emotional support from health practitioners. The results also inform current guidance and practice in dealing with perinatal trauma particularly around stillbirth management.

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Dedicated to Gül Mocan-Aydın, who has inspired me to continue in life no matter what.
And to my CHILDREN

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1 Chapter I: Literature Review

1.1 Introduction

This chapter aims to explain perinatal trauma experiences and factors important for perinatal mental health, which are examined in more detail throughout this thesis. The review will provide descriptions of perinatal trauma experiences, introduce the main constructs of the study (perinatal trauma; attachment; social support; parental rearing; caretaking - caregiving), and more importantly, provide an understanding about the theoretical associations between these constructs and their relationship with perinatal mental health. More detailed literature reviews addressing the topic areas of the separate studies carried out in the thesis are provided in the relevant chapters. Reviews of the specific questions of this study are also provided in relevant studies of this thesis.

1.2 Definition of Perinatal Period

There are disparities in the definition of the term perinatal and the perinatal period. The tenth revision of the International Statistical Classification of Diseases and Related Health Problems ((ICD-10), defines term of "perinatal as the time beginning at 22 completed weeks (154 days) of gestation and ending seven completed days after birth" (WHO, 1992). The Perinatal Institute, UK, suggests a defining period between 24 weeks gestation to either 7 or 28 days of life. The Australian Institute of Health and Welfare, however, defines this period "between 20 weeks gestation and 28 days after birth", (AIHW), (2005).

In a similar fashion 'perinatal mental health' in some definitions covers mental health problems occurring in women during pregnancy and the first postnatal year (Sharp, 2009) and in some more recent definitions refers to a variety of mood and behaviour disturbances that a

woman may encounter during pregnancy and the postpartum period (Mares, Newman & Warren, 2011). The term postpartum depression was used very often to refer to a wide range of mental health problems, including mood disorder, psychosis, depression and anxiety disorders occurring in the post-partum period (Sharp, 2009). Current literature suggests that women are at particular risk of mental health problems during the perinatal period (Austin & Priest, 2005; Buultjens, Murphy, Robinson & Milgrom, 2013). The term perinatal is now seen to be more accurate than the term postnatal in defining the period of "increased risk of mental health problems, including psychiatric illness, stress, anxiety depression and adjustment problems, during and after pregnancy" (Mares, Newman & Warren, 2011).

Due to the fact that perinatal mental health and mental health problems are recent constructs, there is also a lack of agreement on diagnostic criteria and the estimates of the occurrence of these problems vary widely. In attempts to understand the factors that contribute to the presence of perinatal mental health, a biopsychosocial aetiological model, bringing together various components of mental health disturbance have been developed (see for comprehensive review, Buultjens et al., 2013). Life stress, lack of support, mental health history, low self-esteem, abuse and neglect in childhood, past obstetric trauma or loss (Austin &Priest, 2005; Mares, Newman & Warren, 2011; O'Hara & Swain 1996) are among the identified factors. For the current study the term 'perinatal mental health' refers to mothers' mental health after childbirth or pregnancy loss because mothers' mental health scores were not measured during the mothers' pregnancy.

1.3 Perinatal Trauma

Perinatal traumas may include any traumatic pregnancy and birth related events that take place during the perinatal period; for instance, infant mortality and injury to infant and/or

mother. However, inconsistency in definition of perinatal trauma also exists due to the various definitions of the perinatal period. Inconsistency in definition complicates the interpretation of the statistical findings, a Lancet study (2007) highlighted this problem and identified the need for an uniformed terminology for perinatal death. For the purposes of this study perinatal trauma is taken to refer to the time from conception to 4 weeks after birth.

The focus of this thesis is on examining perinatal traumas, including unplanned foetus and infant loss, during the perinatal period, namely miscarriage, ectopic pregnancy, and neonatal infant death. Other traumas such as the termination of a pregnancy due to foetal abnormality or the birth of a child with disability, were not included in this study, in consideration of the fact that there will be differences in the experiences of women who had to make a decision to terminate a pregnancy or look after a living child with special needs, than who experienced a foetal loss or near loss.

While research on postnatal mental health is a relatively recent area of focus in the mental health literature, some of the identified traumatic experiences and their consequences on the mother's mental health have been studied more extensively than others. The next section explains further the perinatal traumas examined in this study.

1.3.1 Miscarriage

Miscarriage or 'spontaneous abortion' has been defined as an " intended end of a pregnancy before a foetus can survive outside of the mother, which is recognised as being before the twentieth week of gestation" (Borg & Lasker,1982). However, there are some discrepancies reported in the literature in terms of gestation week differences. Whilst there is still uncertainty about the exact number of miscarriages because of these differences in definition,

estimates of miscarriages are reported to vary between one in five or six of all pregnancies (National Health Services (NHS) UK Maternity Statistics, 2010 - 2011).

1.3.2 Stillbirth

There is also a disparity in the definition of stillbirth. The legal definition in the United Kingdom is: "any child expelled or issued forth from its mother after the 24th week of pregnancy that did not breathe or show any other signs of life, should be registered as a stillbirth." (Royal College of Midwives, 2005*).* In Australia, the definition is: "no sign of life after birth in babies of at least 20 weeks' gestation or at least 400gms birth weight'' (Gordon & Jeffery, 2008). At present, there is no legal definition in the United States. In this study, the birth experience of women was considered as a stillbirth if the woman gave birth to a non-living infant, as the birth of deceased baby was the concern of the study.

Stillbirth and Neonatal Deaths Society (SANDS) reports that in the UK, 17 babies born are stillbirths or die in the first 4 weeks of life (Why 17 Report). Although the stillbirth rate decreased from 5.4 per 1,000 total births in 2000, to 5.2 per 1,000 total births in 2009, there still remained 4.125 cases of stillbirth reported for 2009 (CMACE release - Stillbirth and neonatal mortality rates, 2011). While in Ireland a stillbirth defined as "a child weighing minimum of 500 grams or reached a gestion age of 24 weeks. It has been reported that in the United States stillborn births happen in about 1 in 160 births (U.S. Department of Health and Human Services, 2011). In 2008, in Australia and New Zealand the stillbirth rate is 1 in every 130 women (Stillbirth fact sheets, Australian and New Zealand Stillbirth Alliance).

1.3.3 Neonatal Death

Neonatal death means "the loss of a new born baby younger than 28 days old, which is also considered a pregnancy loss" (Stillbirth and Neonatal Death Society (SANDS-UK). The

neonatal mortality rate declined from 3.9 per 1,000 live births in 2000 to 3.2 per 1,000 live births in 2009. (Confidential Enquiry into Maternal and Child Health (CMACE UK, 2011).

1.3.4 Ectopic Pregnancy

An ectopic pregnancy is "a complication in which the pregnancy implants outside the uterus" (Page, Villee & Villee 1976); ectopic pregnancies are not viable. About "one in hundred of pregnancies are in an ectopic location with implantation not occurring inside of the womb, and of these, 98% occur in the fallopian tubes" (NHS Maternity Statistics, 2010- 2011).

1.3.5 Difficult childbirth

Traumatic or difficult childbirth is "an event occurring during the labour and delivery process that involves actual or threatened serious injury or death to the mother or her infant" (Beck, 2009). The definition change of trauma in DSM-IV contributed to the recognition of a childbirth as a possible traumatic stressor (Diagnostic and Statistical Manual of Mental Disorders, 4th ed, American Psychiatric Association, 2000). What is traumatic and life threatening to mothers may be classifed or viewed as a routine clinical intervention to clinicians or what is traumatic and life threatening to one mother may not be a traumatic experience to another mother (Beck, 2004a). This subjective experience was defined as trauma in the eye of the beholder (Beck 2004a). Women's perception of events during the birth, particularly their perception of control during delivery identified as an important foctor for psychological distress (Czarnocka & Slade, 2000).

No national statistics for difficult childbirth rate for the UK are available; however, the Association of Birth Trauma suggests that up to 200,000 women may have been affected by a traumatic birth experience. In the US, the rate of birth trauma of injury to infant has been

reported to range between 0.2 and 37 birth traumas per 1000 births (Sauber-Schatz et al., 2010).

In this study participants were asked if they had a life threatening / difficult childbirth in order to establish their traumatic birth experience.

1.4 Perinatal Trauma and Mental Health

Perinatal traumas, as described above, have been associated in the literature, with complicated grief and various mental health problems, including depression and anxiety symptoms (e.g. Bernazzani et al., 2005; Beutel, Deckardt, von Rad & Weiner, 1995). However, not all women who experienced perinatal trauma also experience postnatal mental health problems. Within the psychosocial model of mental health problems (Brown & Harris, 1978) all childbirth as well as traumatic childbirth, for example, is considered as a stress provoking life event. This life event triggers mental health problems in vulnerable women. Vulnerability factors identified in the literature for prolonged mental health problems include attachment insecurity (McMahon, Barnett, Kowalenko & Tennant, 2006) and prenatal loss (Blackmore et al., 2011).

According to the intergenerational transition hypothesis (see Kellermann, 2001 for detailed information) it has been suggested that trauma and its impact may be passed between generations (Gajdos, 2002; Kahane –Nissenbahum, 2011; Wiseman, Metzl & Barber, 2006). In addition, Krystal et al., (1989) explained how a person's central nervous system evokes the trauma and reacts to a stressful situation with a poor tolerance level. Traumatised adults may not be available both emotionally and functionally to their infants. This then has implications for the psychological development of child. It is suggested then that maternal pathology is an important factor for an infant's socio-emotional development (Cummings, Davis & Simpson, 1994).

1.5 Issues in Mental Health and Perinatal Mental Health

The symptoms and presentations of mental disorders vary considerably from person to person and therefore there cannot be a single measurement with which to diagnose mental health problems (Mathis, 1992). There are two main widely used classification systems outlined by the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM) and the World Health Organisation's International Classification of Disease (ICD). These measures rely on symptom clusters and include subjective experiences of individuals and the subjective interpretation of the physician. Although these classification systems correspond to each other there is a current discussion over the validity and reliability of psychiatric diagnostic categories and criteria used in such systems (see for further discussion Baca-Garcia et al., 2007). In addition, comorbidity exists between some disorders (e.g. depression and anxiety) (Lee et al., 2007). This poses especial problems for diagnosis and treatment, as comorbidity of major depression and anxiety suggests treatment resistance, and recurrence (Aina & Susman, 2006).

The diagnosis may become even more complicated particularly for the perinatal period. For example the discomforts of child labour and childbearing can be similar to depressive symptoms e.g. disturbed sleep, tiredness of child labour and delivery (O'Hara, Neunaber & Zekoski, 1990). This may lead to either under or over diagnoses of mental health problems during this period.

It has been reported that common mental health disorders including depressive and anxiety disorders are frequent in antenatal and postpartum period (see van Bussel,2006, *systematic review).*O'Hara and Swain indicated that 13% of women suffer from depression after childbirth and similar percentage of women suffer from depression during pregnancy (1996).

Gavin et al., (2005) in their systematic review reported that 6.5-12.9% women suffered from depression during pregnancy and in the first following year after childbirth. Although other research studies have also suggested that there is no difference between perinatal and non - perinatal period in terms of prevalence rates of depression (Bennet, 2005; Cox, Murray & Chapman 1993; Gavin 2005; O'Hara, 1990; Van Bussel et al., 2006), postnatal depression has recently been identified as major health problem (Henshaw, Cox & Barton, 2009) because of its implications for the mother and child's development and mental health and its effect on public resources on the long term.

In contrast to depression, anxiety disorders during the perinatal period, have only recently been gaining more interest. A systematic review conducted by Ross and McLean (2006) on a set of available studies concerning anxiety symptoms in the perinatal period suggested that anxiety symptoms are common and this is particularly true of generalised anxiety disorder (4.4-8.5 %) and obsessive compulsive disorder (0.2-3.9 %). The rates of these disorders are higher during the postnatal period in comparison to non-postnatal women. Furthermore perinatal anxiety prevalence rates of between 5% to 57% were reported by Stuart et al., (1998) and Brockington (2006) (c.f. Hensaw, Cox, Barton 2009).

Although systematic reviews of perinatal anxiety and depression are different and may or may not suggest that perinatal anxiety and depression differs from the non-perinatal period, Cox et al., (1993) indicated that psychologically and physiologically demanding events such as labour and delivery, increase the likelihood of further mental health disorder (i.e. depression). Henshaw, Cox and Barton (2009) suggested that " at least 10 % of delivered women will experience a psychiatric disorder" and indicated the perinatal period as "a risk factor for re-occurrence of pre-existing mental health problems". In addition to this transition to parenthood can also be a stress provoking event (Belsky & Pensky, 1988; Slade,

Sadler & Mayes, 2005); a transition which coincides with the perinatal period. Other stressful events such as perinatal trauma (loss or near loss experiences) during the perinatal period may also increase the likelihood of symptoms of any mental disorder. Thus it is very important to further investigate the most commonly experienced symptoms of depression and anxiety symptoms following a perinatal trauma experience.

1.6 Attachment and Mental Health

The developmental framework of Attachment theory accounts for how early childhood experiences, in particular, an individual's own attachment status to their parents, influence later vulnerability to affective disorders (Bowlby, 1969, 1982). Bowlby (1969, 1982) stresses the infant's need for a parental figure who is available emotionally and who is physically available to provide security during childhood. Ainsworth and her colleagues (1978) introduced a systematic observation procedure, called the Strange Situation, of the proximity seeking behaviour of the child. In this procedure, attachment to the primary care giver is conceptualised as Secure, Insecure (Anxious-Resistant and Avoidant) and Disorganised (this category was included after post hoc analyses). These conceptualised categories are important to the understanding of secure and insecure attachment, described by Bowlby (1969), and these conceptualisations are also imbedded in adult attachment measures.

The understanding of attachment theory in adults has been broadened by Main and Solomon (1986, 1990) who suggested that infant behaviour could be conceptualised as organised or disorganised. They have introduced a semi-structured interview technique, the Adult Attachment Interview (AAI), by which an individual's attachment with respect to their own attachment figure can be classified as organised : autonomous, dismissive or preoccupied, and disorganised : resolved, or not; with respect to loss or trauma. An

insecure/disorganised attachment relationship with one's caregiver is considered to be a risk factor for later maladaptation (Zennah, 1996) and, in particular, a risk factor for mental health problems. Similarly, anxiety disorders have been linked to insecure attachment styles (Bifulco et al., 2006 ; Mickelson, Kesler, Shaver,1997).

1.6.1 Close Relationship and Romantic Attachment

Hazan and Shaver (1987) tried to assess the types or styles of attachment identified by Ainsworth and her colleagues, but looking more specifically at romantic attachment. They state that the emotional bond that develops between romantic partners is "partly a function of an attachment behavioural system and that romantic love is a property of the attachment behavioural system, as well as the motivational systems that give rise to caregiving and sexuality" (c.f. Fraley, 2010).

Following debates on the discrepancy between self-report and interview techniques, Bartholomew (1990) has proposed a 4 group model of adult attachment based on Bowlby's claim that attachment patterns reflect working models of the self and others (Bartholomew & Horowitz, 1991). Bartholomew suggested that models of self can be positive (self is worthy of love and attention) or negative (self is unworthy). Working models of self and others describe four attachment styles: secure, preoccupied; dismissing; and fearful (See Figure 1.1).

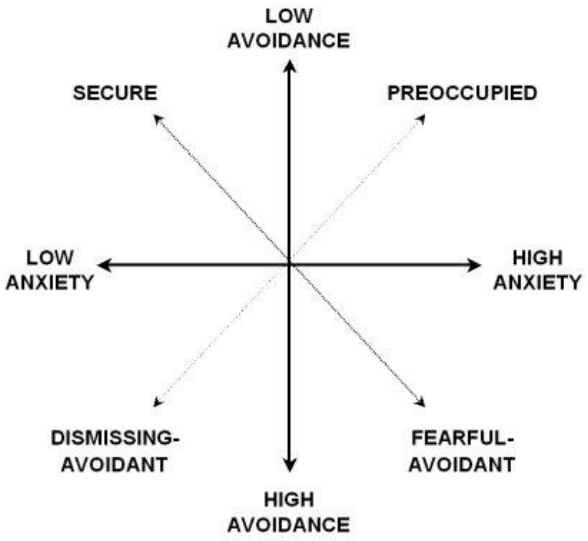


Figure 1.1 The two-dimensional model of individual differences in adult attachment. (Bartholomew & Shaver 1998, Attachment Theory and Close Relationships)

1.6.2 Model of Self and Others

The model, outlined in Figure 1.1, suggests that there are two main dimensions according to which the four types, or styles, of attachment are organised, namely, anxiety and avoidance. It is postulated that the anxiety dimension reflects the 'model of self', and the avoidance dimension reflects the 'model of other' (or partner). According to Bowlby (1969,1982) the 'models of self and others' worth are representations of internal working models, as the artefact of the quality of the emotional bond between an infant and their main caregiver is transmitted from caregiver to child (for this intergenerational transmission assumption, see van Ijzendoorn & Bakermans-Kranenburg, 1997).

1.6.3 Affective Disorders and Self and Others Worth

Although cognitive models of anxiety disorders look into an individual's beliefs of self and others (e.g. Beck & Clark, 1997; Salkovskis,1985), there is a lack of research into an

understanding of anxiety symptoms/disorders from the point of view of attachment theory, particularly for the postpartum period. Cognitive models of emotional disorders refer to dysfunctional assumptions and rules which individuals hold about themselves and the world. It is suggested that these thoughts make those individuals prone to interpret specific situations in an excessively negative and dysfunctional way. Dysfunctional assumptions and rules are believed to arise from early learning experiences. These can remain inactive until activated by a specific event which triggers them (Hawton, Salkovskis, Kirk & Clark, 1989). Hence, it may be important to understand attachment styles and patterns in an individual's anxiety symptoms/disorders in order to further an understanding of the core of self and others' belief systems, especially when making recommendations or providing appropriate treatments.

Bowlby's (1969) hypothesis regarding negative attachment experiences are associated with psychopathology, has been supported empirically with several studies in both non-clinical and clinical samples. Harris, Brown and Bifulco (1990) showed that early childhood negative attachment experiences i.e. the death of a parent or long separations from the parent, increased the risk of depression in adulthood. Similarly, Cumming and Cicchetti, (1990) found that insecure working models (unlovable self) prior to a loss was associated strongly with later depression. In a clinical sample, West, Spreng, Rose, and Adam, (1999) examined the relationship between attachment-felt security and history of suicidal behaviours and found that perceived unavailability of the attachment figure and high levels of depressive symptomatology were predictive of suicidal behaviours. Agoraphobia, which is a sub set of panic disorder, has also been described as a deficit in attachment security (Bowlby, 1998) and the temporary loss of the ability to 'tolerate spatial separations from a secure base'. Prolonged separations from parents, such as happens in some divorce situations, has been associated with an increased risk for agoraphobia and/or panic disorder later in life (Brown &

Harris, 1993; Tweed, Schoenbach, George & Blazer, 1986). More recently Holmes (2008) provided empirical evidence for this suggested link between agoraphobia and attachment related issues (separation anxiety). Similarly Sable (1995) draws links between post traumatic stress disorder (PTSD) and attachment security; she explains the anxiety of PTSD as a type of separation anxiety. More recently Charuvastra and Cloitre (2008) emphasised the importance of support in order to understand PTSD and discussed attachment style and support in relation to this disorder.

For the postpartum period, emerging literature (e.g., Besser, Priel & Wiznitzer, 2002; Bifulco et al., 2004; McMahon, Barnett, Kowalenko & Tennat, 2005) indicates that attachment anxiety in the mother, prior to birth, predicted persistent severe postnatal depression symptoms. Avoidant attachment style was also associated with postpartum depression (Besser, Priel & Wiznitzer 2002; Besser & Priel 2005). However, more research is needed, particularly focusing on the perinatal / postnatal anxiety symptoms in relation to perinatal / postnatal mental health problems.

1.6.4 Attachment Support and Emotion Regulation

According to attachment theory, security-providing-interactions with attachment figures strengthen the trust in social support as a distress regulation strategy. Bowlby (1973) outlined strategies of affect regulation, with regards to attaining an individual's attachment needs. Secondary attachment strategies are developed for affect regulation without proximity seeking (e.g. avoidant strategies). People with insecure attachment, who had inconsistent or lack of security-providing-interactions with attachment figures, are expected to have doubts about the effectiveness of available support, and will use other secondary strategies (such as, the use of deactivating strategies to idealise and normalise relationships, no or lack of memory in relation to early care experiences, (Dozier & Kobak, 1992) in the face of stressful situations

(Main, 1990). Mikulincer, Shaver and Pereg (2003) describe, in their 'integrative model of the activation and dynamics of the attachment system' (originally by Shaver & Mikulincer, 2002) , how secure based strategies are used to alleviate stress, whereas insecure based affect regulation strategies involve hyperactivation and deactivation of the attachment system (see Figure 1.2).

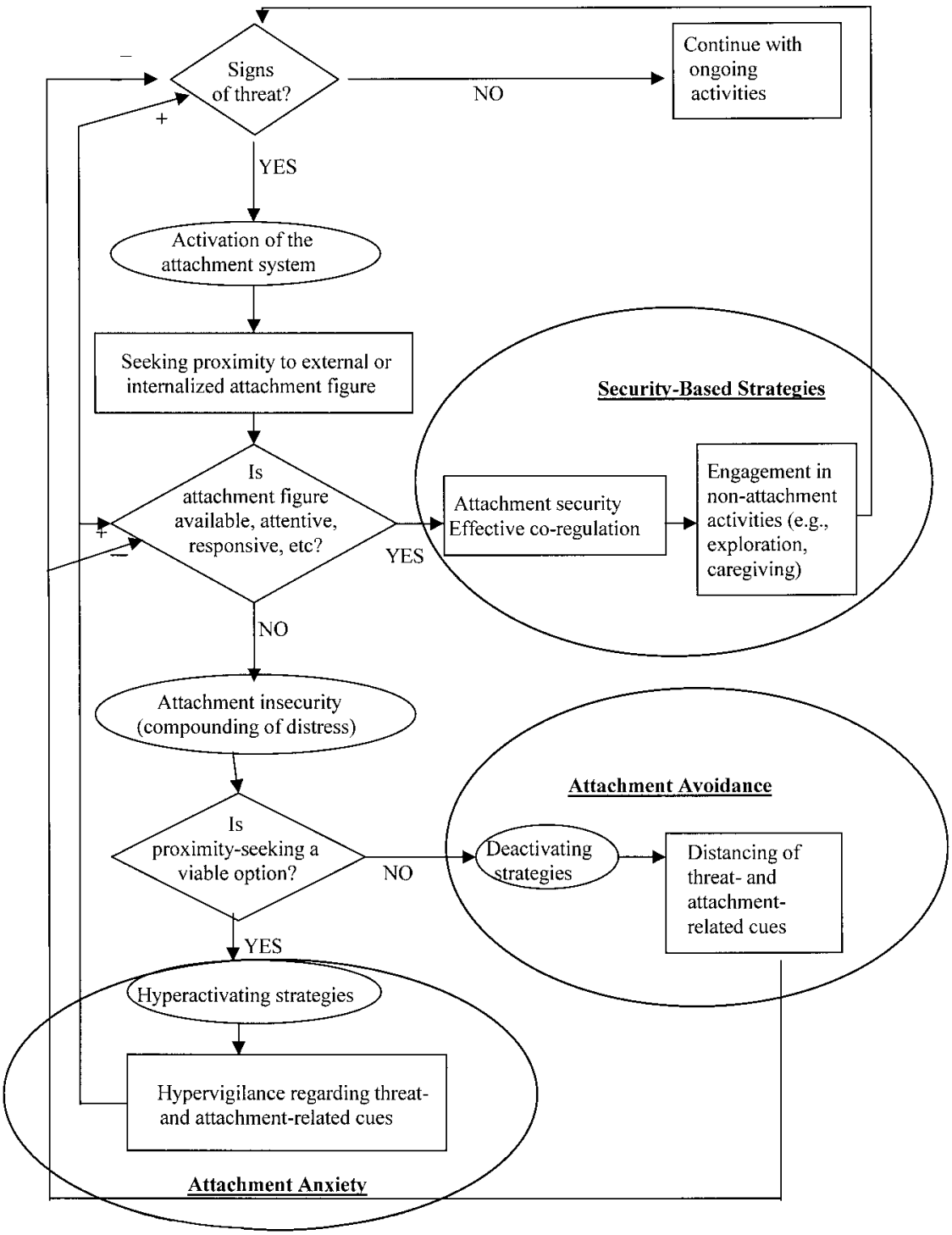


Figure 1.2 An adaptation of Shaver and Mikulincer's integrative model of the activation and dynamics of the attachment system (Shaver & Mikulincer, 2002).

One of the main assumptions of attachment theory is that attachment behaviour is more likely to be activated under stressful situations, and individual differences in attachment behaviour should be most notable under these conditions. It would be reasonable to expect that, faced with a stressful situation such as the loss of, or the experience of a traumatic birth, partners would seek support from each other.

1.7 Social Support and Mental Health

Cobb (1976) defined social support in terms of information that "leads a person to believe that s/he is cared for and loved; esteemed and valued; belongs to a network of communication and mutual obligation". In a similar fashion, social support is conceptualised as a multidimensional construct (House & Kahn, 1985). There are four identified attributes which are, emotional, informational, tangible, and appraisal support (Cohen & Wills, 1985). Depending on the theoretical model chosen, various conceptualisations of support can be made and measured in several different ways. Multidimensional conceptualisations focus on the structural, functional, and perceived components of social support.

In social support theory there are two main models which have been identified: the direct model and the buffering model (Cobb, 1976). Cohen & Wills (1985) explain that the two models of social support have different focus, yet both are equally important in understanding the complex nature of the relationship between social support and health. The direct model suggests that social support has a positive influence on health. Whereas, the buffering model suggests that social support acts primarily to buffer the negative effects of stress by changing the appraisal of stressful event or by other mechanisms (see Figure 1.3).

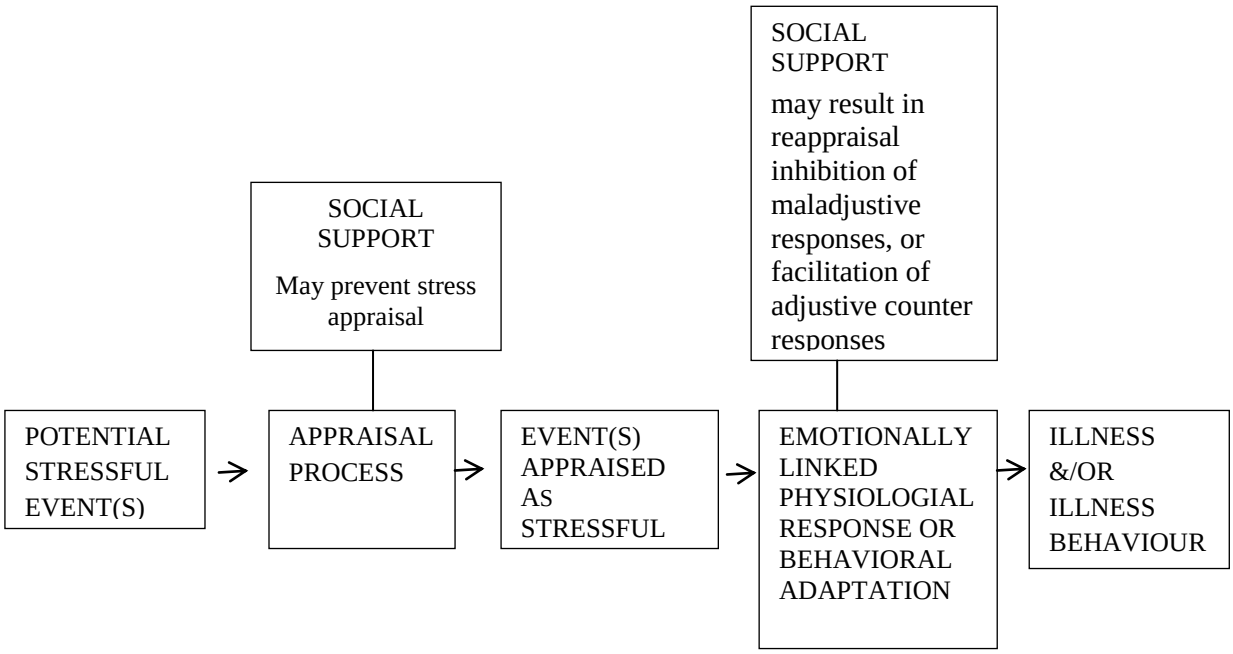


Figure 1.3 Social support & the buffering hypothesis (Two points at which social support may interfere with the hypothesized causal link between stressful events and illness (Cohen & Wills, 1985).

1.8 Attachment and Social Support

Emotional support, one of the functional attributes of social support, includes experiences of feeling liked, admired, respected, and/or loved (Norbeck, DeJoseph & Smith, 1996). The very same concept is also the concern of attachment theory. The theory suggests that cognitive schemata of working models of self and others evolve around a person's early care experiences and whether they were loved or rejected. Both attachment theory (Bowlby, 1976) and the buffering model of social support hold that social support protects a person from life stressors (Cobbs 1976; Cohen & Wills, 1985). Both theories have been influential in studies examining the relationship between social support and health (Peterson & Bredow, 2009). Cohen and Wills (1985) suggested that, in the stress buffering model, the relationship between support and health can only be observed under stressful situations. Similarly, in

order for the attachment behaviour to be activated, the person should be in a stressful situation.

Cohen and Wills (1985) argued that emotional support serves as a general buffer of psychological stress, while other types of support (i.e. informational or tangible support) are important only when they are relevant to the stressor being experienced. Social support and attachment have been linked to each other conceptually (Sarason, Sarason & Pierce, 1990). Very recently, Mikulincer and Shaver (2009) explained how attachment theory describes the anticipation, receipt, and provision of social support, and how this then is linked to support-seeking (or attachment behaviour) and support-provision (or caregiving behaviour).

What attachment theory suggests, in its essence, is that early available support in a loving, not rejecting, environment establishes secure attachment styles, which in turn encourages reliance on social support in order to regulate emotions and this then is linked to good mental health. Later on in adult life, however, the established attachment dimensions influence the perceived support and are expected to be associated with mental health and adjustment following a traumatic stressful event. This reciprocal relationship is important to note in order to examine perceived support and attachment in relation to mental health problems (see Figure 1.4)[1].

[1] Figure 1.4 only represents a broad overview of the suggested links and does not suggest a causal relationships and does not include how these are connected with each other e.g. affect regulation, appraisal / coping etc..

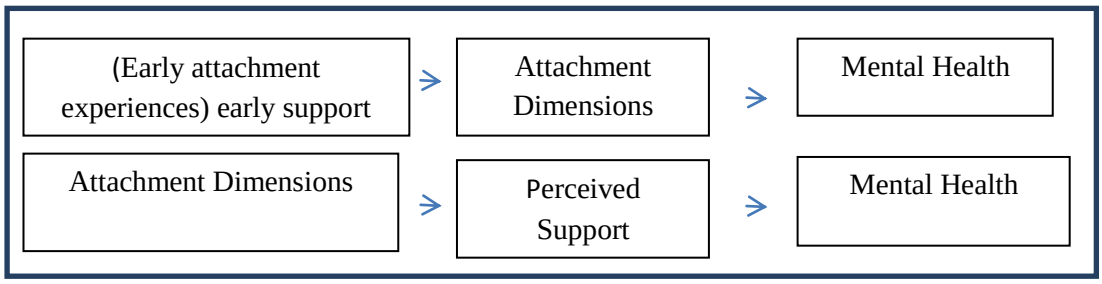


Figure 1.4 Reciprocated relationships between support and attachment in relation to mental health.

1.9 Parental Rearing Experiences and Mental Health Link

Parenting styles are described as standard strategies used by the parent to raise their children (Baumrid, 1971; Maccoby & Martin, 1983). Similar to the attachment styles, parenting styles are conceptualised on two dimensions; parental demand and parental response. Thus there are four identified parenting styles, authoritative (high demand and high responsiveness), authoritarian (high demand and low responsiveness), permissive (low demand and high responsiveness), and laissez faire parenting (low demand and low responsiveness) see Figure 1.5.

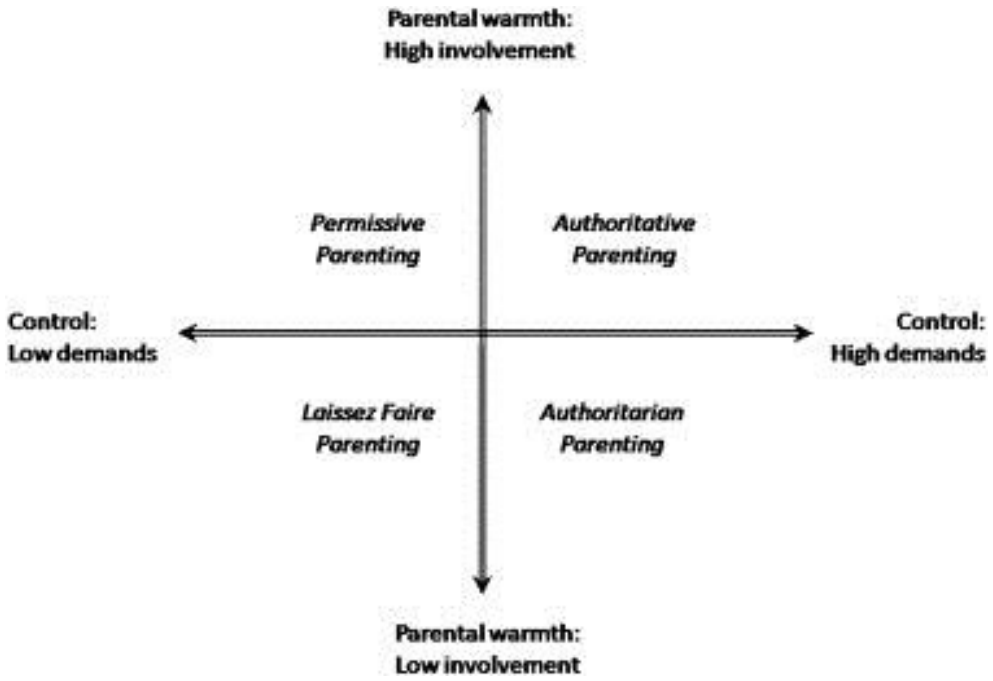


Figure 1.5 Parenting styles (based on Baumrind, 1991 and Maccoby & Martin, 1983 c.f Valcke et al., 2010)

Parenting styles are different from parenting practices (Darling and Steinberg, 1993) . Wolfradt, Hempel and Miles (2003) state that "parenting styles can be understood as attitudes toward the child that are communicated to the child and create an emotional climate in which parents' behaviour is expressed" (p.522). Similar to social support, actual received parental rearing experience can be different from the perceived rearing experience. The literature suggests that over controlling, criticizing, unloving parenting styles may affect and form a person's perception of self and others' worth (Moore, Whaley, & Sigman, 2004; Barlow, 2002). Attachment styles measured by self-report romantic attachment measures are also found to be related to parenting styles (e.g., Rholes, Simpson, & Blakey, 1995; Rholes, Simpson & Friedman, 1997).

Negative rearing practices (e.g. over criticism, over protection, lack of affection) have been associated with mental health problems, (Arrindel et al., 1989). Particularly, parenting styles featuring low warmth, a high level of criticism, and high control have been consistently associated with the development of anxiety disorders in adults (Barlow, 2002) and depression in adulthood (Parker, 1983; Bifulco, Brown & Harris, 1994). For anxiety disorders, parenting style, specifically parental overprotection and rejection, have been reported to be associated with social phobia (Lieb et al., 2000). It has also been found that low parental care and parental overprotective rearing behaviour during childhood are predictors of postnatal depression (Boyce, Hickie & Parker, 1991). Parental rearing experiences have yet to be explored in relation to postpartum anxiety disorders (Abramowitz, Franklin, Schwartz & Furr, 2003).

1.10 Mental Health and Grief

It is important to note that grief is a natural reaction to loss and that a perinatal loss will be expected to trigger a grief response and depression-like symptoms. Feelings of sadness and

depression are an integral part of grief (DSM IV, 2000). The newly released DSM V (2013), further emphasises the notion that grief and major depression may coexist and the death of a loved one is a common cause of depressive symptoms. The majority of individuals who have lost a loved one will adjust to their loss, however, some may suffer from pathological grief where individuals grieve for an extended period of time with symptoms of mental and physical impairment (Bonanno,2004 ; Newson, Boelen, Hek, Hofman, & Tiemeier, 2011). Horrowitz, Bonnano & Holen (1993) suggest that grief responses may comprise PTSD symptoms (e.g. denial, intrusion) and proposed a way to detect psychopathology triggered by loss. They have also suggested that PTSD stressor criteria should include bereavement. They explain how intense and prolonged experiences may become symptomatic, as presented in Figure 1.6 (see Horowitz, Bonanno & Holen, 1993 for further information).

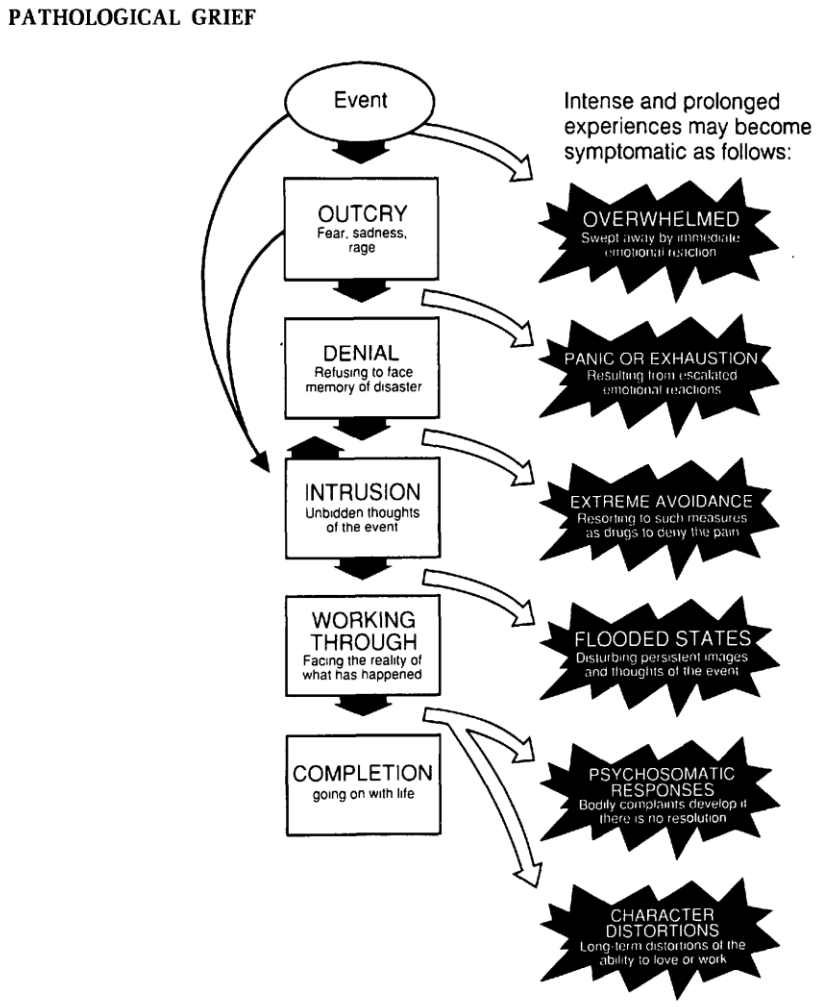


Figure 1.6 Phases of response after stressor life events. (From Horowitz M. Stress Response Syndromes, 2nd Edition, North vale, NJ, Jason Aronson, 1986).

It has been reported that 15% to 25% of women who experience perinatal loss may have adjustment problems and seek professional help for their mental health problems (e.g. Bennett et al., 2005; Hughes, Turton, Hopper, & Evans, 2002). In addition, it has been argued that unexpected sudden losses are considered to be more anxiety provoking than anticipated losses, and resultantly lead to more severe grief reactions (e.g. Parkes, 1975) which may provoke more anxiety and depression. Thus it is important to understand the factors during

the perinatal period which may contribute to the worsening mental health problems triggered by a loss of an infant / foetus.

Bonanno and Kaltman (1999) discuss alternative perspectives on bereavement and grief or pathological grief, and these perspectives include cognitive stress theory, attachment theory, continuing bonds, the social-functional account of emotion, and trauma theory. From these perspectives they suggest an integrative framework. They identified four important components of the grieving process, context, meaning, representations of the lost relationship, and coping and emotion-regulation processes. Although the main aim of this thesis is to understand perinatal trauma and its consequences for women from the perspective of attachment theory, where relevant, the findings of the studies of the thesis are also discussed using the integrative framework (e.g. continuing bonds and appraisal theory) suggested by Bonanno and Kaltman (1999).

Summary

To summarise, this literature review presented constructs of attachment, social support, and parenting as separate but interrelated constructs. It also explained how working models of self and others are shaped depending on our caretaking experiences and how this is then linked to cognitive, emotional and behavioural responses to emotionally distressing situations. It is of interest to examine these constructs in relation to postnatal mental health and subsequent parenting because perinatal trauma is expected to activate the attachment related behaviour and interact with the perceived emotional support from significant others. The examination of attachment styles and parental rearing experiences, which contribute to the formation of the working models of self and others, will be important in terms of adjustment and mental health following a perinatal trauma. This review also highlighted the link between

mental health and pathological grief following trauma. Women who experienced perinatal loss may only be suffering symptoms of grief. However, for some women, pathological grief leading to serious mental health problems can be very problematic for themselves and for their subsequent infant. Thus it will be important to examine these constructs and their implications for the perinatal period in order to support women and produce relevant guidance.

2 Chapter II: General Methodology

2.1 Introduction

The research design and research strategy for this thesis are presented in this chapter. This thesis consists of both quantitative and qualitative designs and their methodologies. These are outlined separately below, including the individual studies and their rationale in each section. Then, the description of the samples and psychometric measures used, general procedures followed in conducting the studies of this thesis and the data analysis of separate studies, are presented.

2.2 Overall research design and strategy

The aim of this research was, first of all to examine the perinatal trauma experiences (infant loss and / or difficult childbirth) and factors important for perinatal mental health. This was achieved by means of three quantitative studies : *Study 1* aimed to examine the proposed predictors (attachment styles, perceived social support, memories of parental rearing experiences) in predicting the perinatal mental health symptoms of women who experienced perinatal trauma ; *Study 2* looked into the mediational relationship between perceived support from significant others and attachment dimensions (anxiety – avoidance) in predicting perinatal mental health; *Study 3* examined differences in *trauma with loss* and *trauma without loss* in relation to perinatal mental health.

In addition, this research thesis also aimed to explore mothers' perinatal loss experiences and their relationship / parenting experiences with their subsequent infant. Therefore, two qualitative studies were devised: *Study 4* aimed to understand the meaning of perinatal loss experience and also mothers' relationship with their subsequent infant. See Figure 2.1 below for structure of the thesis.

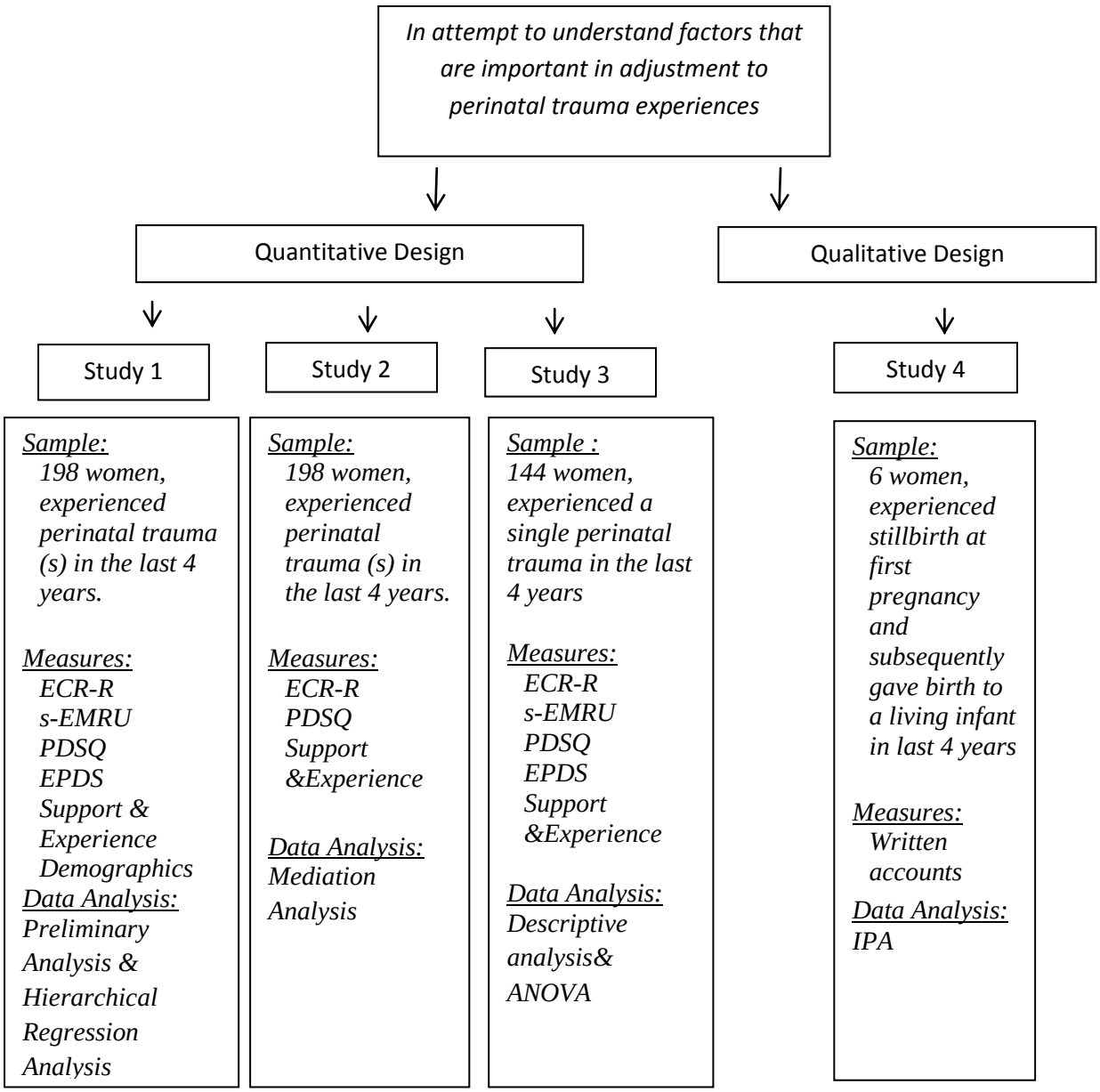


Figure 2.1 The visual outline of the study

2.3 Method for Quantitative Studies (Study 1, Study 2 & Study 3)

2.3.1 Participants

2.3.1.1 *Recruitment*

The questionnaires of the study were available on the internet during the period of January 2010 – July 2010. The study's leaflet and its information documents (Appendix A) were provided on a designated web site which had a link to a secure website, hosted by the University of Birmingham. The study's questionnaires were then available for anonymous online submissions on this secure web site. The study was advertised on social websites and the websites of national and international organisations (Birth Trauma Association (BTA); Share US, Australia/New Zealand; Stillbirth and Neonatal Deaths Association (SANDS -AU); Magic Mums; and Net Mums). These organisations were approached as they are some of the largest or well-known organisations nationally and internationally. The study's aim and -information packs were presented to the organisations. Similarly, the moderators of Facebook-based perinatal groups (Stillbirth; Ectopic pregnancy and Miscarriage) were also requested to advertise the study's link on the group's page. During the period of January to July, 310 questionnaires were submitted online. Incomplete datasets (no more information other than incomplete demographic questionnaire) (105), and datasets that did not satisfy the entry requirement of '4 years since the perinatal trauma' (7) were removed from the sample. The remaining 198 participants formed the study's main sample. Recruitment details of the participants can be found in Table 2.1. Ethical approval of University of Birmingham's Research Committee was obtained for the quantitative studies.

Table 2.1 *Response rate for the recruitment and the sample's composition*

Web Sites	Response Rate	Sample
UK	257	164 (%63.81)
US/Canadian	38	27 (%71.05)
AU/NewZealand	15	7 (%46.66)
Total N	310	198 (%63.87)

2.3.1.2 *Demographics*

The participants of the study consisted of women who had one or more of the combinations of perinatal traumas, namely miscarriage, neonatal death, stillbirth, ectopic pregnancy and/or difficult childbirth in the last 4 years. For the participants who had more than one trauma experience, their most recent trauma experience was required to be in the last 4 year period. The demographic characteristics of the main sample can be seen in Table 2.2 and 2.3. The majority of the participants were married or in a relationship and only a few participants were single when they took part in the study. Education and job status of participants varied from school education to degree level and also the majority of the participants had a skilled job, however a minority were unemployed. The remaining participants had various unskilled or semiskilled jobs. Almost half of the participants were from the UK and the remaining participants were from US/ Canada , Europe and Australia / New Zealand. There were no participants of Black origin, the participants were mostly of White origin, and a smaller proportion of Asian origin. The majority of participants indicated that they did not have mental health problems, whereas 25 % declared they had mental health problems (including depression, anxiety, post-traumatic stress disorder (PTSD) and Bipolar). 16.7 % of the participants declared that their mental health problems were diagnosed prior to the perinatal

trauma and 7.6 % were diagnosed with mental health problems (including: depression, postnatal depression and/or PTSD) after the perinatal trauma experience (s). The majority of the participants of the study had a living child / or children. The mean age of the participants was 31.5.

Table 2.2 *Demographics for the main sample*

Participants	N	%
Relationship		
Single	7	3.5
In a Relationship	31	15.7
Married	159	80.3
Education		
School Education	22	11.1
Post School	55	27.8
Degree Level	73	36.9
Postgraduate Level	43	21.7
Job Status		
Unemployed	16	8.1
Unskilled	20	10.1
Semiskilled	57	28.8
Skilled	74	37.4
Managerial Professional	28	13.9
Country Origin		
UK	91	46.0
US/Canada	44	22.2
Europe	37	18.7
Au/Nz	10	5.1
Ethnicity		
Black	-	-
Asian	6	3.0

Participants	N	%
White	182	91.9
Other	8	4.0
Number of Traumas		
Single	144	72.7
Dual	48	24.2
Triple	6	3.0
Mental Health -Previously Diagnosed		
Yes	50	25.3
No	144	72.7
Diagnosis		
Pre pregnancy	33	66.0
Postnatal	15	30.0
Did not indicate	2	4.0
Diagnosis related to trauma	8	16
Number of Living infants		
0	45	22.7
1	96	48.5
2	39	19.7
3	14	7.1
4	2	1.0
5	2	1.0

Table 2.3 *Demographics - Age and number of children*

Participants	N	Mean (SD)	Min	Max
Age	198	31.46 (5.41)	18	46
Number of Children	198	1.18 (0.97)	0	5

The participants of the study had either single or combinations of perinatal trauma experiences. The combinations of trauma experiences are presented in Tables 2.4 and 2.5.

Table 2.4 *Number of participants who experienced single and dual trauma*

Type of Trauma	Miscarriage	Neonatal Death	Stillbirth	Difficult Child Birth	Ectopic
Miscarriage	**52**	2	8	29	0
Neonatal Death	2	**4**	1	3	0
Stillbirth	8	1	**17**	3	1
Difficult Birth	29	3	3	**67**	1
Ectopic	0	0	1	1	**4**

Table 2.5 *Number of participants who experienced triple trauma experiences*

Type of Trauma	Type of Trauma	Type of Trauma	Participants
Miscarriage	Ectopic	Stillbirth	1
Neonatal Death	Stillbirth	Difficult Birth	3
Neonatal Death	Stillbirth	Miscarriage	1
Difficult Birth	Stillbirth	Miscarriage	1

While the sample for *Study 1* and *Study 2* consisted of 198 participants with single, dual and triple traumas, the sample for *Study 3* consisted of 144 women who had a single perinatal trauma experience.

2.3.2 Measures used for the quantitative studies

2.3.2.1 *Demographics Questionnaire*

Relevant demographic information of the participants was collected via a demographic questionnaire (Appendix B). (Required adaptations for ethnic origins were completed when participants from outside the UK participated in the study).

2.3.2.2 *Perinatal Experience and Support Questionnaire*

This questionnaire (see Appendix C) was designed by the researcher in order to collect information on women's experience of perinatal trauma(s) and their perceived emotional support from significant others (partner/ husband, family, friends and health practitioners). It consisted five separate sections for each trauma experience. It is comprised of 56 questions, regarding the details of the trauma experiences (e.g. 'type of trauma', 'when was the perinatal trauma experience') and questions regarding the emotional support received (e.g. *Please rate the emotional support that you have received from Health Professionals regarding the birth experience ; Please rate the emotional support that you have received from Health Professionals regarding your miscarriage experience.* In the traumatic childbirth experience section (section V) women were also asked further questions about their childbirth in order to establish the mother's perspective on whether their birth experience was traumatic (e.g. Complications for the mother and the infant and their feelings) on a 1-5 likert type scale (1= not at all satisfied, 5 = extremely satisfied). Participants asked if they had any following perinatal trauma experiences: miscarriage, stillbirth, neonatal death, ectopic pregnancy and traumatic / difficult childbirth. Participants only completed the relevant sections of the questionnaire depending on their trauma experiences. For example, a woman who experienced stillbirth only answered the questions in this section, however, if a participant had an additional trauma experience (e.g. difficult childbirth) then they were directed to complete the questions in the difficult childbirth section as well. Each participant's perceived emotional support from significant others, namely perceived emotional support from *health practitioner; partner* and *close family* were collected for each perinatal trauma experience. For women who had more than one trauma experience (e.g. stillbirth and traumatic/ difficult

child birth), perceived emotional support for the most recent experience was used in relevant analysis.

During the data collection process, due to an error on the online survey layout, the support questions for the close friends for the 'difficult childbirth group' could not be collated. Although this failure only affected the study's ability to measure the score for support from close friends for the difficult childbirth group, it was decided that emotional support from close friends would be taken out from all the relevant analysis. Similarly, the data for the 'since the time of event' for the stillbirth groups could not be collected due to an error on the online survey. Therefore, the 'time since the trauma' variable could not be used in analysis. However, this variable was analysed for the other trauma experience groups in the descriptive study (*Descriptive Study*, Chapter 3).

2.3.2.3 *General and specific mental health measures- PDSQ*

The Psychiatric Diagnostic Screening Questionnaire (PDSQ) (Zimmerman & Mattia, 2001) (See Appendix D) is a self-report scale designed to screen for the most common Diagnostic Statistical Manual of Mental Disorder (DSM-IV; American Psychiatric Association, 2000) axis I disorders. The questionnaire consists of 125 items in 13 subclasses including major depressive disorder [MDD] (21 items), bulimia (10 items), post-traumatic stress disorder [PTSD] (15 items), panic disorder (PD)(8 items), agoraphobia (A) (11), social phobia (SP)(15 items) , generalized anxiety disorder [GAD] (10 items), obsessive-compulsive disorder [OCD] (7 items), alcohol abuse/dependence (6 items), drug abuse/dependence (6 items), somatization (5 items), hypochondriasis (5 items), and psychosis (6 items), The measure has good to excellent levels of internal consistency, test-retest reliability, and discriminant, convergent, and concurrent validity (Zimmerman & Mattia 2002). In this research study, the bulimia, abuse/dependence, somatisation, hypochondriasis and psychosis subscales were not

used. This was due to fact that the main focus of the study was perinatally associated mental health problems and also we wanted to limit the number of questions in the study questionnaires. The order of the measure was also re-arranged leaving the major depression scores to later, in consideration of the participants' recent experience of perinatal trauma. All of the participants had experienced trauma and they were expected to be in a sensitive period in their life. The major depression scale contains questions around suicidal ideations. Therefore it was felt that introducing the PDSQ – major depression scores later in the order of the subscales would give the participant a chance to understand what kind of questions were asked before they continue to complete the questionnaire and so that they were not overwhelmed with major depression questions. Scale items in this measure are scored dichotomously *yes* (a score of 1) or no (a score of 0). A sum of 'Yes' answers equates to a total score, which is a global indicator of psychopathology. Disorder specific scores are also obtained in a similar fashion. As the measure was developed for clinical settings originally, cut off scores and critical items are provided for each disorder. One disadvantage of using such a measure in an online survey is that of incomplete or missing items on the scales. In order to calculate the global and disorder specific scores, all the questions need to be completed fully in order to calculate the overall and mental health specific scores. Therefore, missing values were not replaced and listwise executions were used. (See also missing data section below).

2.3.2.4 *General and specific mental health measures- EPDS*

In the present study, the Edinburgh Postnatal Depression Scale EPDS (Cox, Holden, & Sagovsky, 1987) was used to measure depressed mood particularly for the postnatal period. The EPDS is a 10 item self-report scale to assess depression. It was developed and validated for postnatal use. Each question has its own key on a 4 point likert scale. Some examples of

the questions are*: I have been able to laugh and see the funny side of things (0=As much as I always could, 3= not at all); I have looked forward with enjoyment to things (0= As much as I ever did. 3 = As much as I ever did)(*See Appendix E). The split half reliability was 0.88, and the standardized alpha coefficient was 0.87 (Cox, Holden, & Sagovsky, 1987). This measure was further validated (Cox, Chapman, Murray & Jones, 1996) for postnatal and non-postnatal women. Cox, et al. (1996) recommended using a 12/13 point cut-off score to indicate major depression.

The EPDS is a postnatal period specific measure and it is widely used both within the UK (e.g. Su et al., 2007; Husain et al., 2012 ; Micali, Smonoff & Treasure 2011) and outside of the UK (Campbell, Hayes & Buckby 2008; Garcia-Esteve, Ascaso, O'juel & Navaro, 2003).It was devised to detect depression in childbearing women and developed as a unidimentional measure (Cox, Holden & Sagovsky 1987). However, recent factor analysis studies indicated that EPDS actually is bi dimensional and measures both anxiety and depression (Brouwers, van Baar & Pop, 2001; Ross, Evans & Sellers, 2003; Jomeen & Martin, 2005). Stuart et al, (1998) showed that the total EPDS scores correlated better with the measures of depression and anxiety than with the EPDS's proposed subscales. Brouwers, van Baar and Pop (2001) and Pop (1991) therefore suggested the use of the EPDS in its entirety rather than subscales. More recently, Teissedre and Chabrol, (2004) also concluded that a unidimensional model is better than a two factor model in detecting postpartum depression. Although some other postpartum specific measures were developed e.g Postpartum Depression Screening Scale [PDSS] (Beck and Gable 2000), Cox and Holden (2003) also urged researchers to continue to use EPDS. This is because it has been used widely in various countries thus making the comparison of findings easier. Also the measure is very suitable for research due to practical reasons (e.g the number of questions and cost and time efficiency) The strength of using this

measure for this study is that the EPDS does not rely on somatic questions as do some other general measures of depression (Cox, Holden & Sagovsky, 1987; Hanley, 2009), and therefore avoids the possible false positives that might come about when trying to rate depression. Thus EPDS total score was decided to be used for the specific perinatal depression scores of women.

2.3.2.5 *Attachment Styles*

Attachment styles were measured using the Experiences in Close Relationships-Revised (ECR-R) developed by Fraley, Waller, and Brennan (2000). ECR-R is a 36-item self-report attachment measure. It contains a 36-item scale that measures attachment style to a romantic partner on the dimensions of attachment related anxiety (discomfort with closeness and discomfort with depending on others) and attachment related avoidance (fear of rejection and abandonment). 18 items measure attachment related anxiety (e.g. *I often worry that my partner will not want to stay with me*) and 18 items measure attachment related avoidance (e.g., *I prefer not to be too close to romantic partners*). (See Appendix F). Each item is rated on a 7 – point Likert scale, where 1=*strongly disagree* and 7=*strongly agree*.

The ECR-R has been used extensively in research and it is reported to have better discriminant validity and reliability than previous self – report attachment measures (Mikulincer & Shaver, 2007). Sibley, Fischer and Liu (2005) suggested that the ECR -R is a better measure in comparison to the Relationship Questionnaire (Bartholomew & Horowitz, 1991) when effect sizes are small. Unlike the ECR (Brennan, Clark & Shaver, 1998) which categorises attachment styles, the ECR - R examines attachment styles on a two dimensional model (anxiety - avoidance) rather than by categories. The dimensional approach is recommended by Fraley and Waller (1998). The dimensional approach was shown to be capture the underlying aspects of attachment-related behaviours (Brennan, Clark & Shaver,

1998; Fraley & Waller, 1998). The ECR – R was also reported to have similar reliability estimates and stability of the two factor structure to the original ECR (Sibley, Fischer & Liu, 2005 and Sibley & Liu, 2004).

2.3.2.6 Memories *of Parental Rearing Experiences*

The EMBU - My Memories of Childhood (Egna Minnen Betraffande Uppfostran), On my memories of upbringing; (Perris, Jacobsson, Lindstrom, von Knorring, & Perris, 1980) was used to measure parental experiences. The original EMBU was devised for measuring the retrospective recall of childhood memories in adulthood. It consists of 81 items grouped in 15 subscales and two additional questions in relation to consistency and strictness of parental rearing behaviour, which are answered for each parent. The subscales cover such rearing practices as over involvement, affection, overprotection, and rejection. The present study employed the English version of the s- EMBU (Appendix G) which is the shorter version of the EMBU . The s-EMBU contains 23 questions for each parent's rearing style. The s-EMBU has good internal reliability and construct validity (Arrindell et al.,1999) and it is proved to be functionally equivalent to the original EMBU. Arrindell and Engebretsen (2000) reported the constructs converged and discriminant validity with Parental Bonding Instrument (Parker, Tupling, & Brown, 1979) . The s-EMBU contains three subscales (rejection, emotional warmth and over-protection), which can be scored separately for each parent. Although both maternal and paternal scales were administered, parental scores (which is the sum of both scores) were used in this study. This was partly because of concerns about the number of independent variables in the regression and sample size. Also, the aim of the current study was to understand the role of participants' perceptions of the parental rearing practices that they experienced, as possible influences on their mental health, rather than analysing differences in paternal or maternal parenting styles. In the s- EMBU, *rejection*

represents ‘punitive, shaming, favouring of siblings over the person and verbal or physical hostility by the parent’. *Overprotection* refers to ‘overprotective behaviour of parents and consisted of items relating to attempts made by the parents to control their child’s behaviour, either in being overly concerned about safety or being intrusive or overly involved in the child’s wellbeing’. Finally, ‘*emotional warmth* entails verbal signs of physical and of parental love, acceptance and affection’. Participants respond to each question using a 4-point Likert scale, with: 1 = no/never; 2 = yes, but seldom; 3 = yes, often and 4 = yes, most of the time. The higher scores on the *rejection* and *overprotection* subscales and lower scores on the *emotional warmth* scale indicate more negative recalled parental rearing behaviours. Arrindell et al., (1999) reported that Cronbach’s alphas were above 0.72 for all three subscales. Table 2.6 provides the internal consistency of all the measures used in this study including the s-EMBU.

Table 2.6 *Reliability Results of Measures for this study*

Measures	Cronbach’s Alpha
PDSQ total (87 questions)	.95
PDSQ – OCD	.70
PDSQ- Panic	.86
PDSQ –PTSD	.88
PDSQ – Major Depression	.89
PDSQ – Agoraphobia	.84
PDSQ – Social Phobia	.91
PDSQ – GAD	.90
EMBU –S	.85
EMBU -S Rejecting	.93
EMBU - S Overprotection	.83
EMBU – Emotional Warmth	.95

2.3.3 Procedure for Quantitative Studies

The data for study *1, 2* and *3* were collected from an online survey. A secure communication protocol for the internet, (hypertext transfer protocol secure; https), was used for the website of the survey. The collated data were managed by the University of Birmingham's secure server. Participants were provided with the information leaflet for the study (See Appendix A) and asked for their consent to take part in the study. Participants took part in the study anonymously and had the option to give up the survey at any time. At the end of the survey, participants were directed to the study's debriefing information (see Appendix H) where they were provided with the study's brief aims and the resources that they might want to access, in case taking part of the research reminded them their past negative experiences or overwhelmed them in any way.

2.3.4 Quantitative Studies Data Analysis

Kolmogorov - Smirnov (K-S) tests revealed that the data were normally distributed and box plot analysis did not reveal any outliers, therefore parametric analyses were used for the quantitative studies (studies 1 to 3).

2.3.4.1 *Missing Data*

Visual inspection of the data showed that some questionnaire measures had moderate proportions of missing data, while other sections had very low proportions of missing data. It appeared that the final questionnaires in the survey were more consistently incomplete. In some cases, participants completed the demographics questionnaire but did not complete the remaining questionnaires of the study. Apart from this pattern, it appeared that if the participants proceeded to subsequent questionnaires, the missing data were random. Thus it was decided, that if a participant did not complete at least a partial measure of the study, the

participant was not included in the sample for analysis. Therefore, throughout the quantitative analysis of this thesis, listwise execution was conducted. In order to increase the power of the study the option of replacing mean values was considered, however, this was not possible with some measures such as the PDSQ, as this measure checks the presence of symptoms (in a 'yes or no' format). In addition, Howell (2007, 2012) argues the listwise deletion to be a better way of dealing with missing data and he states that"although listwise deletions often result in a substantial decrease in the sample size available for the analysis, it leads to unbiased parameter estimates if the missing data is completely random" (Howell, 2012).

2.3.5 Data Analysis - Study 1: Predicting General and Specific Mental Health Symptoms

Preliminary analysis and a series of hierarchical regression analyses were used in predicting the general and specific mental health symptoms.

Preliminary analysis

In order to assess the possible influence of the demographic variables on mental health symptoms, a series of univariate analysis of variance were carried out after satisfying the required assumptions for ANOVA (the independence, normality and homogeneity of the variances of the residuals) (Field, 2009). This study is presented in Appendix K.

Statistical assumptions of multiple regression analysis

The assumptions of multiple regression as outlined by Tabachnick and Fidell (2007) were examined. For the sample size, the required ratio of the number of predictor variables to independent variables was met sufficiently in the study's sample as Green (1991) outlines, the minimum sample size required for multiple regression with a power of .80 and $\alpha = .05$ with 8 independent variables (IVs) is 108 (Green, 1991). A commonly used rule of thumb (8m +50) (c.f Field 2005) also confirmed the sufficiency of the size of the study's sample.

Each variable in the regression model was screened for univariate outliers using SPSS - Explore prior to analysis. The normal distribution of the sample was checked via histograms and skewness and kurtosis values were within an acceptable range for the continuous variables (< ± 2.0; Ferguson & Cox, 1993). In order to check the linearity assumption, examination of residual plots (plots of the standardized residuals as a function of standardized predicted values) was used for each regression analysis completed. The assumption of homoscedasticity was checked by the visual examination of the plots of the standardized residuals (the errors) and the regression standardized predicted value. Additionally, the correlations amongst the predictor variables (parenting experiences, attachment styles and perceived support) included in the study were examined. All correlations were weak to moderate (see Appendix L). This indicates that multicollinearity was unlikely to be a problem (see Tabachnick and Fidell, 2007). Furthermore the multicollinearity and singularity assumptions were checked via examination of VIF values. The VIF statistic for the predictors were below the cut off criterion of VIF >= 10 (Field, 2009). Finally, in relation to the statistical assumption of independence of errors, the Durbin-Watson statistic (d = 1.908) indicated a very small positive autocorrelation, but one that was well within the liberal cut off range of 1-3 (Field, 2009) and the conservative cut off range of 1.5-2.5 (Garson, 2008, c.f. Field, 2009).

Following a satisfactory examination of assumptions of multiple regression analysis, a series of hierarchical (sequential) regression analyses were conducted with general mental health symptoms (PDSQ total scores), depression and anxiety subscale scores as outcome variables. As presented in Appendix K, preliminary analysis revealed that PDSQ total and PDSQ anxiety specific and EPDS scores varied according to some of the demographic variables of the sample. Therefore, where relevant, the demographic variables were entered into the

hierarchal regression in order to control for their influences on general and mental health scores. The order of the variables entry into the regression analysis was informed by the substantially available research and was theory driven. There were data from 128 listwise cases. The descriptive statistics of measures, used in study 3 are presented in Table 2.7.

Table 2.7 *Descriptive statistics of predictors and dependent variables (Listwise N =128)*

Participants	N	Min	Max	Mean	SD
Attachment -Anxiety (ECR- R)	151	1.00	6.56	2.87	1.43
Attachment -Avoidance (ECR -R)	146	1.00	6.50	2.69	1.35
Memories of Parental Rejection (EMBU-S)	144	2.00	8.00	3.26	1.35
Memories of Parental Emotional Warmth (EMBU-S)	144	2.00	8.00	5.68	1.67
Memories of Parental Over Protection (EMBU-S)	144	2.33	7.78	4.52	1.28
Perceived Support- Health	196	1.00	5.00	2.41	1.17
Perceived Support - Close Family	189	1.00	5.00	2.98	1.27
Perceived Support – Partner	196	1.00	5.00	3.63	1.33
PDSQ – OCD	192	0.00	7.00	0.83	1.32
PDSQ – Panic	189	0.00	8.00	1.94	2.42
PDSQ – PTSD	175	0.00	15.00	6.08	4.35
PDSQ - Major Depression	173	0.00	18.00	6.84	4.89
PDSQ – Agoraphobia	175	0.00	10.00	1.87	2.47
PDSQ - Social Phobia	171	0.00	13.00	4.30	4.20
PDSQ – GAD	173	0.00	10.00	5.30	3.53
PDSQ Total	169	0.00	72.00	27.86	16.85
EPDS	154	0.00	28.00	13.89	6.39

2.3.6 Data Analysis - Study 2 : Mediational Relationship between perceived support from significant others, attachment dimensions (anxiety - avoidance) and mental health symptoms following perinatal trauma (s)

Mediation Analysis

Mediation analysis (Preacher & Hayes, 2008) was used to analyse the mediational role of the attachment dimensions, anxiety and avoidance in *Study 2* (in Chapter 4). Mediation analysis aims to analyse whether an independent variable (*IV*) directly influences a dependent variable (*DV*) as well as if the *IV* influences the *DV* via a mediating variable (*MV*). The *MV* is also referred to as an intervening or process variable (Tabachnick & Fidell, 2007). In other words, *IV* influences the *DV* through *MV*, therefore the mediator variable is the actual variable which explains the *IV* 's influence on *DV*. There have been several approaches proposed in order to test mediational analysis. Baron and Kenny's (1986) causal step approach is the most widely used technique. In this approach in order to test mediational relationship, the estimates of each of the paths in a model are determined and then a set of statistical criteria are tested in order to establish the mediational relationship. Figure 2.2 a mediational relationship between *IV* through *M* on *DV*. Figure 2.3 presents direct influence of *IV* on *DV*.

According to Barron and Kenney in order to test a mediation relationship, there should be a direct relationship between *IV* and *DV*. However, meditational analysis can be carried out in the absence of direct relationship between *IV* and *DV* according to Peacher and Hayes (2008). Hayes (2009) states that "if *X*'s effect on *Y* is partly a result of an indirect effect through *M* then this criterion is unlikely to detect this effect and this case it is possible to accept he null hypothesis, when in fact there is an indirect effect present". Furthermore, mediation analysis is an approach to test the mediating or intervening effects of variables, so even if *X* and *Y* are not related to one another, it is still possible for *M* to be causally related to *X* and *Y*.

In a simple mediation model as presented in Figure 2.2. "*The path c 'represents the direct effect. Complete mediation is defined* as *"the case in which variable X no longer affects Y after M has been controlled and so path c' is zero. Partial mediation is the case in which the path from X to Y is reduced in absolute size but is still different from zero when the mediator is introduced"*(Kenny, 2013).The *total effect* then is sum of *direct effect* and *indirect effect* or can be formulised as c = *c'* + *ab.* In Kenny and Baron's model the *indirect effect* is the reduction of *the effect* of X on Y, and is formulised as ab = c - c'. As indicated by Kenny, (2013) other recent mediational analyses such as Peacher and Hayes' 'Indirect' method suggests that the *indirect effect* or *ab* is the measure of the amount of mediation". The causal step approach has been critisised due the fact that the model does not directly test the intervening effect, the existence of an indirect effect is deducted based on a set of hypothesised outcomes. Hayes (2009) states that "in the language of path analysis c′ quantifies the direct effect of *X*, whereas the product of *a* and *b* quantifies the indirect effect of *X* on *Y* through *M*"(pg. 409).Preacher and Hayes (2008) formulate the indirect effect as *c*′ = *c* – *ab* instead. In Preacher and Hayes' model for the 'full mediation': while paths *a* and *b* are significant, path *c*′ is required to be not significant. If, however, path *c*′ was also significant then a partial mediation relationship can be reported.

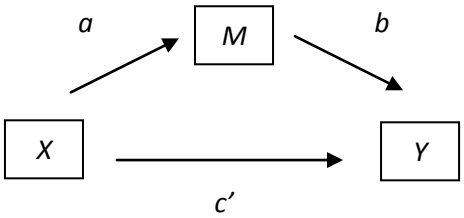


Figure 2.2 Simple Mediation Model. c′ is the direct effect of X; product of a and b quantifies the indirect effect of X on Y through M.

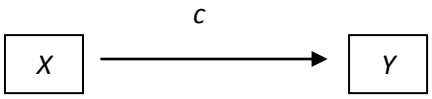


Figure 2.3 Total Effect of X on Y.

In order to determine the indirect effects of the *ab* paths, in mediation analysis as described by Preacher & Hayes, (2008) a bootstrapping (Efron & Tibshirani, 1986) technique is used. It evaluates the properties of the sampling distribution from the sample set in hand (Field, 2009). In this method, the smaller samples are repeatedly taken from the main sample. The statistic calculations (i.e., *b* coefficient) are calculated for each of the samples taken, from which the sampling distribution is estimated. From the standard deviation of the re-sampled distribution a standard error is estimated, this is then used to determine the confidence intervals and tests of significance (Field, 2009). There are different methods for computing confidence intervals: the percentile method, the bias-corrected (BC) method, the bias-corrects and accelerated (BCa) method, and the approximate bootstrap confidence (ABC) method (Efron & Tibshirani, 1986). In this study the most commonly used percentile, BC and the BCa methods for CI were reported. The indirect effect's value is zero and zero must not be contained between the lower and upper bound of the intervals (Hayes, 2009; Preacher & Hayes, 2008). A macro developed by Preacher and Hayes (2008) named 'Indirect' was used in order to calculate indirect effects along with the bootstrap confidence intervals for the indirect effects. In order check mediation analysis assumption multicollinearity was assessed using the variance of inflation (VIF) and the tolerance (T) statistic (these are reported in the study 2) as set out by Field (2009).

2.3.7 Data Analysis – *Study 3* : Difference in trauma with loss and trauma without loss

In order to investigate whether trauma with or without loss of the infant resulted in greater psychological distress, a series of univariate variance analyses were carried out on the mental health scores of women who experienced perinatal loss with infant loss and women who experienced perinatal trauma without infant loss. (Differences in mental health scores by demographic variables were also checked by t test and chi square analysis and presented in *Study 3*). A series of one-way ANOVAs were conducted to examine mean differences between the type of trauma experiences in PDSQ total and PDSQ subscales. Assumption of ANOVA was tested for the sample scores. Groups were defined according to whether the trauma experience consisted of a loss or not. The 'Trauma with loss' group included miscarriage, stillbirth, neonatal death and ectopic pregnancy experiences whereas the 'Trauma without loss' group included women who experienced difficult childbirth with a surviving healthy baby. The demographic information about the sample used in study 3 is presented in Table 2.8 and 2.9.

Table 2.8 *Number of women experiencing trauma with and without loss*

Age	N	Minimum	Maximum	Mean	SD
Trauma without loss	66	19	40	31.27	4.87
Trauma with single loss	77	18	46	31.01	6.04

Table 2.9 *The demographic characteristics of the sample for Study 3*

		Trauma without loss		Trauma without loss	
		N	%	N	%
Relationship	Single	1	1.5	3	3.9
	In a Relationship	14	20.9	12	15.6
	Married	52	77.6	62	80.5

Table 2.9 *The demographic characteristics of the sample for Study 3*

		Trauma without loss		Trauma without loss	
Education	school education	3	4.5	13	16.9
	post school	18	26.9	21	27.3
	degree level	32	47.8	18	23.4
	postgraduate level	13	19.4	22	28.6
Job Status	Unemployed	3	4.5	5	6.5
	Unskilled	7	10.4	11	14.3
	Semiskilled	17	25.4	20	26.0
	Skilled	28	41.8	30	39.0
	Managerial /Professional	12	17.9	8	10.4
English First Language	Yes	62	92.5	70	90.9
	No	5	7.5	7	9.1
Country Origin	Canada	1	1.5	4	5.2
	Australia	1	1.5	4	5.2
	US	3	4.5	25	32.5
	UK	59	88.1	22	28.6
	Europe	3	4.5	22	28.6
Previous Mental Health Problem	Yes	24	35.8	13	16.9
	No	43	64.2	64	83.1

2.4 Method: Qualitative Design (Study 4)

This thesis firstly presents one IPA study, where the focus was on the individual's experience of perinatal loss, and their relationship with their subsequent infant was the main concern. Secondly, four case studies are presented, where the focus was on the parenting experiences of mothers who experienced perinatal loss.

2.4.1 Qualitative Design - Recruitment and Participants

2.4.1.1 *Recruitment*

The recruitment was carried out via internet based social support websites: Magic Mums; Net Mums; Facebook groups (Miscarriage, Stillbirth); Twitter - After Stillbirth and a US based stillbirth forum - Share. Women who expressed interest in the study were provided with the information leaflets for the study (Appendix I) and were requested to indicate their preference with regards to the different studies involved in the research project, if they were eligible for two studies (which were advertised at the same time). Study 4 was open to women whose *first* pregnancy ended with stillbirth and had subsequently had a living infant, who was aged between 3 months and 4 years. This time interval was chosen so that mothers had had some time reflect on their experiences and had some time to adjust physically and mentally to their trauma experiences.

2.4.1.2 *Participants - Study 4*

In total, 8 mothers expressed interest in this study. After giving consent, participants answered the first question of the study and sent their written account as requested. However, one of the participants did not reply to the second email; where she was ask to clarify some of her experiences that she shared in her first email. Another participant only replied to the first email where the first question of the study was asked. Two follow up emails were sent to check whether the participants had a problem in receiving the email or if they required further time for completion. However, no response was received from the participants. Speculative reasons for this non-compliance could be that the participants found that focusing on the loss of their infant was perhaps more emotionally demanding than they expected, or that they lacked time due to caring their young infant, or that there was a change in personal circumstances. However, it is also possible that for both participants the main reason for

taking part in this research was to find an outlet and be able to talk about their loss. When the focus of the questions of the research moved to the other aspects of stillbirth experience, they might not have wanted to continue any longer beyond the loss itself.

The remaining 6 out of 8 participants constituted the purposive sample of the study. Three participants were from the US, two participants were from the UK and one participant was from Turkey. Four participants' first pregnancy ended up with stillbirth and was followed by a live birth. In addition, one of the participants had a twin first time pregnancy which ended with a stillbirth, and premature birth which was followed by neonatal death. She then gave birth to a living infant. Her stillbirth experiences and her relationship with her living daughter were shared in this research. Another participant was told in her late twenties that she may not be able to conceive children after having her first daughter from her previous relationship. However, she then became pregnant and experienced a stillbirth in her second marriage. Although, unlike other participants in that she had a 12 year old daughter from a previous relationship, the experience of this participant resembled the rest of the participants in the sense that her first pregnancy in her new relationship had ended in stillbirth and she was also not sure if she could conceive a baby like first time mothers. Therefore, this participant's account was included in the study. The time gap between the stillbirths to live births varied from 15 to 20 months for the remaining participants. The living infants of all the participants were aged 4 months to 4 years old.

2.4.2 Qualitative Procedure & Measures

2.4.2.1 *Procedure*

The participants for Study 4 were contacted via email and were requested to give a written account of their experiences. The data collected were kept confidential in secure password

protected electronic documents. For the purpose of the research the participants' personal and contextual characteristics were taken out and pseudonyms were used instead. Participants of the study were asked to write freely as much as, or as little as, they would like to write about their accounts. Overall, four open ended questions were asked to participants. In addition, they were also requested to provide further explanations about their accounts to clarify some aspects of their shared experiences. In total 6-8 emails were exchanged between the researcher and the participant. After completing a consent form and a demographics questionnaire, participants were firstly asked about their stillbirth experiences. Secondly, they were asked about their experiences of the subsequent pregnancy, thirdly their memories of giving birth to their living infant and finally their relationship with their living infant were examined. Each participant completed the email interviews within a of time range varying from 8 weeks to 12 weeks. They were then provided with debriefing information about the study (Appendix H). The recruitment and data collection were completed over a one year period.

2.4.3 *Qualitative Data Analysis*

An interpretative phenomological analysis (IPA) was used in focusing on mothers' perinatal loss and their relationship with their subsequent infant.

2.4.4 Data Analysis Study 4: Interpretative Phenomological Analysis

A semi – structured interview (Smith, 2005) was carried out via email, and the transcripts from the written accounts were analysed using interpretative phenomenological analysis (IPA; Smith, Flowers & Larkin, 2009). A semi structured interview was chosen to gain a detailed picture of accounts of mothers' experiences. This interview was carried out by email to give participants time and space for remembering and reflecting on their own experiences without

being overwhelmed. Accounts were then analysed using IPA, which consists of case by case analysis of a number of accounts in a particular context and provides in-depth understanding of the meaning of a shared experience. Analysis firstly focused on how women make sense of their experiences of their stillborn baby and their relationship with their subsequent infant. Secondly, how women's account of their stillbirth experience related to existential, cognitive (Appraisal) and developmental (Attachment Theory) components were presented.

The process set by Larkin & Thompson (2012) was taken as a guide and the following procedure was adhered to during the analysis of participants' accounts see Table 2.10. (Also see Appendix J for the examples of the process, described below).

Table 2.10 *Steps taken for the IPA*

1.	Prepared transcripts for analysis (pseudonyms were given, contextual details were taken out and line numbers inserted). (By first author)
2.	Free coding followed up by a close, line-by-line analysis, was completed to understand each participant's concerns and observed claims. (By first author)
3.	Emerging themes were then established for each individual case in conjunction with regular supervisions. (By first & second author)
4.	Then, from the researcher's own understanding of theoretical frameworks in Psychology and from reflections from her own stillbirth experience, an interpretive dialogue was established and this was also highlighted in each transcript. (By first & second author)
5.	For each case a narrative overview, summarising emerged themes and the researcher's own interpretation and speculation for each case, along with the line by line coded transcripts, was established.(By first & second author)
6.	All participants' identified themes were presented side by side in a table for general visual overview. This was then used towards establishing the structure of the main and sub themes.(By first & second author)

7. Then all participants' experiences were tabulated, this time according to the established structure and presented in a table in which theparticipants' contribution was indicated. (By first author)
8. A narrative of women's experience, evidenced by extracts from participant's accounts, was then developed in conjunction with the established structure. (By first author)
9. The final analysis and interpretations were also overseen by the 3th and 4th authors, and the overall findings in relation to perinatal loss, attachment and mental health literature were assessed.

2.5 Summary

In this thesis a mixed methodology was used in four main studies, in addition to a preliminary and a descriptive study, were set up. The summary of the variables of the studies is presented in Table 2.12.

Table 2.11 Summary of IV and DV variables of studies in this thesis

Name of Study	Independent Variables (IV)	Dependent Variables (DV)
Preliminary Analysis	Demographic variables	General and Specific mental health scores measured by PDSQ and PDSQ subscales
Study 1	Memories of parental rearing experiences (over protecting, emotional warmth and rejecting) Attachment dimensions (attachment anxiety and attachment avoidance) Perceived emotional support from significant others (a. emotional support from health practitioner ; b.	General and Specific mental health scores measured by PDSQ and PDSQ subscales (PDSQ total, PDSQ OCD, PDSQ Panic, PDSQ PTSD, PDSQ Social phobia; PDSQ Agoraphobia; PDSQ GAD; PDSQ Major Depression) & EPDS

Name of Study	Independent Variables (IV)	Dependent Variables (DV)
Study 1(continues)	emotional support from partner; c. emotional support from close family)	
Study 2	Attachment dimensions (attachment - anxiety and attachment - avoidance) Perceived emotional support from significant others (a. emotional support from health practitioner ; b. emotional support from partner; c. emotional support from close family)	General mental health scores measured by PDSQ
Study 3	Type of perinatal trauma experiences (trauma with or without loss)	General and Specific mental health scores measured by PDSQ and PDSQ subscales & EPDS Attachment dimensions (attachment - anxiety & attachment- avoidance)
Study 4	Qualitative study – IPA	

3 CHAPTER III ‘Perinatal Trauma’ ‘Attachment Styles’ ‘Parental Rearing’ ’Support & Mental Health

3.1 Introduction

This chapter aims to examine the predictors of perinatal mental health problems, following a perinatal trauma experience within the framework of attachment theory. This was achieved over three studies. A *preliminary study* examined whether mental health problems differed based on demographic variables (presented in Appendix K), to determine which needed to be accounted for in subsequent analyses. *Study 1* examined attachment styles, parental rearing experiences, emotional support from significant others in predicting perinatal general and specific mental health symptoms. *Study 2* looked into mediational relationships between perceived emotional support from significant others and attachment dimensions (attachment anxiety and attachment avoidance) in predicting postnatal mental health.

3.2 *STUDY 1*: The Predictors of Mental Health Problems of Mothers who experienced perinatal trauma: How Attachment Anxiety -Avoidance, Memories of Parental Rearing Experiences and Perceived Support predict postnatal mental health.

ABSTRACT

Objective: This study examines the relationships between mental health, attachment styles, perceived social support, and memories of parental rearing experiences of women who have experienced perinatal trauma. It aims to enhance the current understanding of the relationship between these variables, particularly with regards to postnatal anxiety following perinatal trauma experiences. **Method: The sample consisted of** 198 Mothers (Mean age = 31.46)

from the UK, US / Canada, Europe, Australia/ New Zealand, who had experienced stillbirth, neonatal loss, ectopic pregnancy, and / or traumatic birth in the last 4 years. **Results:** Findings indicated that high levels of parental rejection, high levels of attachment anxiety, and low levels of emotional support from health professionals predicted the poorest mental health outcomes for these women who experienced perinatal trauma. Furthermore, when attachment styles, parenting experiences, and relevant demographic variables were controlled for in analyses, emotional support from significant others did not explain unique variance in general mental health scores, but it was a significant predictor in overall models in predicting PDSQ total scores as well as specific scores of anxiety (PTSD, panic, social phobia) and depression (major depression and postnatal depression)[2].

3.2.1 Introduction

Perinatal traumas and mental health link

Perinatal traumas have been identified as predictors for postnatal mental health problems in women (Soet, Brack & DiIorio, 2003). It is expected that prenatal loss will become a more significant problem due to the increasing use of fertility services (Bennett, Litz, Lee & Maguen, 2005). It has also been reported that 15% to 25% of women who experience perinatal loss may suffer from adjustment problems and seek professional help for their mental health (e.g. Bennett et al., 2005; Hughes, Turton, Hopper & Evans, 2002). Postpartum anxiety and depression, two predominant resulting mental health issues, have both been

[2] Some of the findings of this study was presented at the European Congress of Developmental Psychology (ECDP) 2011 and 2013 and also at the Conference of Society for Reproductive and Infant Psychology (SRIP), 2012

shown to have negative prolonged consequences for the woman, the infant, and the family (Buss, Davis, Hobel & Sandman, 2011; Field, 1994; 2010).

Depression in the postpartum period has been studied extensively (O'Hara & Swain,1996 ; Whiffen & Gotlib,1993). Although depression and anxiety frequently co-occur (Maser & Cloninger, 1990), anxiety disorders without depression symptoms are also widespread (Brown, Campbell, Lehman, Grisham, & Mancill, 2001). There is, however, a limited amount of research focused on understanding postpartum anxiety disorders and their symptoms (Heron, 2004; Ross & McLean 2006 ; Stuart, Couser, Schilder, O'Hara, & Gorman, 1998). Whilst obsessive compulsive disorder (OCD) and postpartum post-traumatic stress disorder (PTSD) have received considerable research interest (Abramowitz, Franklin, Schwartz & Furr, 2003; Bailham & Joseph, 2003; Beck, 2004a; McGuinness, Blissett & Jones, 2011), there is limited research on perinatal panic disorder (Rambelli et., 2010), agoraphobia, social phobia (Murray ,Cooper, Creswell, Schofield & Sack, 2006), and generalised anxiety disorder (GAD) (Lim et al., 2005; Moss, Skouteris, Wertheim, Paxton, & Milgrom (2009).

Attachment and mental health link

The link between attachment and mental health problems can be explained by the attachment theory's comprehensive framework. This suggests that it is an individuals' tendency to seek support from others in order to regulate negative affect under stressful conditions. According to the theory, early care-giving experiences lead to stable internal working models in which the worth of the 'self' and of 'others' is established, and this consecutively establishes affect regulation. Bowlby (1973) outlined strategies of affect regulation, with regards to attaining an individual's attachment needs. Bowlby (1988) proposed that attachment security can only be established where an individual senses that the world is a safe place and he/she can rely on

others. Thus one can explore further and rely on other people. However, when significant others are unresponsive to one's needs and proximity seeking does not bring relief then a sense of attachment security cannot be achieved. This then lead the formation of negative self and others representations (e.g. doubts about self's worth and other's good will) and secondary attachment strategies are developed for affect regulation without proximity seeking (e.g. avoidant strategies). Similarly, Shaver and Mikulincer, (2002), in their 'integrative model of the activation and dynamics of the attachment system', explain how secure based strategies are used to alleviate stress, whereas, insecure based affect regulation strategies involve hyperactivation and deactivation of the attachment system.

In adulthood, the attachment styles observed are based on these earlier working models of the self and others' worth, and can be classified as secure and insecure. While insecure attachment styles (anxious/avoidant) have been correlated with higher levels of depression and anxiety symptoms, secure attachment styles have been linked to better mental health outcomes (Bifulco et al., 2006; Mickelson, Kessler & Shaver, 1997). Secure individuals present an autonomous standing point when evaluating and integrating their previous early care –giving experiences, and function flexibly. On the other hand, insecure individuals use more defensive strategies in order to avoid or deactivate the attachment system, which in return lessens their capacity to utilise available support (Carlson, Sampson, & Sroufe, 2003).

Several studies have examined the link between attachment and mental health. For example, the role of attachment styles in relation to negative childhood experiences and vulnerability to depression was studied by West, Spreng, Rose, and Adam, (1999). They found insecure attachment styles were strongly associated with severity of depressive symptoms in adulthood. Further research revealed associations between poor mental health symptoms in

adults and insecure attachment (Bifulco et al., 2006; Gerlsma & Luteijn 2000; Myers & Vetere, 2002; Marazziti et al., 2007; Mikulincer, Florian, & Hirschberger, 2003; William & Riskind, 2004). Schwarts and Pollard (2004) discussed an aetiological approach in understanding and intervention for persistent mental health problems where attachment theory was discussed as an important framework for screening vulnerabilities for poor mental health. More recently, Morley and Moran (2011), in their comprehensive review, discussed a model for possible pathways linking early attachment experience to later mental health problems, and reviewed the available empirical support identifying further areas of research needed in order to explain the link between early experiences, cognition, dysfunctional affect regulation, and vulnerability to mental health symptoms, particularly depression.

However, only recently, there has been interest in using an attachment theory framework to understand the risk factors for perinatal mental health problems. Bifulco et al., (2004) examined attachment styles in relation to antenatal and postnatal depression scores and revealed that an insecure avoidant attachment style was associated with depressive symptoms in the antenatal period, whereas, an insecure anxious style was associated with postnatal disorder. McMahon, Barnett, Kowalenko and Tennant (2005) examined the role of insecure attachment styles in relation to the persistence of postnatal depression and revealed that an insecure attachment style (measured by self - report measures) mediated the effect of low maternal care in childhood on persistent depression. Furthermore, McMahon, Trapolini and Barnett (2008) used the Adult Attachment Interview (AAI) as an attachment measure and established that AAI classification and depression symptoms four months after giving birth were the only significant predictors of persistent depression at four years postnatal. They argued that persistent postnatal depression needs to be viewed in the context of inter-generational family problems, as discussed in attachment theory (Bowlby, 1973; Bretherton,

1990). However, the attachment styles - postnatal anxiety link still needs to be investigated further. This study expects high attachment anxiety and avoidance to be related to increased mental health problems following perinatal trauma(s).

Memories of parental rearing styles, attachment and mental health link

In an attempt to establish the possible predictors of mental health problems, two strands of research have examined the early influence of parenting styles and the individual's own attachment style on mental health problems. These early influences both play a role in the later utilisation of available support. The parenting and attachment literature have strong links with each other and both suggest negative critical parenting styles and caregiving to be associated with vulnerability to later mental health problems (Parker, 1983). However, attachment theory (Bowlby, 1973) also postulates that, not only are the negative early experiences influential, but that the person's evaluation of such experiences are critical when it comes to seeking out and utilising available support during stressful situations. Adults with secure attachments are able to evaluate autonomously: reflect their early childhood experiences through acknowledging both negative and positive aspects of their experiences in an open style and be flexible in their thinking. Adults with insecure attachment, however, have difficulties in such evaluations and may deactivate attachment related behaviour under stressful situations (e.g seeking for support) (Shaver & Mikulincer, 2002).

Particularly, parenting styles featuring low warmth, a high level of criticism, and high control have been consistently associated with the development of anxiety disorders in adults (Barlow, 2002). Critical unsupportive parental rearing behaviour is also known to predict vulnerability to depression in adulthood (Bifulco, Brown & Harris, 1994; Parker, 1983). It has also been found that low parental care and parental overprotective rearing behaviour during childhood are predictors of postnatal depression (Boyce, Hickie & Parker, 1991; Matthey,

Barnett, Ungerer & Waters, 2000). For anxiety disorders, parenting style, specifically parental overprotection and rejection, have been reported to be associated with social phobia (Lieb et al., 2000). OCD especially has been reported to be the most common postpartum anxiety disorder (Abramowitz et al., 2003), and parental influences have also been examined in relation to the development of OCD (Cavedo & Parker, 1994; Turgeon, O'Connor, Marchand & Freeston, 2002). However, inconsistent findings have been reported in terms of parenting rearing style influences on development of OCD. For example, Cavedo & Parker 1994 reported that sub – clinical obsessive-compulsive subjects perceived their parents as more rejecting, overprotecting, and less emotionally warm than normal controls. Alonso et al., (2004) compared healthy controls with OCD patients and found that the OCD patients perceived higher levels of higher parental rejection, but no differences in their overprotecting parental rearing experiences. Although, low levels of emotional warmth partially predicted OCD (Hoarding symptoms within the OCD patient sample). Turgeon, et al., (2002), however, reported no differences in parental rearing experiences between OCD patients and healthy subjects. However, parental rearing experiences have yet to be explored in relation to postpartum anxiety disorder (Abramowitz et al., 2003). In the light of this literature it is expected that recollections of a negative /critical rearing style will be associated with greater perinatal mental health problems of women who experienced a perinatal trauma (s).

Social support and mental health

Some studies have examined the link between social support and mental health in the context of trauma and adjustment, and have shown that poor support and adverse childhood experiences are associated with vulnerability to mental health problems (Badenhorst & Hughes, 2007; Cohen & Wills, 1985; Leavy, 1983; Lemola, Stadlmayer, & Grob 2007; Muller & Lemieux, 2000). Poor social support has also been associated with vulnerability to

both general depression and anxiety disorders (Brown, Andrews, Harris, Adler, & Bridge,1986; Grav, Hellzèn, Romild, & Stordal, 2012). Furthermore, social support was found to have a protecting role in the effects of trauma and mediating stress (Lehman, Ellard & Wortman, 1986). In the perinatal period, Cacciatore, Schnebly and Froen (2009) reported that people who perceived having good social support (particularly, emotional support) from doctors, nurses, and family members had lower levels of both anxiety and depression than those who did not perceive themselves as having received such support following a perinatal trauma.

It is also important to note that, from a theoretical and empirical point of view, attachment and support are interrelated constructs. For example, it was reported that whilst individuals with highly anxious attachment styles seek support, they perceive less support than their partners believe they have offered (Rholes, Simpson, Campbell & Grich, 2001) and less support than objective raters observed (Collins & Feeney, 2004). The findings of Florian, Mikulincer and Bucholtz (1995) also showed that people with secure attachment perceived and sought out higher levels of both emotional and instrumental support than insecure individuals. More recently Iles, Slade and Spiby (2011) indicated that insecure attachment was associated with low support satisfaction in couples after childbirth , Therefore, it is expected that women who have experienced a perinatal trauma (s) and who have insecure attachment style will be more likely to perceive their partner's support as inadequate and will report less satisfaction with their partner's support.

There has only been limited examination of the interrelated nature of support and attachment styles in predicting mental health problems (Moreira et al., 2003; Muller & Lemieux, 2000 ; Perrier, Boucher, Etchegary, Sadava, & Molnar, 2010). The findings indicate that support alone does not explain individual variation in adjustment related outcomes in

response to trauma, further than does attachment styles. There is scarce research examining attachment in relation to perinatal /postnatal mental health symptoms. One study conducted by Iles, Slade and Spiby (2011) examined the roles of partner attachment and perceptions of partner support in relation to PTSD and depression symptoms in couples after childbirth. This study suggested that high postpartum depression and PTSD scores were predicted by insecure attachment and dissatisfaction with partner support.

Aims

Therefore, this study aims to investigate the effects of perinatal loss and difficult childbirth on the mothers' postpartum mental health, with a particular focus on the role of attachment in predicting symptoms of anxiety disorders, including, obsessive compulsive symptoms, post-traumatic stress, panic, agoraphobia, social phobia and generalised anxiety symptoms as well as symptoms of depression. It aims to understand the predictive properties of memories of parental rearing, attachment dimensions (attachment anxiety, attachment avoidance), and perceived emotional support from significant others on mental health symptoms of women who experienced prenatal / postnatal trauma(s). This is the first study to examine the use of an attachment theory framework to predict the anxiety specific, as well as general, mental health of women who have experienced perinatal or postnatal trauma (s).

Research Questions

1. Do memories of parental rearing predict general and specific mental health symptoms?
2. Do attachment dimensions (attachment-related anxiety/ attachment – related avoidance) predict general and specific mental health symptoms of women who experienced prenatal or postnatal trauma when the effects of recollections of being parented are controlled for?

3. Does perceived emotional support from significant others predict general and specific mental health symptoms when the effects of attachment anxiety and avoidance, and memories of parental rearing are controlled for?

3.2.2 Method

Sample

198 mothers (Mean age=31.46) from UK, US/Canada, Europe, Australia/ New Zealand who experienced perinatal/postnatal loss(es) or trauma (stillbirth, neonatal loss, ectopic pregnancy and / or traumatic birth) in the last 4 years were included in this study. The demographic characteristics of the sample are presented in Chapter 2, Method section).

Measures

Participants completed, along with a demographics questionnaire, the Psychiatric Diagnostic Screening Questionnaire (Zimmerman & Mattia, 2001); EMBU - My Memories of Childhood On My Memories of Upbringing; Perris, Jacobsson, Lindstrom, von Knorring, & Perris, 1980); Perinatal Experience and Support Questionnaire (Budak, Harris & Blissett, unpublished) and the Experience in Close Relationships–Revised Scale (Fraley, Waller & Brennan (2000). Further explanations can be found in the Methods section, Chapter 2, for the measures of the study.

Procedure

Participants completed an online survey where they had access to the information about the study. Participants were asked to give consent to take part in the study only after they had read the information leaflet for the study. The data were collected anonymously.

3.2.3 Data Analysis

Hierarchical multiple regression analysis was used to examine the study's proposed predictors for women's general and specific mental health symptoms. Due to the fact that there is strong evidence for the proposed predictors of study in relation to mental health problems, a theory driven approach was chosen to determine these predictors of perianal mental health, and taken as a guide for the sequential order of the entry of the IVs. (For additional information and descriptive features of data also see Chapter 2 – General Methodology)

A preliminary analysis consisting of one way ANOVAs and Pearson's product-moment correlation coefficients (r) was conducted to explore demographic variable differences in the total mental health symptoms scores measured by the PDSQ and its subscales (OCD, Panic, PTSD, Major Depression, Agoraphobia, Social Phobia & GAD) and EPDS scores. Demographic variables which have an influence on general and specific mental health problems were identified. (See Appendix K for further information).

A series of hierarchical regression analyses were then used to assess the hypotheses that attachment styles (attachment anxiety and attachment avoidance), memories of parenting experiences and perceived emotional support from significant others predict the general and specific mental health symptoms of women who experienced trauma (loss and difficult child birth during and after pregnancy). If a demographic variable was correlated with an independent variable it was controlled at the first step of the regression analysis (see Appendix K for the preliminary analysis results).

General mental health scores, measured as PDSQ total scores, were predicted by memories of parental rearing, attachment and perceived emotional support from significant others and are presented in Table 3.1. Then, anxiety specific mental health scores assessed by the PDSQ

sub scales and depression specific mental health scores, measured by the EPDS and PDSQ were predicted by memories of parental rearing, attachment styles and perceived emotional support from significant others and presented in Tables 3.1 to Table 3.9. (Descriptive information for the measure can be found in Table 2.7 in Chapter 2).

3.2.3.1 *Hierarchical regression analyses - examining the predictor for general mental health*

A series of hierarchical regression models were constructed to examine the utility of memories of parental rearing, attachment styles (attachment anxiety & attachment avoidance) and perceived support in predicting the self-reported general mental health problems measured by the PDSQ measure (Table 3.1).

In the first step of hierarchical multiple regression (Table 3.1), memories of parental rearing (parental rejection, parental emotional warmth and parental overprotection) were entered. This model was statistically significant ($F(3,124) = 4.07$; $p < 0.01$) and explained 9% of the variance in general mental health scores . After the entry of attachment styles into step 2 the total variance explained by the model as a whole was 31 % ($F(5, 122) = 10.92$; $p < .001$). The introduction of attachment styles explained an additional 22% of the variance in mental health symptoms after controlling for memories of parental rearing (R^2 Change =.22 ; $F(2,122) = 19.39$ $p < .001$).

Table 3.1 *Hierarchical multiple regression analysis predicting general mental health symptoms*

	R	R2	R2 Change	B	SE	β	t
Step 1	.299	.090**					
Parental Rejection				5.377	1.621	.413**	3.317
Parental Support				1.675	1.162	.162	1.442
Parental Overprotection				-1.624	1.325	-.122	-1.226
Step2	.556	.309***	.220***				
Parental Rejection				3.519	1.458	.270*	2.414
Parental Support				1.468	1.023	.142	1.435
Parental Overprotection				-1.410	1.172	-.106	-1.203
Attachment Anxiety				6.522	1.169	.524***	5.577
Attachment Avoidance				-.937	1.231	-.072	-.761
Step 3	.591	.350***	.041				
Parental Rejection				3.476	1.433	.267*	2.425
Parental Support				1.597	1.041	.155	1.534
Parental Overprotection				-1.192	1.161	-.090	-1.026
Attachment Anxiety				6.263	1.165	.503**	5.378
Attachment Avoidance				-.351	1.321	-.027	-.265
Support from Health Practitioners				-2.709	1.203	-.178*	-2.253
Support from Partner				-.992	1.154	-.073	-.859
Support from Close family				1.943	1.215	.152	1.600

*$p < .05$; **$p < .01$; ***$p < .001$

At step 3, perceived emotional support from significant others was entered into the model and the model remained statistically significant F (8,119) = 8.00; p <.001 and explained 35% of the variance. However, emotional support from significant others did not significantly contribute to the variance in mental health symptoms after controlling for memories of parental rearing and attachment styles, (R^2 Change = .04; F (3,119) = 2.48; p > .05). In the final model, three out of eight predictor variables were statistically significant, with

attachment anxiety recording a higher Beta value (β = .50, p <.001) than the rejecting memories of parental rearing (β = .27, p < .05) and support from health practitioners (β = -.18, p <.05).

This indicated that when memories of parental rearing (parental rejection, parental support and parental overprotection) and attachment styles (anxiety and avoidance) were controlled for, perceived support from significant others did not predict mental health scores. However, in the whole model, attachment anxiety appeared to be a strong predictor in predicting the mental health symptoms of women who experienced perinatal trauma, along with memories of critical parenting and lower perceived support from health practitioners.

3.2.3.2 *Predicting Specific Symptoms – ANXIETY*

A series of hierarchical regression models were constructed to examine the utility of memories of parental rearing, attachment styles and perceived emotional support in predicting the self-reported anxiety specific mental health symptoms (symptoms namely OCD, PTSD, Panic, Social Phobia, Agoraphobia and GAD) .The results of these analyses are presented below.

OCD

A hierarchical regression model was constructed to examine the utility of memories of parental rearing, attachment styles and perceived emotional support in predicting self-reported Obsessive Compulsive Disorder (OCD) symptoms measured by the PDSQ – OCD subscale.

In the first step of the hierarchical multiple regression model (Table 3.2), 'multiple trauma experiences' was entered because it was a significant correlate of mental health symptom scores (preliminary analysis, see Appendix K). This model was statistically significant (F(1, 131) = 7.78, p < .001) and explained 6 % of the variance in OCD scores. After the entry of

memories of parental rearing into step 2 the model was not statistically significant (F (4,128) =2.23, p > .05). However, after the entry of attachment styles into step 3 the total variance explained by the model as a whole was 23 % (F (6, 126) = 6.22; p <.001). The introduction of attachment styles explained an additional 16% of the variance in OCD scores after controlling for the number of trauma experiences and memories of parental rearing (R^2 Change =.163; F(2,126) = 13.32, p <.001). At step 4, perceived emotional support from significant others, was entered into the model; the model remained statistically significant (F (9,123) = 4.46; p <.001) and explained 25% of the variance. However, support from significant others did not significantly contribute to the variance in OCD scores after for controlling demographic variables, memories of parental rearing and attachment styles (R^2 Change = .01; F (3,123) = .96; p > .05) . In the final model, only two out of eight predictor variables were statistically significant: attachment anxiety (β = .52, p <.001) and the number of trauma experiences (β = .24, p <.01).

Table 3.2 *Hierarchical multiple regression analysis in predicting OCD symptoms*

	R	R2	R2 Change	B	SE	β	t
Step 1	.237	.056**					
Multiple Trauma				.1.733	.621	.237**	2.790
Step 2	.255	.065	.009				
Multiple Trauma				1.757	.634	.240**	2.771
Parental Rejection				.001	.116	.001	.009
Parental Warmth				-.055	.082	-.073	-.673
Parental Overprotection				-.064	.098	-.065	-.650
Step 3	.478	.228***	.163***				

	R	R2	R2 Change	B	SE	β	t
Multiple Trauma				1.777	.584	.243**	3.042
Parental Rejection				-.103	.109	-.107	-.952
Parental Warmth				-.082	.076	-.109	-1.084
Parental Overprotection				-.032	.091	-.032	-.347
Attachment Anxiety				.459	.090	.507***	5.133
Attachment Avoidance				-.230	.095	-.243	-2.428
Step 4	.496	.246***	.018				
Multiple Trauma				1.778	.585	.243**	3.042
Parental Rejection				-.105	.109	-.109	-.965
Parental Warmth				-.090	.079	-.119	-1.135
Parental Overprotection				-.015	.091	-.015	-.162
Attachment Anxiety				.468	.091	.516***	5.121
Attachment Avoidance				-.166	.102	-.175	-1.620
Support from Health Practitioners				-.030	.093	-.027	-.322
Support from Partner				-.014	.089	-.015	-.161
Support from Close family				.157	.094	.167	1.667

*$p < .05$; **$p < .01$; ***$p < .001$

PTSD

A hierarchical regression model was constructed to examine the utility of memories of parental rearing, attachment styles and perceived emotional support in predicting self-reported post-traumatic stress disorder symptoms measured by the PDSQ – PTSD subscale.

In the first step of a hierarchical multiple regression (Table 3.3), the relationship status'being single' was entered as it was a significant correlate of mental health symptom scores (preliminary analysis, see Appendix K). This model was not significant $F(1,127) = 3.75$, $p > .05$, however, the level of non-significance was very close to the critical p value ($p= 0.055$). After the entry of memories of parental rearing into step 2, the model was statistically significant $F (4,124) =3.60$, $p < .01$ and explained 10 % of the variance in PTSD symptoms.

The introduction of memories of parental rearing explained an additional 8 % of the variance in PTSD symptoms (R^2 Change = .15; F (3,124) = 3.48; p < .05). After the entry of attachment styles into step 3 the total variance explained by the model as a whole was 25 % (F (6, 128) = 6.83; p <.001). The introduction of attachment styles explained an additional 15% of the variance in PTSD scores after controlling for relationship status and memories of parental rearing (R^2 Change =.147; F (2,122) = 12.01, p <.001. At step 4, perceived emotional support from significant others, was entered into the model and the model was statistically significant F(9,119) = 5.54; p <.001 and explained 30% of the variance as a whole model . However, emotional support from significant others did not significantly contribute to the variance in PTSD scores after controlling for demographic variables, memories of parental rearing and attachment styles (R^2 Change = .04; F (3,119) = 2.47; p > .05) . In the final model, five out of eight predictor variables were statistically significant; attachment anxiety (β = .35, p <.01), parental emotional warmth (β = -.28, p <.01), parental rejection (β = .27, p <.05), emotional support from health practitioners (β = -.22, p <.01) and relationship status-single (β = .18, p <.05).

Table 3.3 *Hierarchical multiple regression analysis in predicting PTSD symptoms*

	R	R2	R2 Change	B	SE	β	t
Step 1	.169	.029					
Relationship -Single				8.086	4.175	.169	1.937
Step 2	.323	.104**	.075*				
Relationship -Single				8.025	4.190	.168	1.915
Parental Rejection				1.254	.398	.390**	3.150
Parental Support				-.727	.285	-.286*	-2.548
Parental Overprotection				-.532	.325	-.163	-1.636

	R	R2	R2 Change	B	SE	β	t
Step 3	.501	.251***	.147***				
Single				9.524	3.943	.200*	2.415
Parental Rejection				.853	.376	.265*	2.269
Parental Support				-.709	.263	-.279**	-2.695
Parental Overprotection				-.543	.301	-.166	-1.800
Attachment Anxiety				1.198	.305	.392***	3.927
Attachment Avoidance				9.524	3.943	.200	2.415
Step 4	.543	.295***	.044				
Single				8.369	3.950	.175*	2.119
Parental Rejection				.866	.370	.269*	2.342
Parental Support				-.706	.268	-.278**	-2.639
Parental Overprotection				-.542	.299	-.166	-1.815
Attachment Anxiety				1.054	.306	.345**	3.448
Attachment Avoidance				.020	.344	.006	.057
Support from Health Practitioners				-.819	.310	-.221**	-2.642
Support Close family (SF)				.032	.299	.010	.108
Support Partner (SP)				.010	.316	.003	.032

*$p < .05$; **$p < .01$; ***$p < .001$,

Panic

A hierarchical regression model was constructed to examine the utility of memories of parental rearing, attachment styles and perceived support in predicting the self-reported panic symptoms measured by the PDSQ – Panic subscale.

In the first step of hierarchical multiple regression (Table 3.4), memories of parental rearing were entered. This model was not statistically significant ($F(3,128) = 4.13$, $p > .05$). After the entry of attachment styles into step 2, the total variance explained by the model as a whole was 13 % ($F(5, 126) = 3.75$; $p < .01$). The introduction of attachment styles explained 11.3 % of the variance in panic symptoms after controlling for memories of parental rearing (R^2

Change =.113 ; F(2,126) = 8.51 p <.001). At step 3, perceived emotional support from significant others, support from health practitioners, support from partner and support from close family, were entered into the model and the model was statistically significant ,F(8,123) = 3.44; p <.001, and the whole model explained 18% of the variance . In addition, support from significant others uniquely explained an additional variance in panic symptoms after controlling for memories of parental rearing and attachment styles, (R^2 Change = .05; F (3,123) = 2.69; p = .05) at the critical p value (p = 0.049) and explained uniquely 5 % of variance in panic scores. In the final model three out of eight predictor variables were statistically significant, with attachment anxiety recording the highest Beta value (β = .37, p <.01) then perceived emotional support from partner (β = .24, p < .05) and finally perceived emotional support from health practitioners (β = - .18, p < .05).

Table 3.4 *Hierarchical Multiple Regression Analysis Predicting Panic Symptoms*

	R	R2	R2 Change	B	SE	β	T
Step 1	.129	.017					
Parental Rejection				.329	.229	.180	1.437
Parental Support				.125	.163	.087	.768
Parental Overprotection				-.093	.190	-.050	-.491
Step 2	.360	.129**	.113***				
Parental Rejection				.162	.222	.089	.731
Parental Support				.113	.155	.079	.731
Parental Overprotection				-.085	.182	-.046	-.465
Attachment Anxiety				.670	.181	.391	3.699
Attachment Avoidance				-.151	.192	-.084***	-.789
				.162	.222	.089	.731
Step 3	.428	.183**	.428*				
Parental Rejection				.148	.218	.081	.681
Parental Support				.084	.158	.058	.529
Parental Overprotection				-.035	.180	-.019	-.192
Attachment Anxiety				.634	.180	.370**	3.519

	R	R2	R2 Change	B	SE	β	T
Attachment Avoidance				.013	.205	.007	.065
Support from Health Practitioners				-.382	.185	-.184*	-2.071
Support from Close family				-.021	.177	-.011	-.117
Support from Partner				.425	.189	.238*	2.245

*$p < .05$; **$p < .01$; ***$p < .001$

Social Phobia

A hierarchical regression model was constructed to examine the utility of memories of memories of parental rearing, attachment styles and perceived emotional support in predicting the self-reported social phobia symptoms measured by the PDSQ – Social Phobia.

In the first step of a hierarchical multiple regression (Table 3.5), memories of parental rearing (Parental Rejection, Parental Support and Parental Overprotection) were entered. This model was significant, $F(3,126) = 4.42$, $p < .01$ and explained 10 % of the variance in social phobia scores . After the entry of attachment styles into step 2 the total variance explained by the model as a whole was 15 % ($F(5, 124) = 4.43$; $p < .001$). The introduction of attachment styles explained 6% of the variance in social phobia symptoms after controlling for memories of parental rearing (R^2 Change =.117 ; $F(2,124) = 4.12$ $p <.05$). At step 3, perceived emotional support from significant others was entered into the model which was statistically significant ($F(8,121) = 3.79$; $p <.01$) and the whole model explained 20% of the variance . However, support from significant others did not significantly explain additional variance in social phobia symptoms after controlling for memories of parental rearing and attachment styles, (R^2 Change = .05; $F(3,123) = 2.69$; $p > .05$). In the final model, three out of eight predictor variables were statistically significant, with parental rejection recording the highest Beta value ($\beta = .28$, $p <.05$) then perceived emotional support from partner ($\beta = .26$, $p < .05$) and finally attachment anxiety ($\beta = .22$, $p < .05$) .

Table 3.5 *Hierarchical multiple regression analysis predicting Social Phobia symptoms*

	R	R2	R2 Change	B	SE	β	t
Step 1	.309	.095**					
Parental Rejection				1.139	.393	.353**	.733
Parental Support				.070	.280	.027	2.900
Parental Overprotection				-.276	.324	-.084	.250
Step 2	.389	.152**	.056*				
Parental Rejection				.929	.390	.288*	2.381
Parental Support				.088	.274	.034	.321
Parental Overprotection				-.300	.319	-.091	-.940
Attachment Anxiety				.680	.319	.222*	2.129
Attachment Avoidance				.132	.337	.041	.391
Step 3	.448	.200**	.049				
Parental Rejection				.903	.384	.279*	2.351
Parental Support				.061	.281	.024	.217
Parental Overprotection				-.197	.317	-.060	-.621
Attachment Anxiety				.663	.318	.216*	2.082
Attachment Avoidance				.466	.362	.146	1.286
Support from Health Practitioners				-.466	.330	-.124	-1.413
Support from Close family				-.167	.316	-.050	-.528
Support from Partner				.836	.334	.264*	2.506

*$p < .05$; **$p < .01$; ***$p < .001$

Agoraphobia

A hierarchical regression model was constructed to examine the utility of the number of trauma experiences; memories of parental rearing, attachment styles and perceived emotional support in predicting the self reported agoraphobia symptoms measured by the PDSQ – Agoraphobia subscale.

In the first step of a hierarchical multiple regression (Table 3.6), multiple trauma experiences was entered as it was a significant correlate of agoraphobia scores (see preliminary analysis,

Appendix K). This model was not statistically significant F (1,131) = .065, p > .05. After the entry of memories of parental rearing into step 2, the model remained statistically not significant, F (4,128) =31.86, p > .05 . After the entry of attachment styles into step 3, the model remained not significant F(6,126) =1.99, p > .05 . Finally, at step 4, perceived emotional support from significant others was entered into the model but the model remained statistically not significant, F(9,123) = 1.75; p >.05. The proposed model failed to predict Agoraphobia scores.

Table 3.6 *Hierarchical multiple regression analysis predicting Agoraphobia symptoms*

	R	R2	R2 Change	B	SE	β	T
Step 1	.022	.000					
Multiple trauma				-.335	1.315	-.022	-.255
Step 2	.235	.055	.054				
Multiple trauma				-.478	1.312	-.032	-.364
Parental Rejection				.500	.240	.252*	2.086
Parental Support				.257	.170	.165	1.507
Parental Overprotection				.092	.202	.045	.453
Step 3	.294	.086	.031				
Multiple trauma				-.486	1.308	-.032	-.372
Parental Rejection				.411	.243	.206	1.689
Parental Support				.229	.170	.147	1.348
Parental Overprotection				.126	.204	.062	.620
Attachment Anxiety				.417	.200	.223*	2.079
Attachment Avoidance				-.241	.212	-.124	-1.135
Step 4	.337	.114	.027				
Multiple trauma				-.482	1.304	-.032	-.369
Parental Rejection				.412	.243	.207	1.698
Parental Support				.238	.177	.153	1.347
Parental				.164	.204	.081	.805

	R	R2	R2 Change	B	SE	β	T
Overprotection							
Attachment Anxiety				.431	.204	.231*	2.117
Attachment Avoidance				-.094	.228	-.049	-.414
Support from Health Practitioners				-.132	.208	-.058	-.632
Support from Close family				-.142	.198	-.070	-.718
Support from Partner				.401	.211	.207	1.906

p < .05; ***p* < .01; ****p* < .001

Generalised Anxiety Disorders

A hierarchical regression model was constructed to examine the utility of memories of parental rearing, attachment styles and perceived support in predicting the self-reported GAD symptoms measured by the PDSQ – GAD.

In the first step of a hierarchical multiple regression (Table 3.7), memories of parental rearing were entered. This model was statistically significant F (3,127) = 3.13, p >.05. After the entry of attachment styles into step 2 the total variance explained by the model as a whole was 25 % (F (5, 125) = 8.23; p <.001). The introduction of attachment styles explained 18 % of the variance in PTSD symptoms after controlling for memories of parental rearing (R^2 Change =.179 ; F(2,125) = 14.85 p <.001). At step 3, perceived emotional support from significant others was entered into the model which was statistically significant, F(8,122) = 5.53; p <.001, and the whole model explained 27% of the variance . However, support from significant others did not significantly explain any variance in generalised anxiety disorders symptoms after controlling for memories of parental rearing and attachment styles, (R^2 Change =.018; F (3,122) = 1,02; p > .05) . In the final model two out of eight predictor variables were statistically significant, with attachment anxiety recording the higher Beta value (β = .51, p <.001) followed by memories of a rejecting parent (β = .24, p > .05).

Table 3.7 *Hierarchical multiple regression analysis predicting GAD symptoms*

	R	R2	R2 Change	B	SE	β	t
Step 1	.262	.069*					
Parental Rejection				.945	.329	.352*	2.873
Parental Support				.379	.234	.179	1.621
Parental Overprotection				-.161	.272	-.059	-.592
				.945	.329	.352	2.873
Step2	.498	.248***	.179***				
Parental Rejection				.659	.304	.246*	2.169
Parental Support				.348	.212	.165	1.639
Parental Overprotection				-.121	.249	-.044	-.486
Attachment Anxiety				1.300	.248	.513***	5.236
Attachment Avoidance				-.454	.263	-.172	-1.730
Step 3	.516	.266***	.018				
Parental Rejection				.655	.304	.244*	2.153
Parental Support				.397	.220	.188	1.805
Parental Overprotection				-.093	.251	-.034	-.371
Attachment Anxiety				1.286	.252	.508***	5.098
Attachment Avoidance				-.372	.287	-.141	-1.297
Support from Health Practitioners				-.222	.259	-.072	-.856
Support from Close family				-.304	.248	-.110	-1.225
Support from Partner				.301	.264	.115	1.139

$p < .05$; **$p < .01$; ***$p < .001$

3.2.3.3 *Predicting Specific Symptoms – DEPRESSION*

Major Depression scores

A hierarchical regression model was constructed to examine the utility of memories of parental rearing, attachment styles and perceived support in predicting the self-reported major depression symptoms measured by PDSQ – the Major Depression subscale.

In the first step of a hierarchical multiple regressions (Table 3.8), education level and job status were entered into the equation, as these variables were significant correlates of major depression symptom scores (preliminary analysis, see Appendix K). This model was statistically significant F (2,126) = 3.58, $p < .05$ and explained 5 % of the variance in major depression scores. After the entry of 'memories of parental rearing' into step 2, the model remained statistically significant F (5,123) =3.53, $p < .05$ and explained 13% of the variance in major depression symptoms. The introduction of 'memories of parental rearing' explained an additional 7 % of the variance in major depression symptoms (R^2 Change = .07; F (3,124) = 3.36; $p < .05$). After the entry of attachment styles into step 3 the total variance explained by the model as a whole was 34 % (F (7-121) = 9.02; $p < .001$). The introduction of attachment styles explained an additional 22% of the variance in major depression symptoms after controlling for demographic (job and education status) and parental rearing experiences (R^2 Change =.218; F (2,121) = 20.02, $p <.001$). At step 4, perceived emotional support from significant others was entered into the model which was statistically significant, F(10,118) = 7.42; $p <.001$, and the whole model explained 39% of the variance . The introduction of 'emotional support from significant other's significantly contributed to the variance in major depression symptoms after controlling for demographic variables (job and education status), 'memories of parental rearing' and attachment styles (R2 Change = .04; F (3,118) = 2.77; p = .05 . However, this significance was observed near to the critical p value (p = 0.045). In the final model, three out of ten predictor variables were statistically significant, with attachment anxiety recording a higher Beta value ($\beta = .49$, $p <.001$), followed by parental rejection ($\beta =$ .24, $p <.05$), and job status'-being unemployed vs employed', ($\beta = -17$, $p < 05$) and emotional support from health practitioners ($\beta = -15$, $p < 0.5$).

Table 3.8 *Hierarchical multiple regression analysis predicting Major Depression symptoms*

	R	R2	R2 Change	B	SE	B	t
Step 1	.232	.054*					
Below degree				1.895	.894	.184*	2.119
Unemployed				-2.391	1.408	-.147	-1.698
Step 2	.354	.125**	.072*				
Below degree				1.541	.884	.149	1.744
Unemployed				-2.784	1.376	-.171*	-2.022
Parental Rejection				1.431	.464	.380**	3.086
Parental Support				.476	.329	.160	1.445
Parental Overprotection				-.505	.377	-.132	-1.341
Step 3	.586	.343***	.218***				
Education				.648	.786	.063	.824
Job				-2.368	1.213	-.146	-1.953
Parental Rejection				.895	.415	.238*	2.156
Parental Support				.373	.288	.125	1.292
Parental Overprotection				-.462	.332	-.121	-1.394
Attachment Anxiety				1.877	.334	.525***	5.626
Attachment Avoidance				-.220	.350	-.059	-.628
Step 4	.621	.386***	.043*				
Education				1.237	.798	.120	1.550
Job				-2.736	1.221	-.168*	-2.240
Parental Rejection				.889	.406	.237*	2.189
Parental Support				.518	.292	.174	1.770
Parental Overprotection				-.473	.328	-.124	-1.445
Attachment Anxiety				1.748	.333	.489***	5.245
Attachment Avoidance				-.332	.374	-.089	-.889
Support from Health Practitioners				-.663	.342	-.154*	-1.937
Support from Close family				-.545	.328	-.140	-1.661
Support from Partner				.059	.351	.016	.167

$p < .05$; **$p < .01$; ***$p < .001$

EPDS scores

A hierarchical regression model was constructed to examine the utility of 'memories of parental rearing', attachment styles and perceived support in predicting the self-reported postnatal depression symptoms measured by the EPDS. In the first step of a hierarchical multiple regression (Table 3.9), job status was entered, as this variable was a significant correlate of EPDS scores (preliminary analysis, see Appendix K). This model was statistically significant ($F (2,130) = 4.39$, $p = .014$) and explained 6 % of the variance in EPDS scores. After the entry of 'memories of parental rearing' into step 2, the model was statistically significant ($F (5,127) = 2.499$, $p > .05$) and explained 9 % of the variance in major depression symptoms as a whole model. The introduction of 'memories of parental rearing', however did not explain any additional variance in EPDS scores (R^2 Change = .03; $F (3,127) = 1.23$; $p > .05$). After the entry of attachment styles into step 3, the total variance explained by the model as a whole was 28 % ($F (7,125) = 6.93$; $p < .001$). The introduction of attachment styles explained an additional 19% variance in EPDS (R^2 Change =.190; $F (2,125) = 16.47$; $p < .001$). At step 4, emotional support from significant others was entered into the model and the model was statistically significant $F (9,122) = 5.68$; $p < .001$ and explained 32% of the variance as a whole model . The introduction of emotional support from significant others did not however contributed to the variance in major depression symptoms uniquely after controlling for job status, memories of parental rearing and attachment styles (R^2 Change = .04; $F (3,122) = 2.27$; $p > .05$) . In the final model, three out of nine predictor variables were statistically significant, with attachment anxiety recording a Beta value ($\beta = .44$, $p < .001$), job status ($\beta = -20$, $p < .05$) and emotional support from health practitioners ($\beta = -.18$, $p < .05$).

Table 3.9 *Hierarchical multiple regression analysis predicting EPDS symptoms (133)*

	R	R2	R2 Change	B	SE	B	t
Step 1							
	.251	.063*					
Unemployed				-3.605	1.795	-.171*	-2.008
Step 2							
	.299	.090*	.026				
Unemployed				-3.961	1.801	-.187*	-2.199
Parental Rejection				1.091	.581	.225*	1.879
Parental Support				.407	.410	.107	.993
Parental Overprotection				-.310	.482	-.063	-.643
Step 3							
	.529	.279***	.190***				
Unemployed				-3.430	1.627	-.162*	-2.108
Parental Rejection				.455	.533	.094	.854
Parental Support				.336	.370	.088	.907
Parental Overprotection				-.313	.438	-.063	-.715
Attachment Anxiety				2.122	.439	.466***	4.834
Attachment Avoidance				-.047	.463	-.010	-.101
Step 4							
	.563	.318***	.038				
Unemployed				-4.122	1.646	-.195*	-2.503
Parental Rejection				.481	.525	.099	.916
Parental Support				.439	.382	.115	1.150
Parental Overprotection				-.265	.434	-.054	-.611
Attachment Anxiety				1.998	.443	.438***	4.508
Attachment Avoidance				.069	.491	.014	.140
Support from Health Practitioners				-.968	.456	-.176*	-2.123
Support from Partner				-.462	.432	-.094	-1.072
Support from Close family				.606	.465	.128	1.305

*$p < .05$; **$p < .01$; ***$p < .001$

3.2.4 Discussion

This study examined the predictors of general mental health scores in women who experienced prenatal or postnatal trauma(s). Attachment theory's framework was used to evaluate the predictors of mental health symptoms in this sample. It also investigated the proposed predictors in relation to the specific anxiety disorders (OCD, PTSD, Panic, Agoraphobia, Social Phobia, GAD) and depression separately. The findings indicated that attachment avoidance was not a significant predictor of mental health symptoms in any of the analyses. Attachment anxiety, on the other hand, was a significant predictor of mental health problems in all regression models, except for agoraphobia. Recollections of a rejecting parent featured as a predictor of poorer mental health in PTSD, social phobia, GAD, and major depression. While, emotional support from significant others uniquely predicted panic and major depression symptoms, it was also significantly present in the overall regression models in predicting both general and specific mental health scores apart from GAD and OCD symptoms.

General Mental Health Symptoms

As we hypothesised, the results revealed that general mental health of women who experienced trauma (prenatal / postnatal loss or trauma) was predicted by attachment anxiety, support from health practitioners, and memories of rejecting parental rearing. It appears that higher attachment anxiety, memories of rejecting parenting, and unsatisfactory perceived emotional support from health practitioners may leave women, who experienced trauma, at risk in terms of their general mental health. These findings are consistent with the previous literature that links attachment anxiety with mental health problems (Bifulco, et al., (2006); Bowlby, (1982); Feeney & Ryan,(1994) ; Myers & Vetere, (2002); Mikulincer et al., (2003); Wearden, Cook, Vaughan-Jones (2003) . These studies have shown that that people with more insecure attachment styles are prone to mental health problems or

experience adjustment difficulties. Similarly, the findings of this study are in parallel with the findings of Parker, Kiloh, and Hayward (1987), Bifulco, Brown and Harris (1987) in terms of perceived critical parenting style influence on worsening mental health problems. The current study, however, extends this understanding to the perinatal period. According to attachment theory, unloving, critical, controlling, and neglecting care-giving styles may lead to an insecure state of mind in terms of attachment. However, not all individuals who experience adverse childhood experiences go on to develop mental health problems. Equally, these findings also indicate that the possibility of the worsening mental health may actually give women a more negative view of past experiences or of current relationships and may influence the perception of support as discussed by Lakey, Orebek, Hain and VanVleet (2010). It will be interesting to examine how early attachment experiences play a role in coping and appraisal of perceived support; Lakey and Orehek (2011) recently indicated the lack of research in the role of coping and appraisal in perceived support on mental health link.

When, however, the individual contributions of predictors were examined, support from significant others did not uniquely explain general mental health symptoms, whereas attachment anxiety did contribute uniquely. Similarly, in other studies, not using perinatal samples, social support has not been shown to predict mental health problems when it was examined along with attachment styles (Moreira et al.,2003; Perrier et al., 2010).

Anxiety Specific Symptoms

In predicting anxiety specific symptoms, the results revealed that for OCD symptoms the support from significant others did not uniquely contribute to the model. However, the overall model was significant, and having multiple traumas and increased attachment anxiety appeared to be significant risk factors for increased OCD symptoms. Similarly, Doron et al., (2011) reported significantly higher attachment anxiety in individuals with OCD in a clinical sample. In the current study, the findings

indicate that having an anxious attachment style and experiencing more than one perinatal trauma is a greater risk for elevated scores of OCD related mental health symptoms for the perinatal period. Parental rearing experiences, however, were not a significant factor in the model. Current research, as reviewed by Alonso et., al (2004), also fails to support consistent evidence for parental rearing experiences. However,, De Ruiter (1994) suggested that individuals with OCD reported overprotective and rejecting parents, while Turgeon, et al., (2002) found high levels of parental overprotection to be associated with OCD symptoms, whereas Vogel, Stiles & Nordahl, 1997 reported no significant results. In our findings, parental rearing experiences did not predict OCD symptoms any further than the number of trauma experiences did. The link between repeated negative experiences and anxiety symptoms is not surprising for the perinatal period. Mothers who have experienced traumatic experiences may expect things to go wrong; do not feel in control, and this may perhaps be worsened by the arrival of a baby. As a result, mothers may become more anxious, as their need to protect their baby from any adversity increases. It is also possible to interpret these findings in a different way in that the women with high anxiety symptoms (OCD) may be prone to have multiple perinatal trauma experiences. Dunkel (2009) showed that anxiety during pregnancy predicted a negative birth outcome e.g. shortened gestational age. Similarly Wadhwa et al.,(1993) found that maternal prenatal stress factors are significantly associated with infant birth weight and with gestational age at birth, independent of biomedical risk.

For PTSD**,** support from significant others did not uniquely contribute to the model after controlling for all the other predictors. However, in the overall model, being single, the higher memories of parental rejection, lower parental warmth, and higher attachment anxiety predicted higher PTSD symptoms. Recent literature also suggests a strong relationship between higher PTSD symptoms and separation from a partner, after a perinatal loss (Turton, Evans, Hughes, 2009). The authors findings in a 7 year follow up study indicated an association between significantly higher and enduring symptoms of PTSD and separating

from a partner. However, being single did not predict higher PTSD symptoms in our sample. Although, it is important to note that the nonsignificant result was marginal. In addition, as it was expected, less satisfactory support from health practitioners predicted higher PTSD symptoms. Parallel with the assumptions of the study, higher attachment anxiety predicted higher PTSD symptoms. Finally, for parental rejection, findings complement current research, suggesting a positive link between adverse parenting and the risk for anxiety disorders (Heider et al., 2008). It is plausible that rejecting parenting, as suggested by Bowlby (1973), may influence the view of self and others. This then may influence the person's perception of threat and his / her phenomological experience in relation to traumatic experiences (Beck, 2004a). It is also plausible that a link between a negative view of self and helplessness if present in a relationship can lead to development of anxiety disorders as proposed by Chorpita and Barlow, 1998. Low levels of parental support, which indicates that the parents did not support the child emotionally or provide a warm and caring environment, predicted perinatal PTSD symptoms. Kashdan, Zvolensky and McLeish (2008) reported anxiety sensitivity (being unwilling to accept emotional distress and believing such negative states cannot be tolerated or regulated) to be relevant to higher levels of anxiety symptoms in individuals who have non-accepting approaches to internal feelings, thoughts, and physiological arousal. Low parental support may in fact contribute to development of such affect regulation and sensitivity due to the fact that emotions were not supported by care given in childhood. This possible link however requires further research.

In predicting panic symptoms, in the final overall model, increased attachment anxiety and unsatisfactory perceived emotional support from health practitioners predicted panic symptoms as hypothesised. On the other hand, and unexpectedly, positive perceived support from a partner also predicted higher panic scores in our sample. The positive relationship

between the higher reported panic symptoms and support from a partner may be explained in that the partner's support might increase and he/she might become more readily available in *response* to the women's heightened and readily observable panic symptoms. Parallel to the findings of studies (e.g. Cummings & Cicchetti, 1990; Harris, Brown & Bifulco, 1986) with non - perinatal samples the present study's findings suggested that higher attachment anxiety and low levels of perceived support from health practitioners predicted panic symptoms. As expected, low levels of support from health practitioners predicted higher levels of panic scores. It is also important to note that it is possible that the worsening panic scores may negatively influence the perception of support received, particularly from the health professionals. This was discussed earlier in terms of general mental health predictors. This however will require further research.

Although parental rearing literature does not have consistent findings in relation to the influence on panic scores of parenting scores, Bandelow et al., (2002) reported that in comparison to the controls, panic patients described the attitude of their parents as more restricting and less loving and caring. However, in contrary to our expectations, parental rearing experiences did not predict panic scores in the current sample. On the other hand, Manicavasagar, Silove, Marnane and Wagner (2009) concluded that attachment anxiety is associated with panic disorder and with agoraphobia. De Ruiter and van Ijzendoorn (1992) and Bowlby (1973) suggested that an anxious – ambivalent attachment is a risk factor to panic disorder with and without agoraphobia and Strodl and Nollwer (2003) found evidence for this proposed link between an anxious attachment style and the development of panic with and without agoraphobia.

Another important finding of the current study was that support from significant others also uniquely predicted the panic scores in our sample. Similarly, Huang, Yen and Lung

(2010) also recently reported that people with panic disorder reported low social support. The current study's findings in relation to panic is concurrent with the current literature and advances the current understanding into the perinatal period.

However, social phobia symptoms were not uniquely predicted by support from significant others. In the overall model, however, memories of parental rejection, increased attachment anxiety, and satisfactory perceived support from a partner predicted women's social phobia scores. The positive relationship between attachment anxiety and panic scores was expected, however the positive relation between social phobia symptoms and increased perceived support from a partner was not expected. This finding may suggest that women with observable social phobia may elicit more support from their partner. In addition, the current finding for the relationship between social phobia and attachment anxiety, is also parallel to other findings in the literature (Eng, Heimberg, Hart, Schneier & Liebowitz , 2001; Michelson, Kessler and Shaver, 1997; Sumer et al., 2009). Again, expected findings were found in relation to memories of parental rejection. Lieb et al., (2000) similarly indicated that parental rejection was one of the factors associated with social phobia in the offspring of parents with psychopathology.

Contrary to our expectation there were no significant predictors of agoraphobia symptoms in women who experience perinatal / postnatal trauma. This could be due the fact that there were low levels of agoraphobia symptoms reported by a limited number of participants in the current sample. Another explanation could be the fact discussed by Barlow (1986) that agoraphobia is not diagnosable by itself, and is associated with panic disorders. Attachment theory explains agoraphobia as an attachment related problem where separation anxiety cannot be tolerated (Liotti, 1996) and recently Holmes (2008) provided empirical evidence for

this suggested link between agoraphobia and attachment related issues (separation anxiety). In their qualitative design they revealed that individuals experiencing agoraphobia feel secure when in a private bounded 'secure base' like space. The need to stay in touch with the secure base appeared to be more important for the agoraphobic individuals. This is also paralleled in other findings indicating that both attachment anxiety and attachment avoidance is related to agoraphobic symptoms (Mickelson et al.,1997 ; Sumer et al., 2009). For the perinatal samples, however, perhaps agoraphobia is not a prominent disorder for this period.

The results revealed that, for GAD, support from significant others did not uniquely predict general anxiety symptoms, despite the fact that findings from Buist, Gotman and Yonkers (2011) indicated that low support is one of the risk factors for GAD symptoms, before and during pregnancy. However, in the present study, for women who experienced perinatal trauma, only memories of parental rejection and attachment anxiety predicted women's higher GAD scores.

Depression Symptoms

The results revealed that support from significant others, unlike anxiety symptoms as presented earlier, uniquely predicted major depression symptoms and, in the overall model, unemployment, memories of rejecting parental rearing, attachment anxiety, and low emotional support from health practitioners significantly predicted the general depression symptoms measured by PDSQ. These findings are consistent with the current literature (Barlow, 2002; Alonso, 2004; Bifulco et al., 2006; Rapee, 1997). It can be argued that depression scores measured by the PDSQ can be misleading due to the fact that the measure checks general symptoms, however, the postpartum specific measure, EPDS, was also used and gave similar findings. Support from significant others did not uniquely predict the overall

EPDS scores, unlike the PDSQ – Major Depression scores. In the overall model for the prediction of postnatal depression as measured by the EPDS, however, along with support from significant others, unemployment and increased attachment anxiety and low perceived support from health practitioners appeared to be the best predictors of postnatal depression symptoms. Women who are unemployed, have an anxious attachment style, and perceive the available support as unsatisfactory are at higher risk of postnatal specific depression symptoms. . Equally women with increased depressive symptoms may experience difficulty in maintaining jobs because they may suffer from anhedonia and lack of concentration. Also the negative / depressive view of women may influence the perception of the social support actually provided to them. In fact the characteristics of depression (e.g. negative feedback seeking, social withdrawal, excessive reassurance seeking etc) are shown to be linked to withdrawal of social support (e.g. Coyne 1976). It is plausible that health professionals may react differently or withdraw their emotional support to women who display negative depressive characteristics. This perspective, however, requires further research

What emerges from this is that women's negative perceptions about support may be an important factor for mental health practitioners to be aware of in care delivery. The above results suggest that low support from health practitioners predicts increased depression symptoms. It has been argued that it is not the available support but the *perception* of support that perhaps counts for individuals to be satisfied with the support provided. Individuals, who are feeling safe and secure, are expected to deal with a stressful situation by utilising efficiently their internal and external resources (Carlson et al., 2003) It appears that, regardless of the possible influence of attachment styles on the provided support (for which reason the effects of attachment were controlled in the hierarchical regression), the support

given by the health practitioner can be very important in helping individuals regulate their emotions, and feel safe and supported; particularly with regards to the development of depressive symptoms. It is, therefore, very crucial, that health practitioners are also aware of the individual's perception of the support provided by them.

In addition to results discussed above for the predictors of the general and specific mental health problems, the findings of the study also indicated a mediational relationship (see *Study2*) between perceived support, attachment styles, and mental health problems. Although a unique contribution from the 'support from significant others' variable was not observed when all the predictors' unique contributions were assessed for mental health symptoms, emotional support from partner and health practitioners were both present and significant in the overall models in predicting the general and specific mental health problems. In addition, in the hierarchical regression, it also emerged that emotional support from significant others reduced the effect of attachment anxiety in the regression model and indicated a possible meditational relationship. It is, therefore, plausible that attachment styles (attachment anxiety) may mediate the relationship between perceived support and mental health symptoms and women who had experienced a perinatal trauma, and who perhaps evaluate the available social support via their already established attachment styles. For this reason mediational analyses were carried out and are presented in the next chapter.

To conclude, this study provided empirical evidence for the predictors of perinatal period general and specific perinatal mental health problems. This is the first study that has used attachment theory's framework in understanding anxiety specific perinatal mental health problems while examining the predictive qualities of support, parental rearing and attachment styles.

3.2.5 Implications and Further Research / Practice

Despite the limitations noted, this present study has several implications for further research and practice. A longitudinal design where attachment classifications can be established and early rearing experiences collected could provide clearer evidence for the relationships which emerged and were discussed in this study. Such a design would also allow for the expected mediating relationships in predicting perinatal mental health problems through attachment orientation (style/classifications) from early parenting experiences and from support from significant others to be examined. A person's own evaluation of past experiences determines whether they have an autonomous standing point and use meta –cognitive monitoring while reflecting on the past events without self - blame. Therefore perhaps it is not the 'unloved experiences' of the person, but their attachment orientations and their state of mind in relation to their early care experiences which is more important. However, this remains speculative and requires further research with an alternative measure such as the Adult Attachment Interview. It is advisable that screening tools and intervention strategies of mental health problems during the perinatal period should consider women's attachment orientations.

3.3 *STUDY 2:* The Mediating Role of Attachment Styles in predicting Perinatal Mental Health Symptoms from Perceived Support

3.3.1 Introduction

Study 1 showed that attachment anxiety in particular appears to be a strong predictor of mental health symptoms in women who experienced perinatal traumas, along with support from significant others and parental rearing experience. *Study 1* also showed that the overall models, including the emotional support from significant others, were significant for predicting mental health problems. However, the unique contribution of emotional support from significant others in predicting mental health problems was only observed for panic and major depression scores, and only at the critical p value (0.05). In addition, in the hierarchical regression, it also emerged that emotional support from significant others reduced the effect of attachment-anxiety in the regression model and indicated a meditational relationship. Therefore, this section aims to investigate further the relationships between attachment and perceived support, and their relationships in predicting mental health.

3.3.2 Literature Review

The literature shows that support and attachment styles are associated with mental health. Studies, examining the attachment style and mental health link (Bowlby, 1982; Bifulco et al., 2006; Feeney & Ryan, 1994; Mikulincer, Florian, & Hirschberger, 2003; Myers & Vetere, 2002; Wearden, Cook & Vaughan-Jones ,2003) suggest that people with more insecure attachment styles are prone to mental health problems or experience more adjustment difficulties. For the perinatal period, limited studies report similar results. Attachment security uniquely contributed to the risk for postpartum depression, beyond depression experienced

during pregnancy (Doron et al., 2011). Monk, Leight & Fang (2008) reported that attachment anxiety was significantly higher in individuals with anxiety symptoms (obsessive compulsive disorder (OCD)).

Social support and the mental health link has also been extensively studied (Cohen & Wills, 1985; Kessler &McLeod, 1985; Leavy, 1983). Social support was found to have a buffering role on the effects of trauma (e.g. Lehman, Ellard, & Wortman , 1986). Cacciatore, Schnebly and Froen (2009) reported that women who received social support from doctors, nurses, and family members had lower levels of both anxiety and depression than those who did not receive such support following a perinatal trauma. Similarly Kavanaugh, Trier and Korzec (2004), in a qualitative study, closely examined the type of support women received following a perinatal loss, and discussed how emotional support was the more prevailing source of support for women after the experience of a perinatal trauma.

There are only a few studies which have examined the interrelated nature of support and attachment styles in predicting mental health problems and there is scarce research which examines this link in the perinatal period. It has been established that support and attachment anxiety –avoidance constructs are interrelated due to the fact that support seeking and support perception is established through the support available to the individuals early on in their life (Bowlby, 1973; Mikulincer & Shaver, 2007). In fact, the establishment of the various attachment categories /styles is very much dependent on the available support from the main care givers (i.e., mother, nanny), and these experiences, it is argued, are then used to build the working models of the self and others (Bartholomew & Horowitz, 1991; Collins & Feeney, 2004; Mikuliencer & Shaver, 2007), and define a person's support seeking behaviour (Simpson, Rholes, Oriña & Grich, 1992) It has also been found that attachment style determines a person's perception of the social support they receive (Collins & Feeney, 2000; Simpson,

Rholes & Phillips, 1996). Very few studies have looked at the combined relationship of support, attachment styles and symptom reporting in relation to stressful experiences (Perrier et al., 2010; Moreira et al., 2003; Muller, Sicoli & Lemieux ,2000). These studies reported that support does not explain the variation in response to trauma and adjustment related outcomes further than do attachment styles. These findings are consistent with the data presented in *Study1*. Support from significant others did not uniquely predict general mental health symptoms when attachment styles were controlled for. Some of the findings of *Study 1*, as discussed above, suggested a meditational relationship between perceived support, attachment and mental health problems.

Some more recent literature has examined the attachment – support link. For example Iles, Slade and Spiby (2011) examined the roles of partner attachment and perceptions of partner support in relation to PTSD and depression symptoms in couples after childbirth. This study suggested that less secure attachment and dissatisfaction with a partner were associated with increased postpartum depression and PTSD. Similarly, Pruneau (2010) examined trauma exposed college students' PTSD symptoms and Rodin et al., (2007) worked on cancer patients' depression symptoms using attachment theory's framework. These studies examined both attachment styles and social support in predicting the adjustment and specific mental health problems following traumatic experiences. However, these studies examined the mediating role of social support in mental health problems, instead of the possible mediating role in predicting adjustment and mental health related outcomes of the attachment style (or attachment security). Therefore, these results may only be explaining one part of the total relationship between social support, attachment style, and the presentation of mental health problems.

Judd and Kenny (2010) state that if the proposed mediation model is not correct, findings from the analysis are of little value. There is a unique reversible relationship between

attachment styles and perceived support in terms of predicting mental health problems. One can argue that within the available attachment literature, the perception of the relationship between available support and elevated symptoms is in fact mediated by attachment anxiety –avoidance, and is the product of the attachment style of the person. Mikuliencer and Shaver (2007) also suggested that perceived support is the manifestation of adult attachment orientation and that support seeking is the primary strategy of the attachment system. Therefore, in predicting general mental health or specific mental health problems, examining social support through attachment styles (anxiety - avoidance) will be appropriate in this study. It is taken into account, in this study, that the perception of social support of the women involved is expected to be influenced by the women's already established attachment styles. Similarly Perrier et al., (2010) hypothesised that "the effect of perceived social support would not be significant when predicting distress after statistically controlling for attachment anxiety and attachment avoidance". However, they found a lack of direct association between social support and distress and did not conduct further mediational analysis. But they still continued to argue for the possibility that any significant association between social support and distress that existed was reduced to non-significance when attachment orientation was considered. Therefore this present study was set to investigate further the mediational role of attachment styles in predicting the perinatal mental health symptoms from perceived support from significant others via an alternative mediation model.

In this study, it is hypothesised that perceived support from significant others will be mediated by already previously established attachment styles in predicting the mental health symptoms of women who experienced perinatal traumas. Therefore, data were examined to test whether attachment anxiety styles mediated the relationship between support from perceived others and mental health problems.

3.3.3 Method

The sample and some of the measures, described and used for analysis in this chapter (*Study 1)* (Psychiatric Diagnostic Screening Questionnaire (Zimmerman & Mattia, 2001); Perinatal Experience and Support Questionnaire (Budak, Harris & Blissett, unpublished) and the Experience in Close Relationships–Revised Scale (Fraley, Waller & Brennan, 2000) was also used for data analysis in this study. Detailed information regarding the methodology of this study can be found in Chapter 2 – Methods section

3.3.4 Data Analysis

A mediation analysis as described by Preacher and Hayes (2008) was used to analyse the data presented in Chapter III to test the relationship between perceived support and mental health symptoms through attachment styles (anxiety - avoidance). The Indirect Effect macro for SPSS for Windows (Peacher & Hayes, 2008) was used to conduct the mediational analysis. (See Chapter 2 – Methods section for further information).

Six mediation analyses were run looking at the relationship between the perceived support and mental health symptoms through attachment styles (anxiety - avoidance). The findings of this analysis will be presented and discussed in the following sections.

3.3.5 Results

In this section the mediating relationship between attachment styles (anxiety; avoidance) and perceived support (health practitioners; partner; close family member) on mental health symptoms is presented (see *Figure 3.1*). The bootstrapping results of the indirect effect of perceived support on mental health through attachment styles are presented in Table 3.10, 3.11and Table 3.12 for attachment anxiety and attachment avoidance respectively.

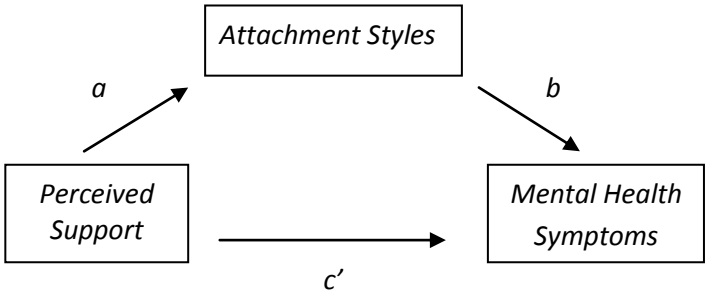


Figure 3.1Predicting Mental Health Symptoms from Perceived Support through Attachment Styles

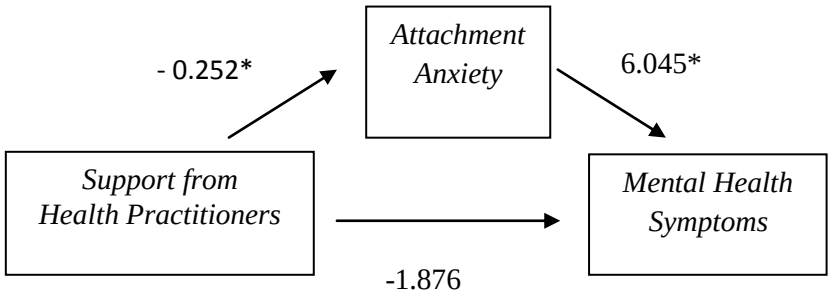
Multicollinearity

Mild to moderate correlations were observed, no higher than 0.50, the variance of inflation (VIF) ranged from 1.119 to 1.869, and the tolerance statistics (T) were between 0.535-0.649. These suggested a low likelihood of multicollinearity between variables, which indicates they had little influence on the regression (Field, 2009).

3.3.5.1 *Mediation (Paths a and b), Indirect (ab), and Total Effects*

Through Attachment – Anxiety

Firstly, attachment anxiety's mediating effect is presented on the relationship between perceived support from health practitioners and mental health symptoms (*Figure 3.2*).



Model Summary N = (145) R2 = (0.295), F = (29.749), p < 0.001 *p<0.05

Figure 3.2 Predicting Mental Health Symptoms from Perceived Support from Health Practitioners through Attachment Anxiety.

As both the *a* and *b* paths in *Figure 3.2* are significant, and the *c* path is not, this suggests a fully mediated relationship between perceived support, attachment anxiety, and mental health symptoms. Meaning that the lower the perceived support from health practitioners the higher the attachment anxiety, which in turn increases the likelihood of mental health symptoms. The full mediation was supported by the indirect effects since its 95% CIs does not contain zero (Table 3.10).

Next, attachment anxiety‘s mediating effect is presented on the relationship between perceived support from partner and mental health symptoms (Figure 3.3).

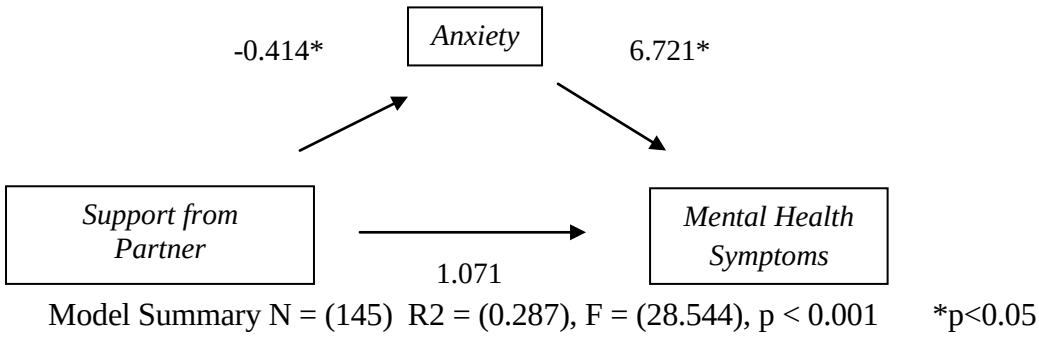
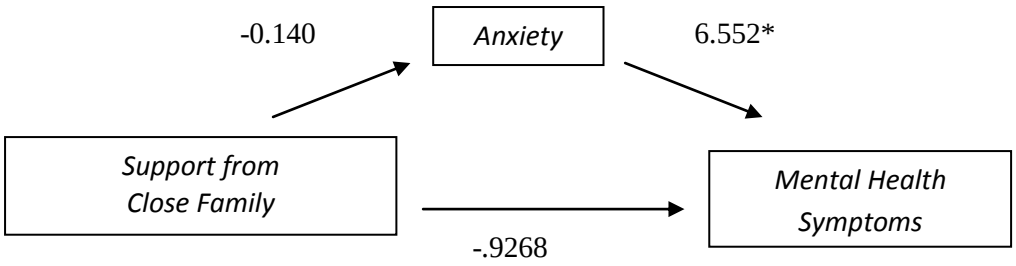


Figure 3.3 Predicting Mental Health Symptoms from Perceived Support from Partner through Attachment Anxiety.

Similar to previous findings, the mediation analysis revealed a full mediation model. This result suggests a fully mediated relationship between perceived support from partner, attachment anxiety, and mental health symptoms. Meaning that the lower the perceived support from partner the higher the attachment anxiety which in turn increases the likelihood of mental health symptoms. The full mediation was supported by the indirect effects since its 95% CIs does not contain zero (Table 3.11).

Finally, attachment anxiety‘s mediating effect is presented on the relationship between perceived support from close family and mental health symptoms (Figure 3.4).



Model Summary N = (138) R2 = (0.303), F = (29.271), p < 0.001 *p<0.05

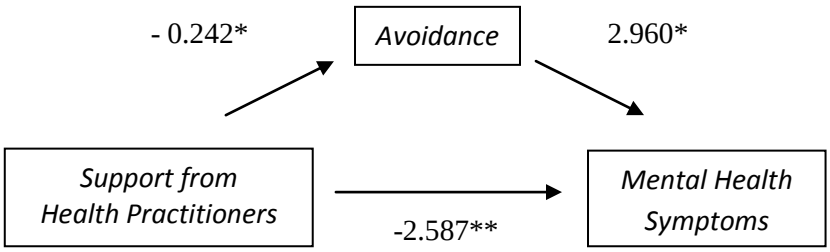
Figure 3.4 Predicting Mental Health Symptoms from Perceived Support from Close Family through Attachment Anxiety.

Unlike the previous findings, in this analysis no meditational relationship was found between perceived support from close family, attachment anxiety, and mental health symptoms (as only the b path was significant - Figure 3.4).

To summarize the findings for the mediational role of attachment anxiety in the relationship between perceived support and mental health problems, it appears that the lower the perceived support from health practitioners and their partner, the more likely women were to have anxious attachment styles and were more likely to show mental health problems as a result of this. This mediational relationship however, was not observed for the perceived support from close family, attachment styles and mental health variables.

3.3.5.2 *Through Attachment - Avoidance*

Firstly, attachment avoidance‘s mediating effect is presented on the relationship between perceived support from health practitioners and mental health symptoms (Figure 3.5).

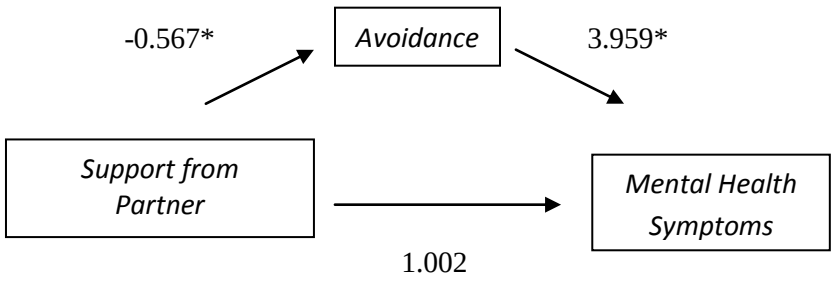


Model Summary N = (140) R2 = (0.101), F = (7.633), p = (0.00) *p<0.05; **p< =0.05

Figure 3.5 Predicting Mental Health Symptoms from Perceived Support from Health Practitioners through Attachment Avoidance.

The mediation analysis indicated a partial mediation because the *c* path was also significant. This result suggests that the lower the perceived support from a health practitioner the higher the likelihood of attachment avoidance, which in turn increases the likelihood of mental health symptoms. However, this is not a fully mediated relationship, indicating that low perceived support from a health practitioner alone, regardless of avoidant attachment, leads to the increased likelihood of mental health symptoms. This partial mediation was supported by the indirect effects since its 95% CIs does not contain zero (see Table 3.10).

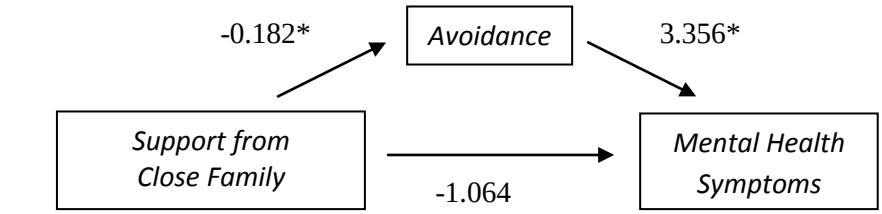
Next, attachment – avoidance's mediating effect is presented on the relationship between perceived support from partner and mental health symptoms (Figure 3.6).



Model Summary N = (140) R2 = (0.077), F = (5.6705), p < 0.001 *p<0.05

Figure 3.6 Predicting Mental Health Symptoms (Y) from Perceived Support from Partner through Attachment Avoidance.

The analysis suggests a fully mediated relationship, indicating the lower the perceived support from a partner the higher the likelihood of attachment avoidance, which in turn increases the likelihood of mental health symptoms. This full mediation was supported by the indirect effects since its 95% CIs does not contain zero (see Table 3.11).



Model Summary N = (133) R2 = (0.077), F = (5.422), p < 0.001 *p<0.05

Figure 3.7 Predicting Mental Health Symptoms from Perceived Support from Close Family through Attachment Avoidance.

Finally, the mediating effect of attachment-avoidance on the relationship between perceived support from close family and mental health symptoms is presented (Figure 3.7). The mediation analysis showed a full mediation indicating that the lower the perceived support from close family the higher the likelihood of attachment avoidance, which in turn increases the likelihood of mental health symptoms. This mediation was supported by the indirect effects since its 95% CIs does not contain zero (see Table 3.12).

To summarize the findings for the attachment – avoidance mediational role; a full mediational role of attachment avoidance was observed in predicting mental health symptoms from perceived support from a partner and close family. This indicated that when support is perceived to be lower, the likelihood of attachment avoidance increases and in turn so does the likelihood of mental health problems. Also a similar relationship was observed for the mediational role of attachment avoidance in predicting mental health problems from perceived support from health practitioners. However, this was a partial mediation relationship and there

was also an additional direct negative effect from perceived support in predicting the mental health problems.

As presented in Tables 3.10; 3.11 ; 3.12, a closer examination of indirect effects suggest that the indirect effect through attachment anxiety is larger than the indirect effect of attachment - avoidance for all three significant other groups' perceived support in predicting mental health problems. This indicates that an anxious attachment has more of an effect on the relationship between perceived support and the display of mental health symptoms than does an avoidant attachment.

Table 3.10 *Indirect Effects of Perceived Support from Health Practitioners on Mental Health Symptoms through Attachment Styles (ab paths)*

			Bootstrapping					
	B	SE	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Anxiety	-1.521	0.667	-3.075	-0.182	-3.089	-0.199	-3.050	-0.169
Avoidance	-0.715	0.386	-1.793	-0.026	-1.949	-0.069	-1.842	-0.044

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table 3.11 *Indirect Effects of Perceived Support from Partner on Mental Health Symptoms through Attachment Styles (ab paths)*

			Bootstrapping					
	B	SE	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Anxiety	-2.779	0.670	-4.408	-1.377	-4.535	-1.443	-4.489	-1.425
Avoidance	-2.244	0.760	-3.822	-0.947	-3.892	-0.978	-3.813	-0.944

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table 3.12 Indirect Effects of Perceived Support from Close Family on Mental Health Symptoms through Attachment Styles (ab paths)

			Bootstrapping					
	B	SE	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Anxiety	-.914	0.654	-2.322	0.374	-2.353	0.337	-2.353	0.329
Avoidance	-0.609	0.363	-1.503	0.015	-1.608	-0.042	-1.591	-0.033

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

3.4.1 Discussion

The aim of this chapter was to examine possible mediating relationships between perceived support from significant others, attachment styles (anxiety - avoidance), and mental health problems. There were indications of both full and partial mediation, suggesting that the relationship between attachment styles, both anxious and avoidant, and perceived support from significant others may influence the likelihood of mental health problems. The prediction for the overall meditational role of attachment security was made by Perrier et al., (2010) although their findings did not support this prediction because their data did not meet the criteria for the appropriate analysis. This current study provides some evidence in support of this prediction in a perinatal sample.

Study 1 presented hierarchical regression analyses which suggested that perceived support from significant others was significant in predicting mental health problems in the overall model, where other predictive variables were also considered. However, its unique contribution in predicting mental health problems was only marginal for panic and major depression scores.

Therefore, the data from the current chapter add to and build upon those presented in *Study 1*, and suggest a meditational relationship between perceived support, attachment styles (anxiety and avoidance), and perinatal mental health problems.

Parallel with the findings in the literature, and in *Study 1*, it was also reported that attachment anxiety appeared to be the strongest predictor for mental health problems whereas attachment avoidance failed to predict mental health symptoms uniquely or in the overall models (Hammen et al., 1995; Mickelson, Kesler, Shaver, 1997; Mikulincer, & Shaver, 2007). However, after conducting the mediation analysis, it appeared that, in predicting mental health problems, attachment avoidance is also an important factor. Attachment avoidance fully mediated the relationship between perinatal mental health problems and perceived support from family and partner. In addition, attachment avoidance partially mediated the relationship between perceived support from health practitioners and mental health problems, suggesting that there is also a direct negative relationship between perceived support from health practitioners and mental health symptoms. These findings are parallel to the assumptions made according to attachment theory (Bowlby, 1973) and also extend the findings of Simpson, Rholes and Phillips (1996) and Collins and Feeney (2000) by explaining how perceived support, influenced by the attachment orientation is relevant in predicting mental health problems following perinatal traumas. Therefore, the findings of the present study are important in shedding light onto the role of attachment avoidance in predicting perinatal mental health problems. It is plausible that participants, who had an avoidant attachment style, did not seek support and dismissed their attachment related needs at the time of the trauma experience; idealised their perception of the support that they have received and therefore scored higher rates for the support questionnaire. Thus attachment avoidance, unlike attachment anxiety, did

not predict mental health problems in *Study 1*. Only after the mediation analysis (*Study 2*) attachment avoidance influence on mental health through support was evident.

Furthermore, the findings of the present study in relation to attachment – anxiety support the current literature particularly for the perinatal period, which indicates an association between secure attachment styles (low anxiety and low avoidance) and lower levels of depression and anxiety (i.e., Doron et al., 2011; Monk et al., 2008). In particular, in predicting the mental health problems through perceived support from health practitioners, attachment anxiety appears to be a significant mediator. A similar relationship was observed between the perceived support from a partner and the exhibition of mental health problems, when the woman's attachment anxiety style was taken into consideration. However, attachment – anxiety's mediating role was not observed in predicting mental health problems when taking the perceived support from close family members into consideration. The findings also suggest that women who are more anxious in their attachment style may perceive the available support from health practitioners and their partners as particularly less satisfactory, which may in turn increase the likelihood of the worsening of mental health problems. Therefore, it appears that the notion that the 'self is valuable and worthy of other's support, and that others' support is available under stressful situations (Bowlby, 1973; Collins & Feeney, 2004; Mikuliencer & Shaver, 2007) may influence the perception of the available support made by women who have insecure attachments.

It is also important to note that the influence of attachment – anxiety in predicting mental health problems was greater than that of attachment – avoidance. However, this could also be due to the fact that, as suggested by Fraley, Davis, Shaver (1998), avoidant individuals use a defensive strategy and they do not react to external stressors with negative affect, which is reflected in their PDSQ and perceived support scores. On the other hand, women with anxious

- attachment are more inclined to exhibit psychological distress subsequent to negative events, and this again, is reflected in their perceived support and PDSQ scores.

Furthermore, the current findings also indicate some differences in the role of the different sources of support. As discussed by Sarason, Sarason and Pierce (1990), as well as Muller, Gragtmans, and Baker (2008), it is relatively unknown which sources of social support are most important and under what circumstances. The findings of the current study may suggest that in terms of the romantic adult attachment literature, the romantic partner has become the current attachment figure from whom the woman seeks support (Doherty & Feeney 2004; Hazan & Zeifman, 1994), rather than from their close family members. On the other hand, in terms of medical needs, health practitioners appear to be an important attachment figure for the woman even though she does not have a romantic relationship with them. The mental health practitioner provides the woman with medical advice, diagnosis, and prognosis, from which there develops a relationship of trust between them.

Although, the attachment hierarchy literature suggests that the romantic partner is the principal attachment figure in adulthood, under specific conditions individuals may turn for more specific help from others, besides their romantic partner (i.e., Ainsworth 1991; Antonucci, Akiyama & Takahashi, 2004; Schachner & Gillath, 2008; Trinke, 1995). Like children, adults may use multiple attachment figures for their different attachment needs. Findings (from the current thesis) suggest that hospital staff members may be the people that women turn to seek reassurance for their heightened anxiety and to regulate their attachment needs, instead of turning to their partner or their close friends. Thus the finding of this research highlights the importance of particularly emotional support from health practitioners in dealing with this group of women and adds into the attachment hierarchy research.

As discussed earlier, there are few research studies (Iles , Slade & Spiby ,2011; Pruneau 2010 ; Rodin et al., 2007) that jointly examine the link between mental health problems, social support and attachment security. In addition, in these studies, social support was taken as a mediator instead of attachment insecurity or security. The current study was set up to examine the mediational role of both attachment anxiety and avoidance in predicting perinatal mental health problems from the perceived support from significant others. As hypothesised, the attachment styles influenced the relationship between perception of support and the exhibition of mental health symptoms.

3.3.6 Further research

The analysis of specific mental health problems (i.e., Panic, GAD etc.) could not be presented here due to the scope of the current study, however, a close examination of specific mental health problems may provide some valuable information for practitioners and clinicians in terms of a better understanding of the relationship between attachment style, support, and mental health problems .

3.3.7 Clinical implications

It is recommended that health practitioners be aware of the individuals' attachment orientation, and the role this might play in their support seeking behaviour, and how this might affect the perception of the available support. The current findings may help inform the therapists' and counsellors' approach and intervention methods in dealing with perinatal mental health problems, or in the antenatal support period. Particularly support seeking strategies of avoidant and anxious individuals' differences should be taken into account when providing after care and psychological support following perinatal trauma.

4 Chapter IV: A Closer Look into Perinatal Trauma Experiences

4.1 Introduction

The previous chapter examined the factors effecting mental health problems of women who experienced various perinatal trauma(s). This chapter, however, focuses on the characteristics of single trauma experiences without the combination of other traumas. The chapter first of all aims to examine each perinatal trauma experience closely and look at the women's perception of emotional support in particular. Secondly, the chapter explores issues around difficult decisions during stillbirth experiences. Thirdly, this chapter aims to explore differences in mental health between the women who experienced a trauma which involved a loss of foetal or infant life compared to women whose trauma did not involve a loss. Finally, it examines the relationships between attachment dimensions (attachment – anxiety; attachment - avoidance) and the perinatal mental health of women with different trauma experiences. The chapter therefore comprises two studies; a descriptive study exploring women's perinatal trauma experiences, and a study of differences in mental health outcomes of perinatal traumas with or without loss, and their relationship to attachment dimensions.

4.2 *Descriptive Study*: Exploring perinatal trauma experiences

The previous study examined various perinatal loss and difficult childbirth traumas under the collective heading 'perinatal trauma experiences'. However, it is important to examine the different types of trauma experiences so that important factors that may contribute to adjustment to each trauma experience are identified and women are supported accordingly for the type of trauma that they experienced. This study therefore aims to describe single perinatal trauma experiences (stillbirth, ectopic pregnancy, neonatal death or difficult

childbirth) of the participants, focusing only on the participants who report one perinatal trauma. Secondly, it aims to explore the perceptions of support of each perinatal group, and finally to examine the difficult decisions made by the participants during stillbirth experiences.

4.2.1 Difficult (Traumatic) Childbirth

Table 4.1 presents the details of the difficult childbirth groups in terms of their trauma experiences. The majority of the participants experienced a difficult childbirth 12 to 24 months prior to the onset of the study. The majority of women delivered their baby within 20-40 hours. A partner was present at the majority of births; however, during the stay at the hospital after the difficult childbirth only about half of participants had a partner to accompany them at the hospital. The birth trauma included various complications i.e. emergency caesarean, haemorrhage, forceps / ventouse, panic attack, pain / failure in pain relief. The majority of participants found a health professional's treatment uncaring and reported less than moderately satisfying emotional support from health practitioners. Partner emotional support was reported as moderately/ above satisfactory by the majority of women who had experienced birth trauma. Emotional support from close family was also perceived as moderately satisfying and above. Three feelings emerged as the most frequently reported initial feelings following trauma: shock and disbelief, failure, and anxiety.

Table 4.1 *Women who reported only traumatic childbirth experience (n =67)*

Time since difficult childbirth	N	%
< 6mths	14	20.9
6 mths to 1 year	18	26.9
12 mths to 24	21	31.2
24 mths to 36	10	15
36mths – 48	4	6
Length of traumatic birth		
< 20 hours	20	29.9
20 -40 hours	27	40.3
>40	16	23.8
Caesarean	4	6
Had a partner/husband present at birth		
Yes	57	85.1
No	6	9
If a partner / husband was present during their stay at the hospital		
Yes	38	56.7
No	25	37.3
Complications		
Emergency Caesarean	24	35.8
Haemorrhage	16	23.8
Forceps / Ventouse	14	20.9
Panic Attack	2	3
Pain / Failure in Pain relief	6	9
Other	5	7.5
Satisfaction with emotional support– Health Practitioner		
Below moderate	50	74.6
Moderately satisfied	11	16.4
Above Moderate	5	7.5

Table 4.1 *Women who reported only traumatic childbirth experience (continues)*

Satisfaction with emotional support – Partner		
Below moderate	19	28.4
Satisfaction with emotional support – Partner (continues)		
Moderately satisfied	13	19.4
Above Moderate	34	50.8
Satisfaction with emotional support – Close Family		
Below moderate	21	31.3
Moderately satisfied	18	26.9
Above Moderate	22	32.8
Treatment of a Health Practitioner was uncaring		
Yes	50	74.6
No	14	20.9
Initial feelings following traumatic childbirth experience		
Traumatised / Physically Violated	4	6
Numbness	6	9
Dissociated	4	6
Shock / disbelief	13	19.4
Confusion	4	6
Anxiety	9	13.4
Sadness/ Depression	3	4.5
Lack of Bonding	5	7.5
Anger –Hate	2	2.9
Lack of control	6	9
Failure / Failing not keeping baby safe/ not being a good mum/ not a good birth	11	16.4

4.2.2 Stillbirth Experience

The experiences of women who had experienced a stillbirth, are detailed below in Table 4.2. The majority of women experienced stillbirth after 30 weeks gestation and gave birth in less than 20 hours and had a partner or husband present during birth. Again, the majority of women found the support from their partner and close family above the moderately satisfactory level. Although the majority of women found the emotional support from health practitioners above moderate satisfaction, 4 women out of 17 found the health practitioner treatment uncaring. Half found the available information about the stillbirth options inadequate. The majority saw their stillborn baby and none of them wished that they had not seen their stillborn baby. However those participants who did not see their baby wished that they had seen their stillborn baby. Similarly the majority of women held their baby and none of them wished that they had not held the baby. Participants who did not hold their stillborn baby, however, they wished that they had held their baby. Four women did not have a funeral for their baby, two of these women however wished that they had a funeral for their baby. The majority of women had a funeral and none of the mothers wished that they did not have a funeral for their baby.

Table 4.2 *Stillbirth experience details (n = 17)*

Gestation	N	%
20 -25 weeks	1	5.9
26- 30 weeks	2	11.7
31- 36 weeks	7	41.2
37 - 41 weeks	7	41.2
Duration of labour		
< 20 hours	11	73.4
20 -40 hours	3	20
>40	1	6.6

Table 4.2 *Stillbirth experience details (continues)*		
Partner / husband present at labour		
Yes	14	82.4
No	3	17.6
Satisfaction with emotional support – Health Practitioner		
Below moderate	2	11.8
Moderately satisfied	4	23.5
Above Moderate	11	64.7
Satisfaction with emotional support – Partner		
Below moderate	2	11.8
Moderately satisfied	1	5.9
Above Moderate	14	82.3
Satisfaction with emotional support – Close Family		
Below moderate	7	41.1
Moderately satisfied	1	5.9
Above Moderate	9	53
Treatment of a Health Practitioner was uncaring		
Yes	4	23.5
No	11	64.7
Inadequate information about stillbirth and options		
Yes	8	47.1
No	8	47.1
Have seen the stillborn baby		
Yes	15	88.2
No	2	11.8
Wished that had not seen the stillborn baby		
No	15	100
Wish that had seen your stillborn baby		
Yes	2	100

Table 4.2 *Stillbirth experience details (continues)*		
Have held the stillborn		
Yes	15	88.2
No	2	11.8
Wished that had not held stillborn baby		
No	15	100
Wish that had held stillborn baby		
Yes	2	100
Had mementoes of stillborn baby		
Yes	17	100
Had a funeral for stillborn baby		
Yes	13	76.5
No	4	23.5
Wish that had not had a funeral		
No	13	100
Wish that had had a funeral		
Yes	2	50.0
No	2	50.0

4.2.3 *Miscarriage Experience*

As presented in Table 4.3, 52 participants reported only having perinatal trauma after miscarriage. One half of women experienced miscarriage less than 6 months prior to the study, and the other half miscarried more than a year prior to the study. Participants miscarried on average between 10 -15 weeks gestation. More than half of the women were satisfied with the emotional support from their partner. On the other hand, a third of participants were dissatisfied with the emotional support from close family and health practitioners. In addition, more than half of women found a health practitioner's treatment uncaring.

Table 4.3 The details of 'miscarriage only trauma' (n =52)

Time since miscarriage	N	%
< 6mths	25	48
6 mths to 1 year	3	5.8
12 mths to 24	14	26.9
24 mths to 36	6	11.5
36mths – 48	4	7.8
How far into pregnancy		
<10 weeks	19	36.5
10 -15 weeks	26	50
15- 20 weeks	4	7.7
15-23 weeks	3	5.8
Satisfaction with emotional support– Health Practitioner		
Below moderate	28	54.9
Moderately satisfied	14	27.4
Above Moderate	9	17.6
Satisfaction with emotional support – Partner		
Below moderate	10	19.6
Moderately satisfied	12	23.5
Above Moderate	29	56.7
Satisfaction with emotional support – Close Family		
Below moderate	18	36.7
Moderately satisfied	17	34.5
Above Moderate	14	28.6
Treatment of a Health Practitioner was uncaring		
Yes	28	54.9
No	23	45.1

4.2.4 Neonatal Death and Ectopic experiences

The neonatal death and ectopic pregnancy groups only consisted of four participants each.

The details of their trauma experiences and their perception of the support from significant

others are presented in Table 4.4 and Table 4.5. Although only a few participants were in these trauma groups, it appears that for the neonatal death participants, the emotional support from health practitioners was moderately and above satisfying (75 %). Close family and particularly partner support was found to be very satisfying.

For the ectopic pregnancy group half of the women who experienced ectopic pregnancy perceived emotional support from heath professional dissatisfying whereas the majority of the participants perceived the emotional support from close family moderately satisfying and found the support from partner very satisfying.

Table 4.4 *The details of Neonatal Death only (n = 4)*

Time since neonatal death	N	%
<5 weeks	1	25
32 weeks	1	25
50 - 56 weeks	2	50
Satisfaction with emotional support – Health Practitioner		
Below moderate	1	25
Moderately satisfied	2	50
Above Moderate	1	25
Satisfaction with emotional support – Partner		
Below moderate	-	-
Moderately satisfied	-	-
Above Moderate	4	100
Satisfaction with emotional support – Close Family		
Below moderate	-	-
Moderately satisfied	2	50
Above Moderate	2	50
Treatment of Health Practitioner was uncaring		
Yes	1	25
No	3	75

Table 4.5 *The details of ectopic pregnancy (n =4)*

Time since miscarriage	N	%
8 weeks	1	25
40 weeks	2	50
104 weeks	1	25
How far into pregnancy		
7 weeks	2	50
9 weeks	2	50
Satisfaction with emotional – Health Practitioner		
Below moderate	1	25
Moderately satisfied	2	50
Above Moderate	1	25
Satisfaction with emotional support – Partner		
Below moderate	-	-
Moderately satisfied	1	25
Above Moderate	3	75
Satisfaction with emotional support – Close Family		
Below moderate	1	25
Moderately satisfied	2	50
Above Moderate	1	25
Treatment of a Health Practitioner was uncaring		
Yes	3	75
No	1	25

4.2.5 Discussion

The above descriptive analysis details single trauma experiences and draws attention to the groups' perceived support from significant others as well as exploring difficult decisions that are made around stillbirth experiences in terms of holding/ not holding, seeing/ not seeing the infant. However, these are only descriptive observations.

The above descriptive observations indicate that perinatal trauma groups rated the satisfaction with the emotional support from significant others differently. For example, the emotional support from health professional was perceived as more satisfactory by the stillbirth, and neonatal death groups. However, this satisfaction rate appears to be considerably lower for the difficult child birth group, miscarriage and ectopic pregnancy groups. Further analysis to compare the perceived support by trauma groups could not be undertaken due to small sample sizes in some trauma experience groups.

A similar pattern was also observed for the perceived uncaring treatment from a health professional. The majority of women from the difficult childbirth group and the ectopic pregnancy group rated the health professionals' behaviour as the most uncaring, followed by women who miscarried, women who had neonatal death and women who had a stillbirth. Women appeared mostly to find the emotional support from partner more satisfying than other significant others in all the trauma groups. Support from close family members appears to be the lowest in the stillbirth group and miscarriage group, whereas the majority of women from the difficult childbirth, neonatal death, and ectopic pregnancy groups rated the support from close family, moderately and above satisfying.

Moreover, this descriptive study provides some observations for the difficult decisions made by the women who experienced stillbirth e.g. seeing vs. not seeing, or holding vs. not holding the deceased infant. The majority of participants chose to see their infant and did not wish that they had not seen their baby. Similarly the majority of the participants held their stillborn baby and did not wish that they had not held their stillborn baby. It is also important to note that all mothers who did not see / hold their baby wished that they had seen or held their baby.

Similarly none of the mothers who had funeral arrangements for their stillborn baby had changed their mind regarding their initial decisions. However, some mothers who did not have any funeral arrangements wished that they had arrangements in place. It is also important to note that some mothers remained in accord with their initial decisions of not having funeral arrangements. This observation suggests that women preferred to see or hold their stillborn baby and did not regret seeing or holding their baby. However women who did not see their baby regretted their initial decision. Health professionals therefore should be encouraged to suggest seeing and holding stillborn baby to parents who have experienced a loss in relevant guidance (e.g. NICE guidelines).

The above close exploration of the trauma experiences also suggests that perinatal trauma experiences could be grouped into trauma with loss, and trauma without loss groups. Stillbirth, miscarriage, neonatal death and ectopic pregnancy are actually perinatal traumas with a loss of foetal or infant life, whereas difficult childbirth is a perinatal trauma without a loss. Although some of the individual perinatal loss traumas (e.g. ectopic pregnancy) do not have sufficient participants for further analyses in term of group differences, further analysis is possible if the groups were compared based on perinatal trauma with and without loss. It is this strategy which is chosen for the next study.

4.3 Study 3: Differences in Perinatal Trauma with and without Loss

Abstract

Objective: The present study investigated whether trauma with or without loss of the infant resulted in greater psychological distress. Also, the role of attachment styles was examined in relation to mental health scores of trauma groups.**Method:** The sample consisted of 144 women (Mean age = 31.13) from the UK, US/Canada, Europe, Australia/ New Zealand, who had experienced either stillbirth, neonatal loss, ectopic pregnancy, or traumatic birth with a living infant in the last 4 years. **Results:** The trauma without loss group reported significantly higher mental health problems than the trauma with loss group (F (1,117) = 4.807 p=.03). This difference was observed in the subtypes of OCD, panic, PTSD and GAD but not for major depression, agoraphobia and social phobia. However, once the previous mental health diagnoses were taken into account, differences between the trauma groups in terms of mental health scores disappeared, with the exception of PTSD symptoms. Both attachment – anxiety and attachment avoidance were correlated with the mental health scores of women who experienced perinatal trauma with loss. **Discussion** The findings of the study are discussed in terms of the importance of individual vulnerability and attachment dimensions for women who experienced a single perinatal trauma with or without loss.

4.3.1 Background

Prenatal/postnatal loss and difficult childbirth experiences, (for parsimony, called ‘perinatal traumas’in this study), have been identified as predictors of postnatal mental health (Soet, Brack & Dilorio, 2003). It has been reported that 15% to 25% of women who experience perinatal loss suffer from adjustment problems and may seek professional help for their mental health problems (e.g. Hughes, Turton & Hopper., 2002; Klier, Geller, & Neugebauer, 2000).

Most common perinatal traumas include miscarriage, stillbirth, ectopic pregnancy, neonatal death and difficult childbirth (Beck & Driscoll, 2006; Brockington, 1996). Unlike other perinatal traumas, miscarriage has not been recognised as a risk factor for perinatal mental health problems until recently. One earlier qualitative study by Bansen and Stevens (1992) showed that miscarriage signified a major life event that changed the way in which women viewed their lives in the present, and affected the way in which they planned for the future. Later studies also associated miscarriage with anxiety symptoms (Cumming et al., 2007; Engelhard, van den Hout & Arntz, 2001). A recent longitudinal study also emphasised the risks for persistent psychopathology, particularly for vulnerable women after one year post miscarriage (Lok, Yip & Lee 2010).

Women's experience of stillbirth has been a neglected area, but has started receiving more interest since the study carried out by Hughes, Turton and Evans (1999), which showed that PTSD symptoms were common during the next pregnancy following stillbirth at 1 year post – partum. Furthermore, Hughes, Turton, Hopper and Evans (2002), in a consecutive study found that contact with stillborn infant (seeing / holding) was associated with increased PTSD and next born infants were more likely to show disorganised attachment behaviour. The authors' findings, in a 7 year follow up study, also indicated significantly higher and enduring symptoms of PTSD following a stillbirth experience.

Most studies class ectopic pregnancy as a prenatal loss, and examine the effect of such experiences within the prenatal loss construct (Beck & Driscoll, 2006; Boyle, Vance, Najman, & Thearle, 1996; Ney 1994). Similarly neonatal death has also been studied with other perinatal traumas e.g. stillbirth. Boyle et al., (1996) showed that mothers who experienced stillbirth, neonatal and sudden infant death syndrome (SIDS) remained more likely than

controls to display high levels of both anxiety (14%) and depression (7%) more than 2 years after their loss.

Difficult/traumatic childbirth has also been associated with postpartum mental health problems, particularly anxiety disorders, and has been identified as an extremely traumatic stressor (Beck 2004b). It has been reported that 1% - 2% of women develop post-traumatic stress disorder as a result of difficult childbirth (Ayers, Eagke & Waring, 2006; Bailham & Joseph, 2003). More recently Alcorn, O'Donovan, Patric, Creedy, and Devilly (2010) in a prospective longitudinal study of the prevalence of PTSD following childbirth, found that PTSD can result from a traumatic birth experience after controlling for pre-childbirth PTSD, depression and anxiety symptoms. In addition, predisposing factors such as anxiety in late pregnancy along with other psychiatric symptoms in late pregnancy, critical life events and the experience of delivery was found to be an important predictor for PTSD symptoms (Zaers et al., 2008). Since the recognition of individual vulnerability in response to adversity in DSM-IV (2000), PTSD symptoms following a difficult childbirth have attracted lot of research interest and the current literature suggests a link between PTSD symptoms and traumatic / difficult childbirth (Wijma, Soderquist & Wijma, 1997; Ayers & Pickering 2002; Zaers, Waschke & Ehlert, 2008; Alcorn et al., 2010). However, no other study has examined difficult childbirth in relation to other anxiety symptoms in the postnatal period.

Although some women who experience loss or traumatic childbirth trauma adjust well to the loss or trauma, other women will continue to suffer (Badenhorst & Hughes 2007). Boyle et al., (1996) also suggested that although bereaved mothers reported higher rates of psychological distress, not all bereaved mothers suffered from mental health problems following a perinatal trauma. Their findings suggested that women who were psychologically

distressed soon after the loss were likely to still be distressed at 8th months and likely to remain so subsequently.

It has been argued that perinatal trauma may act as a trigger, turning vulnerability for mental health problems into actual disorders. Côté-Arsenault, Bidlack and Humm (2001) suggested that it is not the gestational timing of the perinatal loss (miscarriage, stillbirth or neonatal) but the personal meaning of each loss that is important for adjustment to loss. For example, it has been shown that women who experienced a perinatal loss may begin to question their ability to conceive and to be able to give birth to a living child like any other woman (Nansel, Doyle, Frederick, & Zhang, 2006), or they may suffer from anxiety symptoms following a difficult childbirth and blame themselves for failing to have a successful birth and not being able to bond with their living infant (Czarnocka & Slade, 2000).

Attachment theory (Bowlby, 1973) emphasises the individual differences in responses to adverse experiences such as perinatal trauma, and individual differences in attachment style are predictors of affective disorders. An insecure/ disorganised attachment relationship with one's mother is considered to be a risk factor for later maladaptation (Zennah, 1996). Sable (1995) indicates a link between PTSD and attachment security. She explains "the anxiety of PTSD as a type of separation anxiety in which fear and anxiety are so powerful that in such situations attachment behaviour is activated and requires that attachment needs are satisfied urgently". The findings from previous chapters in this thesis also indicate that attachment style, particularly attachment anxiety, is an important predictor of perinatal mental health, including anxiety specific PTSD scores.

Perinatal mental health complications coincide with the very crucial period where bonding to the infant takes place for the mother, and for the infant, attachment to his/her mother. It has been suggested that the parenting behaviour of women with anxiety disorders has been observed to exhibit reduced emotional involvement, impaired communication, and that the women are less responsive to their child (Field, Healy, Goldstein & Guthertz , 1990). It is possible that anxiety disorders and their symptoms could also have a detrimental effect on the early relationship between a woman and her baby. Mothers with OCD and panic disorder were observed to be less warm and promoting of psychological autonomy than control group mothers (Challcacobe & Salkovskis, 2009). Mothers with PTSD symptoms may have difficulties in breastfeeding and bonding with their baby (Reynolds, 1997). Also, parental behaviour that was low in warmth has been documented in families with anxiety disordered parents (DiBartolo & Helt, 2007).

Even though studies have examined a range of perinatal trauma experiences in relation to mental health problems, currently no study has yet examined the mental health outcomes of perinatal trauma in terms of the survival of the infant. It is reasonable to expect that survival of the infant may reduce the experience of mental health symptoms in comparison to women who lost their infants before or after childbirth.

In light of the above literature review, the present study investigated whether trauma with or without loss of the infant resulted in greater psychological distress, with particular focus on symptoms of anxiety disorders including panic, obsessive compulsive symptoms, post-traumatic stress and generalised anxiety symptoms. The study also examines the role of attachment styles in mental health problems of women who experienced a single trauma with or without infant loss.

Hypotheses of the Study

1. It is expected that there will be a difference in the mental health scores of women with trauma, with and without loss, with women with a living infant being expected to have fewer mental health problems.

2. Irrespective of experience of trauma with or without loss it is expected that psychological distress will be positively correlated with attachment anxiety and avoidance. In other words, it is expected that the mental health scores of mothers who experienced a single trauma without loss will be positively associated with both attachment anxiety and avoidance. Similarly, mental health scores of women who experienced a single perinatal loss are expected to be positively associated with attachment anxiety and avoidance.

4.3.2 Method

Sample

A total of 144 women (Mean age = 31.13) who experienced a single perinatal trauma: miscarriage (52), neonatal death (4), stillbirth (17), ectopic pregnancy (4) or difficult childbirth (67) experience are included in this study's sample. Full participant recruitment is described in Chapter 2 of this thesis (general methodology). The descriptive study in this chapter also provides detailed information regarding the perinatal trauma experiences of the participants in this study. Table 4.6 (in Analysis section, below) presents the demographics of the participants; 67 women who experienced a single perinatal trauma (miscarriage, neonatal death, stillbirth and ectopic pregnancy) constituted the 'trauma with loss' group, while 77

women who experienced difficult childbirth with a surviving healthy baby constituted the 'trauma without loss' group (see also Chapter 2 – General Methodology)

Procedure

Each participant completed a set of web based questionnaires and submitted their answers anonymously online. The study was advertised on social websites and the websites of some national and international organisations (Birth Trauma Association BTA; Share US, Australia/NewZeland (Sands AU); Magic Mums) (see also Chapter 2 – General Methodology).

4.3.3 Measures

Participants completed, along with a demographics questionnaire, the Psychiatric Diagnostic Screening Questionnaire (Zimmerman & Mattia, 2001); Edinburgh Postnatal Depression Scale EPDS (Cox, Holden, & Sagovsky, 1987); Perinatal Experience and Support Questionnaire (Budak, Harris & Blissett, unpublished) and the Experience in Close Relationships–Revised Scale (Fraley, Waller & Brennan (2000). Further explanations can be found in the general methodology section in Chapter 2, for the measures of the study

4.3.4 Analysis

4.3.4.1 *Demographic differences between trauma groups*

The demographic differences are examined by Pearson's chi-squared test (X^2) and Independent Samples t-test analysis. The analyses indicated that there were no significant differences between the two trauma groups in terms of relationship, education, ethnicity, job status and age. However, the two groups differed in past mental health history. A higher rate

of previous mental health problems was observed in the trauma without loss group. The results are presented in Table 4.6 and 4.7.

Table 4.6 *Demographic differences in PDSQ scores of single trauma with or without loss groups (n=144)*

		Trauma without loss		Trauma with loss	
		N	**%**	**N**	**%**
Relationship	Single	1	1.5	3	3.9
	In a Relationship	14	20.9	12	15.6
	Married	52	77.6	62	80.5
X^2 (2, N(144)=1.34, p =.51 (NS)					
Education	School education	3	4.5	13	16.9
	Post school	18	26.9	21	27.3
	Degree level	32	47.8	18	23.4
	Postgraduate level	13	19.4	22	28.6
X^2 (4, N=140)=12.30, p =.06 (NS)					
Ethnicity	Black	-	-	-	-
	Asian	2	3	5	6.5
	White	63	94	69	89.6
	Other	2	3	3	3.9
X^2 (2, N=144)=1.07, p =.59 (NS)					
Job Status	Unemployed	3	4.5	5	6.5
	Unskilled	7	10.4	11	14.3
	Skilled	45	67.2	50	64.9
	Managerial/Professional	12	17.9	8	10.4
X^2 (5, N=141)=3.68, p =.60 (NS)					
Previous Mental Health Problem	Yes	24	35.8	13	16.9
	No	43	64.2	64	83.1
X^2 (2, N=144)=5.77, p=.02 (S)					

Table 4.7 *PDSQ total scores by trauma with and without loss (n=144)*

Type of Trauma	N	Mean (SD)	Min	Max
Trauma without loss	67	31.27(4.87)	19	40
Trauma with single loss	77	31.01(6.04)	18	46
t(df=142)=2.78, p= .12 (NS)				

4.3.4.2 *ANOVA analysis for general and specific mental health scores of trauma groups*

A series of one-way ANOVAs were conducted to examine mean differences between trauma groups in the PDSQ total and PDSQ subscales. The findings are presented in Table 4.8 and Figure 4.1.

Table 4.8 *Univariate variance analysis for the differences between trauma without loss and trauma with loss scores on the PDSQ and PDSQ sub scores*

	Trauma without Loss			Trauma with Loss					
	M	SD	N	M	SD	N	F	df	p
PDSQ Total	29.74	17.49	61	23.14	15.20	58	4.81	1-117	.03*
OCD	1.02	1.52	66	0.47	0.94	73	6.66	1-137	.01*
Panic	2.45	2.72	65	1.35	2.05	71	7.07	1-134	.01*
PTSD	7.23	4.23	62	4.65	4.11	63	11.93	1-123	.03*
Major Depression	6.75	5.14	61	6.32	4.42	62	.25	1-121	.62
Agoraphobia	1.82	2.60	62	1.33	2.02	63	1.38	1-123	.24
Social	4.47	4.13	62	3.63	4.29	59	1.21	1-119	.27
GAD	5.61	3.46	62	4.34	3.44	61	4.16	1-121	.03*
EPDS	14.40	6.99	56	12.90	5.57	52	1.53	1-106	.22

* $p < 0.5$

There was a statistically significant difference in women's PDSQ total scores between the trauma groups. The trauma without loss group reported more psychological distress than the women who experienced trauma with loss. Despite reaching statistical significance, the actual difference in mean scores between the groups was small. The effect size, calculated using partial eta squared, was .04.

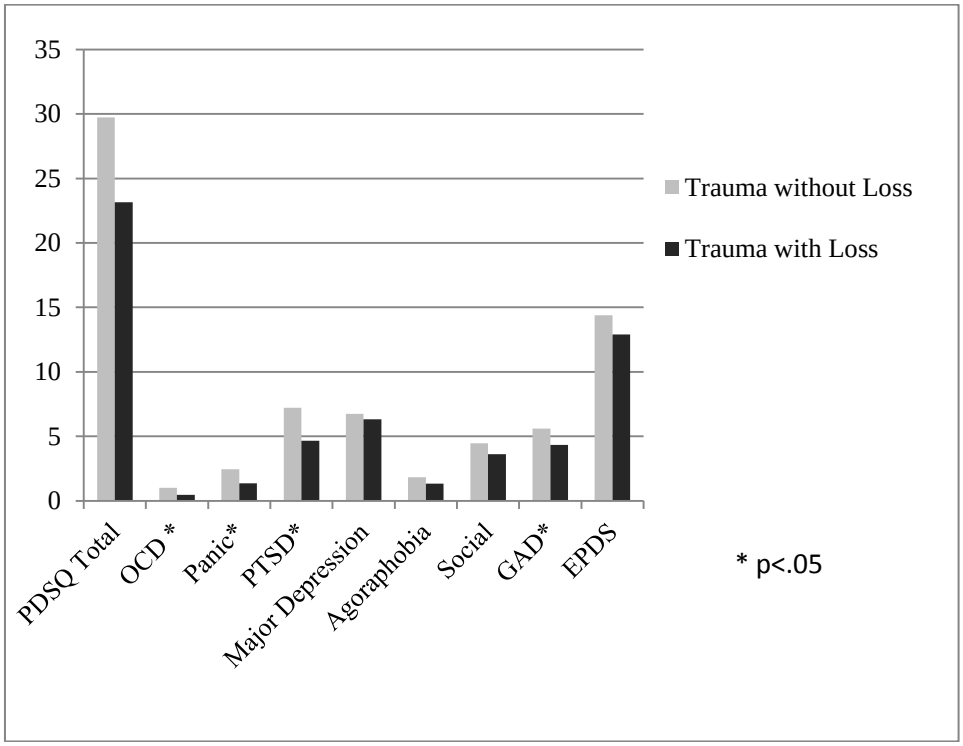


Figure 4.1 PDSQ total and sub scale scores by trauma group

PDSQ sub-scores and EPDS by trauma groups

Similarly, this difference in psychopathology remained in symptoms of OCD, Panic, PTSD and GAD. Homogeneity of variance assumptions was only violated for the trauma groups' OCD scores. However the trauma groups OCD scores were significantly different at a stringent significance level (p=.01) with a moderate effect size was .05. Effect sizes for Panic and GAD were observed as (.08) and (.03). On the other hand the differences between groups

in Major Depression, Agoraphobia and Social Phobia were not statistically significant. Furthermore there was no statistically significant difference for the EPDS scores between trauma groups (see Table 4.8 and Figure 4.1).

4.3.4.3 *Examination of current mental health symptoms of trauma groups by previous mental health problems.*

It was noted that the groups differed in terms of previous mental health problems. In order to understand whether the differences in the mental health scores for the trauma with and without loss groups comes from higher existing problems in these women, the above ANOVA analysis was re-run examining only the mental health scores of the women in each group who did not report any previous mental health problems prior to their trauma experience (Table 4.9).

Table 4.9 Univariate variance analysis for the differences between trauma without loss and trauma with loss scores on the PDSQ and PDSQ sub scores of women with no mental health history (n=107)

	Trauma without Loss			Trauma with Loss					
	M	SD	N	M	SD	N	F	df	p
PDSQ Total	23.74	15.05	38	22.09	14.40	46	0.26	1 82	0.61
OCD	0.69	1.30	42	0.48	0.97	60	0.86	1 100	0.36
Panic	1.69	2.41	42	1.26	1.90	58	1.00	1 98	0.32
PTSD	6.38	4.14	39	4.31	3.94	51	5.84	1 88	.018*
Major Depression	5.26	4.55	38	5.86	4.31	50	0.39	1 86	0.53
Agoraphobia	1.05	1.85	39	1.28	1.95	50	0.32	1 87	0.58
Social	3.62	4.13	39	3.67	4.34	46	0.00	1 83	0.95
GAD	4.46	3.36	39	4.23	3.32	48	0.10	1 85	0.75
EPDS	12.12	6.63	35	12.43	5.36	40	0.50	1 73	.821

**p<.05.*

As presented in Table 4.9 none of the general and specific mental health scores other than PTSD scores differed between trauma with loss and without loss groups. The effect size for PTSD observed was (.04); women with no prior history of mental health problems, but who experience a perinatal trauma, are more likely to report higher PTSD symptoms if their trauma involves a surviving infant than a loss.

4.3.4.4 *Attachment styles and general mental health scores*

As presented in table 4.10, both attachment anxiety scores and attachment avoidance scores differed by trauma groups. For women who did not report previous mental health problems (presented in Table 4.11) only attachment avoidance differed by trauma groups.

Table 4.10 *Univariate variance analysis for the differences between trauma without loss and trauma with loss scores on Attachment Avoidance and Attachment Anxiety scores (Whole sample n =144)*

	Trauma without Loss			Trauma with Loss					
	M	SD	N	M	SD	N	F	df	p
Attachment Anxiety	3.03	1.45	54	3.01	1.36	49	4.58	1-101	.04*
Attachment Avoidance	2.44	1.35	54	2.35	1.37	49	5.99	1-101	.02*

**p<.05*

Table 4.11 *Univariate variance analysis for the differences between trauma without loss and trauma with loss scores on Attachment Avoidance and Attachment Anxiety scores of women without any previous mental health problems (n =107)*

Trauma without Loss				Trauma with Loss					
	M	SD	N	M	SD	N	F	df	p
Attachment Anxiety	2.76	1.59	34	2.87	1.35	33	2.00	1-71	.16
Attachment Avoidance	2.28	1.28	39	2.13	1.29	37	5.56	1-68	.02*

**p<.05*

When the trauma with and without loss groups were examined in relation to attachment dimensions, for trauma without loss: both attachment anxiety and avoidance were correlated with PDSQ total, PTSD, Major Depression and EPDS scores. In addition, attachment anxiety was associated positively with OCD, Panic and GAD scores (Table 4.13). Attachment avoidance was also correlated positively with social phobia scores. Agoraphobia scores were not correlated with any of the attachment dimensions in the trauma without loss group. For the trauma with loss group, analysis indicated that both attachment anxiety and avoidance were correlated only with EPDS and major depression scores. Positive correlations were observed between attachment anxiety and PDSQ, Panic, PTSD and GAD scores. No further correlations were observed for attachment avoidance and the trauma with loss groups' mental health scores. OCD, agoraphobia and social phobia scores were not correlated with any of the attachment dimensions (presented in Table 4.12) Further analysis that excluded women who did not have previous mental health problems revealed similar results (see Table 4.13).

Table 4.12 *Correlations (r) between attachment styles and PDSQ total , PDSQ sub scores and EPDS by trauma with and without loss (n=144)*

	Trauma without loss (n=45)		Trauma with loss (n=53)	
Measures	*Anxiety*	*Avoidance*	*Anxiety*	*Avoidance*
PDSQ total scores	.50**	.39**	.49**	.08
OCD	.35*	.03	.13	-.16
Panic	.34*	.18	.36*	.01
PTSD	.37**	.44**	.33*	.01
Major Depression	.54**	.44**	.68**	.35*
Agoraphobia	.24	.19	.01	-.29
Social Phobia	0.23	.30*	.22	-.03
GAD	.41**	.10	.45**	.20
EPDS	.59**	.57**	.52**	.37**
Anxiety	1.00	.46**	1.00	.66**

**p<.05. **p<.01.*

Table 4.13 *Correlations (r) between attachment styles and PDSQ total, PDSQ sub scores and EPDS by trauma groups and without prior mental health problems(n=107)*

	Trauma without loss (n=32)		Trauma with loss (n=34)	
Measures	*Anxiety*	*Avoidance*	*Anxiety*	*Avoidance*
PDSQ total scores	.53**	.58**	.54**	-.015
OCD	.43*	.10	.13	-.16
Panic	.47**	.20	.44**	-.06
PTSD	.39*	.52**	.41*	-.05
Major Depression	.53**	.53**	.59**	.21
Agoraphobia	-.14	.22	.02	-.35*
Social Phobia	.19	.39*	.32	-.01
GAD	.41*	.33	.48**	.08
EPDS	.58**	.62**	.58**	.21
Anxiety	1	.56**	1	.57**

**p<.05. **p<.01.*

4.3.5 Discussion

This study was devised first of all to examine differences between trauma groups in terms of mental health scores and secondly to examine attachment styles in relation to mental health scores of trauma with and without loss groups.

Contrary to the expectations, analysis revealed that the trauma without loss group reported significantly higher mental health problems than the trauma with loss group. This difference remained in the anxiety specific mental health problems OCD, Panic, PTSD and GAD but not for major depression, agoraphobia and social phobia. It appears that women who experienced a perinatal trauma without an infant loss, suffered from more anxiety symptoms than women who experienced an infant loss. However, once the previous mental health history was taken into account, this difference disappeared for the general and specific mental health scores,

other than the PTSD score. This difference between the two trauma groups perhaps existed due to near death experiences, where women experienced a threat to themselves and/or their infant. Their infant may be a constant reminder of their trauma experience while they struggle to adjust after trauma. They may also be dealing with difficulties in bonding and negative feelings such as failing to love or look after their infant well enough. (Czarnocka & Slade, 2000; Elmir, Schmied, Wikies & Jackson, 2010). Parallel with the literature, the findings of the present study may suggest that a previous vulnerability to mental health problems is an important risk factor for worse mental health scores following a perinatal trauma experience (e.g. Johnstone, Boyce, Hickey, Morris-Yatees & Harris 2001; Milgrom et al., 2008, O'Hara &Swain 1996). Pre-pregnancy mental health history has been identified as a risk factor particularly for PTSD symptoms following difficult childbirth (Zaers, Waschke & Ehlert, 2008; Wijma, Soderquist & Wijma, 1997; Ayers, Harris, Sawyer, Parfitt, & Ford, 2009).

The findings also indicated a remaining significant difference between the PTSD scores of the trauma groups who did not have previous mental health problems. Women who experienced difficult childbirth maybe at risk for PTSD even in the absence of vulnerability caused by previous mental health problems and this effect may be stronger in those women who have a living infant. It is possible that maternal attachment styles may be one predictor of adjustment after trauma. Difficult childbirth may leave women prone to experiencing ruminations concerning possible risk to their infants which may interfere with bonding and infant attachment (Bailham & Joseph, 2003, Ayers, Eagke & Waring, 2006)

The study also examined the attachment dimensions that may be accountable for the subjective experience of perinatal trauma. Findings indicated that attachment anxiety and avoidance scores were significantly different between trauma groups. However, once the

previous mental health scores were taken into consideration, for women who did not have previous mental health problem, only attachment avoidance appeared to be significantly different between trauma groups. In addition further analysis showed that for the trauma without loss group, findings indicated that, as expected, general mental health scores were associated positively both with attachment anxiety and avoidance. These findings may suggest a link between women's experience of trauma and their interpretations of the trauma experience. Women's view of self and others may be one of the determining factors in response to trauma experience. It is important to note that in the trauma group without loss, both attachment avoidance and anxiety were positively correlated with greater mental health problems. Similarly, previous research has shown that attachment insecurity uniquely contributed to the risk for postpartum depression, beyond depression during pregnancy (Monk, Leight & Fank, 2008) and attachment anxiety was found to be a predictor for postnatal depression (McMahon, 2005).

Overall findings in relation to attachment dimensions can be summarised as indicating that the relationships between attachment styles and mental health functioning after trauma may not entirely be to do with prior mental health problems. For the general and specific mental health scores of women (who were seeking further information online, perhaps due to their continuing psychological distress or their need to be able to stay in touch with their experiences after trauma without loss experience), both attachment anxiety and avoidance seemed to be more consistently associated with distress for the trauma without loss groups. In contrast, the mental health scores of women who experienced trauma with loss seem to be less consistently associated with avoidance. This may suggest that those women who seek reassurance/contact from online surveys are more likely, especially if they have had trauma without loss, to have an avoidant or anxious attachment and therefore use online access to

alleviate their needs. This could be due to the fact that people with avoidant attachment use deactivating strategies – 'trying not to seek proximity, denying attachment needs and avoiding closeness in relationships' (Mickulincer and Shaver (2007). Thus an 'online / web based support' provides an ideal venue for information and remote support. On the other hand people with attachment anxiety use hyperactivating strategies (Cassadiy & Kobak, 1988) and again online / web based support may well serve for this strategy. However this point requires further research.

One interesting finding indicates that high attachment anxiety and avoidance were positively associated with the PTSD and depression symptoms of women who experienced perinatal trauma without loss. Similarly, de Zulueta (2009) argued the importance of understanding anxiety symptoms seen in PTSD as an indication of an insecure/- disorganized attachment. Mikulincer and Shaver (2007) suggested that disorganised – fearful avoidant individuals use mixed attachment strategies, and they have high scores on both the anxiety and the avoidance dimensions (pg.43). Disorganised attachment however was not measured in this study and therefore cannot provide further evidence for a link between disorganisation and PTSD. However, the findings of this study do support a link between attachment insecurity and PTSD.

For the trauma with loss group, general mental health scores were associated only with the attachment anxiety, and this is in line with the current literature (Milkulincer & Shaver, 2007). For this group, both attachment anxiety and avoidance were associated positively only with depression. The difference in attachment styles is important to note in order to support women pre and postnatally. Women who are anxious or avoidant, or both anxious and avoidant, may use different strategies in response to adverse outcomes and require different support strategies to be available to her. For example avoidant and/ or anxious women may

not be able to utilize the available support around them, but for different reasons. Avoidant women may be very susceptible to negative evaluations and withdrawn from social contacts, while anxious women may require further reassurance and women who are both anxious and avoidant may have difficulty in expressing feelings but at the same time seek some support.

The subjective experience of adverse experiences underlines the importance of individual variability in response to a trauma experience. Beck (2004b) drew attention to the fact that what a mother perceives as birth trauma may be seen quite differently through the eyes of health professionals. This subjectivity in interpreting experiences also applies to the differences between women who experienced similar experiences in terms of birth quality. It is plausible that anxious mothers perhaps are more likely to perceive the difficult birth as a traumatic / life threatening event. Thune-Larsen and Mosller-Pedersen (1988) identified specific factors that relate to mothers' emotional disturbance after delivery including, pain, loss of control, loss of awareness of time and space, negative emotional reaction to birth, dissatisfaction with her own coping with delivery, and unmet needs in relation to midwife during delivery. Similarly, in the descriptive study of this chapter, feelings of guilt and a sense of failure were the most frequently reported feelings among the participants. These identified factors may be a greater challenge for women who may have low attachment security (who are high in attachment anxiety and avoidance). Further studies are required to examine this.

It is not easy to conclude that the mother's perinatal mental health scores reflected the immediate distress symptoms she experienced in the initial months following her trauma experience without controlling for the time factors since the traumatic event . Due to lack of data, this analysis could not be conducted. However, the earlier descriptive study in this chapter indicated that the majority of women experienced perinatal trauma more than a year

prior to the study thus it is plausible that mothers may suffer due to their trauma experiences for a longer period of time than the initial months following the perinatal trauma.

The women, who experienced perinatal loss, appeared to have fewer mental health problems in comparison to the trauma group with a living infant, however, they still suffered from general and specific mental health problems (Figure 4.1). It would therefore be inaccurate to conclude that women who experienced perinatal trauma without an infant loss are 'worse off' than the women who experienced perinatal trauma with loss. This study actually underlines the importance of understanding the trauma experiences and individual vulnerabilities in relation to perinatal mental health. Women's view of a trauma experience appears to count more than the outcome of the trauma – a living infant vs. a deceased infant. Therefore it is very important to understand the underlying factors that influence the women's view of their own trauma experiences.

In the descriptive study of this chapter, it was shown that the women who experienced perinatal trauma without loss, rated the health practitioners' treatment as uncaring, and found emotional support less satisfactory than did women who had had stillbirth and miscarriage experiences. Women's attachment styles and previous mental health history may also influence this perception. Women who are anxious in their attachment styles may perceive the available support as less than satisfactory, or women who are avoidant in their attachment may find it difficult to utilize the available external support. Alternatively, health professionals may behave more sympathetically towards women who gave birth to deceased infant and show less understanding towards the women who miscarried and towards women who had a difficult birth but survived with a living infant. This hypothesis requires further research, however, the tentative findings of the current research suggest a trend in terms of difference for the provided emotional support and/or perceived support.

4.3.6 Implications and Further Research

This study has implications for current health provision, and improved understanding should inform the current practice in terms of supportive interventions. The findings emphasise the need for emotional support for mothers who have experienced a difficult childbirth with a living infant. In addition, there is an emerging need for a shift from outcome based focus (the survival of infant), to an individual based focus for women's birth experiences. In particular, the awareness of health professionals involved in childbirth and the perinatal period, about how such traumas may have an effect on the mothers, regardless of their healthy living infant's survival, may improve the care provided to women who experienced a traumatic birth.

Further research should include parenting and attachment issues of the subsequent infant following perinatal traumas. In order to understand the subjective experiences of women, qualitative studies may provide further insight into the women's experience of such traumas, and their consequences for the mother and her relationship with subsequent infants.

5 Chapter V: Meaning of Perinatal Loss & Subsequent Infant

5.1 Introduction

The previous chapters of this thesis examined perinatal loss in relation to mental health problems using quantitative studies. This chapter, however, focuses on the meaning of perinatal loss and its impact on subsequent parenting, and examines this within a qualitative design.

5.2 Study 4: Grieving and parenting: Mothers' accounts of their stillbirth experiences, & of their subsequent relationships with their living infant

Abstract[3]

This study focuses upon the personal accounts of women who experienced a stillbirth, and who then went on to give birth to a living child after a further pregnancy. Six women took part in email interviews with the first author, providing rich and detailed experiential narratives about both the stillbirth itself, and their relationship with their living child. An Interpretative Phenomenological Analysis of these accounts led to the development of three overarching themes. In 'Broken Canopy', 'How This Happened' and 'Continuing Bonds,' their accounts revealed an ongoing process where women accepted a new 'unsafe' view of the world, re-evaluated their view of self and others, and established relationships with both the deceased and the living infant. Important issues for future research and clinical practice include: the experiential value and significance of being able to hold and spend time with the stillborn child; the manner in which the stillbirth appeared to isolate parents from much of their informal support networks; and the importance of including the lost child in the family and its narrative. Implications for trauma and complicated–prolonged grief are discussed.

[3] The findings of this study was presented at the ECDP 2013, September

5.2.1 Background

In the research literature, stillbirth and its consequences have gained more attention in the last decade. So far research has looked into the impact of stillbirth on women and family members, grieving following stillbirth, the subsequent pregnancy following stillbirth, consequences for subsequent infants, and issues regarding stillbirth care. Some research suggests that mothers become more anxious in their subsequent pregnancies and that this anxiety may have prolonged consequences for both mothers and the subsequent infant, for example increased psychopathology (Cote - Arsenaul & Marshall, 2000; Hughes, Turton, & Evans,1999) and disorganised infant attachment in subsequent infants (Hughes, Turton & Hopper, 2001). Some attention also has been given to the effects of stillbirth experience on wider family members, including the father and siblings (Badenhorst, Riches, Turton & Hughes, 2006; Erlandsson, Ahlström, Säflund, Wredling & Rådestad, 2010). However, there still remains an uncertainty about how to advise medical staff of the necessary steps that should be taken around stillbirth care.

Lewis (1978) outlined advice for health practitioners on how to facilitate the grief process by allowing parents to create memories with the deceased baby, such as, naming the baby, making arrangements for the funeral in order to facilitate the mothers' bereavement process, and encouraging the women to see their stillborn baby. This approach was adopted as part of stillbirth management at UK hospitals until the late nineties. However, Hughes Turton, Hopper & Evans (2002) in their controversial study, suggested a link between women who did not see or hold their child and a lower prevalence of depression in their subsequent pregnancy. These women also exhibited fewer symptoms of anxiety and post traumatic stress disorder (PTSD). The significance of Hughes et al's (2002) study was challenged by Brabin (2004) on the grounds of inconclusive statistical differences and validity issues. Despite this,

and without further empirical evidence, NICE (2007) guidance changed and the informed practice was not to encourage mothers to see or hold their stillborn infant. Voluntary organisations (e.g. Stillbirth and Neonatal Death Society, UK) campaigned for the parents' right to be offered to see or hold their baby, brought about change in the guidance, and subsequently informed practice was to offer the options to parents to choose (NICE, 2010). These polarised views in dealing with stillborn care are still evident, however, in research informed guidance. Recently, Facchinetti Dekker, Baronciani and Saade (2010) in their review of the stillbirth and its management, suggested that parents need to be helped to approach their stillborn. Other recent findings, for example Cacciatore, Radestad & Froen (2008), with a much larger sample of women who experienced stillbirth - from Maternal Observations and Memories of Stillbirth Study (MOMStudy) found that following stillbirth mothers, who saw and held their stillborn baby experienced lower levels of anxiety and depressive symptoms. However pregnant women (following a stillbirth experience) appeared to have less depressive symptomology but more symptoms of anxiety if they had seen or held their baby. Similarly, Radestad et al. (2009) found an overall positive effect of having held a stillborn baby, particularly for births after 37 weeks gestation. However, for 28 -37 weeks gestation age their findings were not conclusive. Very recently Erlandsson, Warland, Cacciatore and Rådestad, (2013), with a very large sample (n= 840), also found that mothers felt more comfortable and less frightened if the health care staff supported assumptive bonding by simply offering the baby to the mother, without emphasising the choice of whether she wanted to see or hold the baby. This may be because of the act of choosing implies that the mothers are doing something that they are not supposed to do. We still need to understand better the individual circumstances surrounding the difficult decisions around

stillbirth and then to inform clinical guidance so that consistent reliable care is given to women. This is important for the mother and the subsequent infant.

Turton, Badenhorst, Pawlby, White and Hughes (2009), looked at the subsequent pregnancy and infant, and draw attention to the mothers' different perception and their attitude to the infant in comparison to their other children. They discussed their findings in terms of the 'vulnerable child' or 'the replacement child' and invited further qualitative studies in which a mother's view of her subsequent child, and individual differences between mothers, could be understood and identified in handling stillbirth. Similarly, another recent qualitative study has also emphasized the impact of a loss of an infant on the subsequent parenting of mothers (Warland, O'Leary, McCutcheon & Williamson, 2011), and indicated a paradoxical pattern (trying to hold their subsequent child emotionally close, but aloof at the same time) in their parenting styles. However, this emerging area of research requires further investment in order to understand the factors that may be affecting a mother's relationship with the subsequent infant, with the inclusion of parenting experiences.

The majority of studies which are used to inform stillbirth care management are quantitative in nature. Recent qualitative studies have provided a closer look into the woman's own experiences in relation to the care and support that they received from health practitioners (Kelley & Trinidad, 2012), and the mother's view on their interactions with the health care staff before and after stillbirth experiences (Downe, Schmidt, Kingdon & Heazell, 2013), as well as with their parenting experiences (Warland et al., 2011). However, to date no other research with an existential focus has looked at what stillbirth actually means to women. This is an important aspect which is missing from the research literature, considering the individual differences in relation to dealing with trauma (Roth & Cohen, 1986). Accounts of individuals will offer a useful insight into the meaning of stillbirth experience and the hard decisions that

mothers have to make. Also , Bonanno (2004) emphasised the need to focus on the human potential for resilience in response to the trauma experiences, rather than concentrating on the psychopathology itself, in parallel to a shift towards a 'positive psychology' (Seligman & Csikszentmihalyi, 2000). Therefore, the current interpretative phenomological qualitative study will focus on the meaning of the stillbirth experience to women and its influence on the subsequent pregnancy and subsequent parenting from the mothers' own experiences.

Research Questions:

Primary questions:

1 How do women make sense of their experiences of stillbirth?

2 How do mothers who have previously experienced a stillbirth, make sense of their relationship with a subsequent infant?

Secondary questions:

3 How do the mothers' accounts of stillbirth and their relationship with subsequent children relate to the existential, cognitive, and developmental theories of psychology?

5.2.2 Method

5.2.2.1 *Ethical review*

Ethical approval was obtained from the University of Birmingham for this study.

5.2.2.2 *Reflexivity*

The researcher (Budak) experienced stillbirth 9 years ago and currently provides counselling services, particularly to women who have experienced prenatal and postnatal losses. She is a reliable Adult Attachment Interview (George, Kaplan & Main, 1984) coder and aware that she has pre-formed ideas around the stillbirth experience. In addition, being able to be in touch

with women who have experienced a loss of their first infant, has given her the opportunity to be able to reflect on her own experiences and stay in touch with her own memories. The researcher (Budak) experienced stillbirth 9 years ago and currently provides counselling services, particularly to women who have experienced prenatal and postnatal losses. She is a reliable Adult Attachment Interview (George, Kaplan & Main, 1984) coder and aware that she has pre-formed ideas around the stillbirth experience. In addition, being able to be in touch with women who have experienced a loss of their first infant, has given her the opportunity to be able to reflect on her own experiences and stay in touch with her own memories. She felt very close to some of the participants due to the commonalities of their experiences. These similarities were useful in terms of establishing rapport with participants. However, at the same time it made the analysis of some of the participants' accounts harder as there was a set of preformed view of the effect of loss. Through her experience Budak was also influenced by some of the psychological theories. These were noted during the analysis of each participant's written accounts and during discussions which took place at supervision meetings with her supervisor, Larkin.

The supervisor, Larkin, is a phenomological psychologist with an interest in the cultural context of personal experiences. While the supervisor, Harris, a consultant clinical psychologist, is interested in attachment issues. Blissett, the supervisor, is an applied developmental psychologist, whose specific interest lies in parenting and childhood.

5.2.2.3 *Recruitment & Participants*

The recruitment was carried out on an internet based social support website – Facebook - Stillbirth group, Twitter - After Stillbirth and a US based pregnancy loss support forum – Share (http://www.nationalshare.org). A purposive sample of six women whose first pregnancy ended with a stillbirth and have since had a living infant, between the age of 4

months to 4 years old, took part in this study. The contextual details of the participants are presented in Table 5.1. The time gap between the stillbirths to live births varied from 15 to 20 months. Participants were asked to write freely regarding their stillbirth experiences; experiences of the subsequent pregnancy; memories of giving birth to their living infant; and finally their relationship with their living infant (See Methods section for further information).

5.2.2.4 *Data analysis*

An interpretative phenomenological analysis (IPA) was used in this study (Smith, Flowers, & Larkin, 2009). Our analysis focused on how women make sense of their experiences of their stillborn child and their relationship with their subsequent infant. Secondly, the analysis took into account how women's account of the stillbirth experience related to the existential, cognitive (Appraisal), and developmental (Attachment theory) theories

Table 5.1. *Contextual details of participants*

Participant number and pseudonym		Age (years)	Country	Field of work	Stillborn Baby pseudonym	Stillborn Baby's Gestation	Live Baby pseudonym	Live Baby Age (months)	Partner /Husband pseudonym	Mental health
1	Ruth	35	US	Management	Emma	41	William	4	Steven	No
2	Sharon	32	US	Education	Oliver	31	Grace	4	Kevin	Depression
3	Sarah	34	US	Publishing	Joseph	34	Jacob	21	Dylan	No
4	Karen	48	UK	Support	Chloe	32	Shauna	48	John	PTSD
5	Isabel	28	UK	Administration	Ella (Mia twin sister)	25	Amelia	30	Richard	Depression
6	Defne	30	Turkey	Education	Ufuk	30	Zeynep	48	Murat	No

5.2.2.5 *Results*

IPA analysis of 6 women's accounts of their experiences revealed three principal themes : I). 'Broken Canopy'; II). 'How This Happened'; and III). 'Continuing Bonds'. Overall 11 subthemes were identified which are illustrated in the main features of the principle themes.. The titles and labels of themes and the study contain participants' own wordings where possible in order to stay close to the participants' own experiences. Some interpretation and discussion points were also highlighted within the themes' narrative.

Table 5.2, on the next page, provides an overview for the emerged main and sub themes from the IPA. Then under the main theme headings all the themes were presented and discussed

Table 5.2 *Women's experience of stillbirth and parenting experiences of subsequent infant*

Domain and sub theme names	Clusters discussed within the sub themes	Number of contributing participants
I) Broken Canopy		
1. It cannot be true – Baby with no heart beat	(Pregnancy with a dead baby; Confronted by a dead baby; Choice and information)	6
2. Questioned Self & others	a. The off script experiences of others b. Others failure to acknowledge the loss c. Changed view of self – self is alone	6 6 5
3. It cannot be true – Baby with a heart beat	(Consolation prize / Runners' up prize)	6
4. Surreal Experiences	(Joy and grief; Creating life like another women)	6
5. Anxious parenting	(Unrealistic expectations from self; Creating memories)	5
6. Integrating death in life	Self growth	4
II) How did this happen?		
1. Why	Is the self the culprit?	6
2. Emotions	Anger and despair	5
III) A Continuing Bond		
1. My baby existed after all	They are brothers/sisters; We are a family; He/she is still my child	6
2. Betrayal		4
3. Longing and need to be in touch		6

I. BROKEN CANOPY *'Questioned self and the changed view of world –world may not be safe'*

One of the participants shared this quotation from *"The Worst Loss -How Families Heal from the Death of a Child" by B.D. Rosof:*

> *"...A child's death tears the canopy wide open. Parents and siblings stand robbed of the child, bereft of their illusions, exposed, overwhelmed, alone. ...their bright canopy no longer protects them, when a child dies" (1018-1024),* **(SHARON).**

This offers an image of a protective canopy, a symbol of the assumptions which we may make about the safety of the world. **It reflects a concern, shared by all our participants, about the puncturing of this canopy.** Respondents described something akin to an existential crisis: the revelation - through the loss of their infant -that the 'safe world' was actually fragile and vulnerable. The realisation that anything could happen to the canopy appeared to change their world view. The vulnerability of self and life became the new focus, as it is represented in **Karen'**s extract below:

> I think now that Chloe's death has left me with an almost constant awareness of the fragility of life, how quickly everything can change. Before Chloe died, a headache was just a reason to go to bed earlier, now I worry could it be something more serious. Now when friends are expecting babies, I feel great relief when their babies arrive safely. I don't have that blind expectation that all will be well. I don't trust doctors so much either (406-412), **(KAREN).**

This main theme, collectively shared by all the participants in various forms, presented itself in 6 sub themes: 'It cannot be true -baby with no heart beat'; 'Self and Others; It cannot be true – baby with a heartbeat; Surreal Experiences; Anxious parenting and Integration of death in life.

I.1 *It cannot be true -Baby with no heart beat*

All participants shared their disbelief when they learnt the baby's heart stopped and their baby was no longer alive, although, they still looked pregnant and they still gave birth to their baby.

> I couldn't breathe. I couldn't speak. Not only did I have to start processing this horrible information, but I had to experience it while still being pregnant...couldn't run. I couldn't fall to the floor. I had to hold up this big pregnant belly (76-81), (**SHARON)**
>
> He was still there and I had to give birth to him.(15-16), (**DEFNE)**

The arrival of the baby who died in the womb appeared to bewilder women as the natural process of the pregnancy, and consequently the birth, was completed but without any living baby at the end.

Women also seemed not to be sure what to expect from their labour, especially about meeting their dead baby. They were puzzled as this baby was no different to a living baby in terms of the way they arrived and the way they appeared.

> She was wrapped in a towel, like any other new born baby and handed to me. She was absolutely minute. Her face was bruised and there was a tiny trickle of blood coming from her nose and mouth. Her eyes were still sealed shut and she had no hair. She was still, clearly, meant to be in my womb. I held her and cried over her for a bit, before handing her to my husband who did the same (294-304), **(ISABEL).**

Isabel, in response to meeting her 17 weeks gestated baby stated that "it was still clearly meant to be in my womb". This summarised the out of place experience and also suggested a realisation that the full term was not complete and baby was too small to live and therefore there was nothing that could be done without the full course of the completion of the process .

In addition, half of the participants reported that they still held hopes for meeting a living child at the end of this natural process, regardless of the facts that they were given. **It appears that the actual realisation of the baby's death did not happen until they met their baby in the flesh.**

> No-one had told me Chloe would be warm. I think deep inside without telling anyone I felt she was still alive. Later as she lay in the cot beside me I dozed off and when I woke I thought she had moved I screamed. The junior midwife came running in. I didn't tell her why I screamed. No-one had told me about the painful cramps I would have. I requested pain meds and after some nasty comments about how I wouldn't take it earlier I was given 2 paracetemol. (217-223), **(KAREN)**

Upon meeting their baby, mothers appeared to instinctively want to take care of their dead baby. However, not being able to do so seems to make mothers anxious, and particularly when they were separated from their deceased baby, they seemed to realise the fact that they were not going to see their baby ever again.

> We were able to hold him and spend some time with him, then they took him ...**When the hospital took Oliver away**, I felt empty. I wanted to know where he was going, who was going to take care of him, were they going to be careful even though he wasn't living. He was my child and I felt sick that I would never see him again. For me that was the beginning of my unyielding grief that he was no longer a physical part of me and I couldn't feel him anymore. (99-102), **(SARAH).**

'When the hospital took him away' also suggests the mother's struggle in accepting her baby's death. This may suggest belief that he is still alive and also her helplessness. Furthermore, it emerged that women **were not informed about the options available** after their stillbirth experience and because of that **some women missed or almost missed their chances of being able to say goodbye to their baby**. For example, some only found out by

chance about the possibility of keeping their baby overnight. While women were recovering from the demanding labour itself, these women were at the very same time also going through the realisation of their baby's death. **Karen** cited her gratefulness for being able to say goodbye to her baby, even if only by chance.

> We found out on Monday, 3 days later that we didn't have to leave her there so we went and brought her home. It was so lovely to hold her and hug and kiss her and have her home. She was in her coffin in our bedroom until we buried her on Wed. Having Chloe home meant the world to us. Her big sister was able to hold her too and family visited and we felt we had 48hrs to tell her we love her. We never think about the fact we were not told we could take her home. That would be so upsetting. We are just thankful we found out we could bring her home. (*225-234),***(KAREN)**

The importance of keeping a memory of their child becomes clear to most mothers at a later stage in their journey, as suggested by Ruth.

> We were fortunate to have a local photographer from a local charity arrived at the hospital and took pictures for us. It seemed awkward at first but we are both very thankful to have these photos as they are the only ones we will have of our darling angel daughter. (190-195), **(RUTH)**

Five out of six participants seemed to acknowledge the importance of being able to take the available opportunities (taking photos, taking the baby home etc.) later on. Defne, however, was strongly encouraged by significant others 'to move'- get on with life and hide her feelings and her longing to see her son. This may be one reason why she did not name her baby, had no physical memories of her baby, and relived her experiences on her own secretly.

I.2 Questioned Self and Others

I.2.a ‘Others - Off script experience’

It emerged that the stillbirth experience of mothers touched other people’s own fears and threatened their own assumed safe world. Acknowledging this experience perhaps risked acknowledging the possibility of someone’s own canopy’s fragility as reported by Sarah

> the death of a baby is so "off script". It's just not supposed to happen. And it taps into people's individual fears and discomfort (156-157), **(SARAH)**

Perhaps this was the underlying reason for others’ unavailability for support and validation, and for their suggestions of dismissive strategies to the bereaving mothers.

I.2.b ‘Others failure to acknowledge the loss’

Collectively all participants shared their **need to be recognised and acknowledged by significant others following their experience of loss**. However, validation of their feelings from others did not appear to be available or they were limited.

> Only one of my friend said cry Defne. No matter what I will say will lessen your pain, but express your feelings to me- offered me a shoulder to cry on. I cried a lot that day, only to her… How well she understood my only need to be able to cry (53-69)**, (DEFNE)**

> Every now and then someone either a family member, friend or someone handling the burial arrangements would make a hurtful comment such as "Don't worry, you'll have another baby." or "Are you sure you felt fine? You didn't feel like anything was wrong?" or "It was God's will." None of this was helpful, because a) I don't want another baby. I want this one; b) if I didn't feel fine, I would certainly have rushed to the doctor or hospital!; and c) what little faith we had we were now questioning (159-164), (**SARAH)**

Women appeared to be **being isolated and alone in their experiences in this unknown new world.**

> I think it was tough, dealing with depression to be honest and my friends, the one or two I have in [Place 1], *rarely showed up or text me*, so they were little help sadly. My husband worked 60 hour weeks at the time, so when I did see him, he was exhausted himself. (1038-1044), **(ISABEL)**

I.2.c 'Changed view of self – self is alone'

The majority of mothers with their unmet needs of support appeared to be encouraged to keep their sorrow within as they felt lonely and isolated in their experiences.

> It is wonderful to go to school with her everyday but I still cry when I think of my son but nobody knows it. (39-41), (**DEFNE)**

I.3 <u>It cannot be true – baby with a heart beat</u>

The realisation of the broken canopy and the heightened awareness in danger and death appeared to leave the women surprised at having given birth to a living, breathing baby after all. Women collectively reported that they questioned their ability to create life and were prepared to face further adverse experiences.

> I know it's an odd observation to make, but I was really astounded by the fact she was breathing. (857-860), **(ISABEL)**

In addition, women appeared to question **their ability able to create, with the arrival of a dead infant.** However, until the arrival of the living infant, the concern that they may not be able to create or bring life was a strong possibility within the shattered unsafe canopy. Therefore, it appeared to be hard for the women to believe that they could have a living baby after all.

> This may sound morbid, but I felt disbelief that I had actually given birth to a healthy child! (286-287), (**SARAH)**

Women, seemed to try to separate the two different, but co existing, infants' places throughout their journey. This breathing baby was not a substitute or consolation prize. Mothers refused to think that they were substituting their children with each other, as represented in Karen's account.

> Other people seem to see Shauna as some kind of 'consolation prize' for Chloe's death. I find this so untrue and offensive. Giving birth to Shauna safely and rearing her did not heal my grief over Chloe. What it did do was give me a pressing reason to get up every morning. One child does not replace another. Each of my daughters has their own special place in my heart. (401-405), **(KAREN)**

I.4 *Surreal experiences*

This co-existence appeared to be linked with the surreal experiences and left mothers in a dilemma. All participants reported s**imultaneously** experiencing **opposite feelings – Joy and Grief, were reported by all the participants.**

> I enjoyed seeing Grace on the screen at our many doctors' appointments. Those were the moments I focused on her… But mostly, my thoughts and focus were on letting my hopes and dreams for Oliver go, and learning how I could incorporate his absence into my life.(373-381)**, (SHARON)**

Co-existence on the other hand appeared to allow mothers define each child. Sometimes the dead baby defined the existence of the living baby and sometimes the living baby defined the existence of the dead baby throughout the mothers' journey as described by Sarah's extracts:

> Often I felt I had to act like I was always happy and grateful in front of everyone else for their own relief and happiness about expecting Jacob. Mind you, I was thrilled to

be expecting him, but that coincided with the fact that I was still grieving. The guilt didn't last long, because we came to see Jacob as a sign from Joseph that we should love another child as well. Perhaps that sounds a bit esoteric, but we believe that. (254-259), **(SARAH)**

I.5 Anxious parenting - (Unrealistic expectations from self; creating memories).

Heightened awareness of the imminent danger along with surreal experiences appears to influence mothers' relationship with their infants and their parenting experiences.

When **Sharon** was asked to describe her relationship with her living subsequent infant, she described the loss and despair as a 'cliff', and that giving birth to a living child was like 'diving off from this cliff to land of an unknown – parenting'. This analogy sums up the other women's experiences of how their parenting is influenced and shaped from their previous loss. Life and loss coexisted once again.

> This is all after she was born -going through the labour with her was a different thing entirely! I have described the change over from being in labour to having her born as two different worlds -diving off of a cliff only to land in a foreign land. (659-664), **(SHARON)**

Joy coupled with grief, and the shattered 'safe' world seemed together to catalyse the women's constant worry of their living offspring's welfare. Mothers appear not to focus 'here and now', but rather their focus is either in the past or in their future worries.

> There was so much worry. I had dreamed before she was born, of us being so relaxed and enjoying her baby time. I think now that my expectations were too high. But the worry for having Shauna did not turn out how I expected. I was surprised when one doctor commented that he couldn't understand why we worried so much about her. After Chloe died so suddenly, I felt it made perfect sense that we would be worried that something bad would happen to Shauna. (382-387), (**KAREN).**

Furthermore, half of the participants appeared to be engaged in activities, involving unrealistic expectations from self in order to protect their infant in the **unsafe** world.

> My feeling toward my 'importance' to Daniel relate to my ability to *provide for him in a way that no one else can*. I really wanted to be able to breast feed him for at least 6 months. When this didn't happen, I felt less of a woman and almost helpless. (510-515), (**RUTH)**

The constant awareness of the fragility of life and the emphasis on 'past' and 'future' engaged the majority of the participants in anxiously collecting memories of their infant. But this time, at least, they have memories of their infant unlike the first time. This perhaps makes the loss more bearable as they can keep their memories alive and grieve for their loss.

> With Grace, if there was something that felt right for her, I bought it with the understanding that it is hers whether she ever used it or not. In that way, I was creating physical memories of her if we lost her. (312-316), **(SHARON)**

I.6 Integrating death in life

The awareness of fragility of life and death itself appeared to bring a new authentic way of living. Life and death are not separate entities. Four out of six participants, articulated being able to find new ways of in engaging with life. Their focus appeared to move to the 'present' 'here and now'as described by Sharon and Defne.

> In fact, there had always been that fear of driving. It was difficult to imagine myself in traffic jam. But today I drive to work every day. (33-35), **(DEFNE)**

> Something beautiful that I experienced being pregnant after having a baby born still is that I treasured each moment that she was alive in me. Most people go through pregnancy anticipating the next steps -birth and life. Never having gotten to those steps with my son, I was able to build a relationship with my daughter in a unique way in utero. I was getting to know her and think about her in the moment rather than dreaming about the future.(306-312), **(SHARON)**

In summary, it appeared that the realisation of the 'vulnerability of self' engaged participants in to an appraisal process where their abilities and other's availability to them were assessed. The view of an assumed safe world changed and women appeared to feel isolated in their experiences. When women then turned to others for support they were compelled *to move on – get on with life*. This meant to mothers that their experiences were dismissed, and rejected and this was deeply upsetting for women. The arrival of a new baby could not be embraced by mothers as a new experience. The living baby defined the dead baby's existence. Two babies appeared to co-exist with each other and defined each other's existence. This contradictory duality also appeared in women's desire to create life (i.e. having more children) but at the same time feeling that they were betraying their deceased infant as articulated in powerful simultaneously experienced emotions like joy and grief. Mothers appeared to be anxious about being able to protect their children in their shattered new world. They then tried to restore the broken canopy at all cost including sacrificing self via unrealistic expectations from self. Heightened anxiety appeared to be a new focus in their relationship with their infant; however some women moved beyond their awareness of death and danger, and integrated the death and danger into their life, existence. Life and death together defined their existence.

II. HOW DID THIS HAPPEN?

Women collectively asked the question 'Why' in their accounts. One participant, Ruth identified losing her baby as tragedy. This suggested extreme sorrow, as a consequence of a tragic flaw, however there was a meaningful ending.

> *When I am reminded of my daughter's tragedy I think to myself how lucky I am to have known her at all. I used the knowledge of her situation and took that forward*

with me during my pregnancy with William... Life is so precious and too many people take the ability to create life for granted. (388-397),(***RUTH)***

Other women articulated answers for their quest in searching for answers as to WHY this had happened, and their account did not have self-blame.

The guilt did not last because we came to see Jacob as a sign from Joseph that we should love another child as well. Perhaps that sounds a bit esoteric, but we believe that.(260-261), ***(SARAH)***

II.1 Why - Am I the culprit?

It appears that when there were no meaningful answers to the question 'why they were chosen to live without their children', most of the women expressed anger in the form of self-blame towards self.

So, basically, we were left with absolutely no answers. I think that has been the hardest part in our process. They tell us they don't like to have answers because it's less likely to recur. We like that. But it doesn't help in our understanding of what happened to our little boy. And it certainly adds to my anxiety that maybe it was something I did**.** (274-280), (**SHARON)**

II.2 Emotions - Anger and Despair

Anger towards others was also articulated by almost all participants except Ruth, towards various significant others including family, friends, hospital staff, God and her baby.

Everybody said if this happened later it would have been worse, what happened was better then what would have happened if this child born with disabilities. This made sense but it did not make me feel better. Even it made me angry (48-52), **(DEFNE)**

Isabel, in response to a consultant's dismissive statement for her constant worry during her subsequent pregnancy, stated that

> I could have chucked a chair at his head. I pointed out to him, rather curtly, that I had buried two children and that I didn't plan on doing it again and if he'd been through what my husband and I had been through, he wouldn't be asking such a dumb-ass question.(698-701) **(ISABEL)**

Anger was also expressed towards God, and the baby, in participants' Sharon and Karen's accounts.

> I could not touch him. When asked prior to his birth, I had told everyone I was going to hold him. But when he came out I felt differently. All I kept thinking was, "That's not him" I knew the real essence, the true being who had been my little boy, was not in that body. My baby was gone. I said I had held him for eight months. I wasn't going to hold him when he wasn't there. (196-203)**, (SHARON)**

> I tried going to Church but gave that up quite soon as I was so angry with God. (259-260), **(KAREN)**

Women collectively also talked about their despair and helplessness in the situation that they were in while articulating their realisation that there is nothing they can do or undo to change the circumstances; this is represented by Ruth's extract.

> I spent the first few days just completely numb, like a robot, coordinating and planning her funeral services. I felt the need to make sure she received the best she could, since there wasn't anything else I could do for her. (255-261)**, (RUTH)**

In summary, sooner or later, the arrival of a sudden 'end before a beginning' appears to come as a shock to all women. Then they appeared to continue to question the self and others, while looking for the reasons why they had to go through such experiences. All participants expressed despair, while anger towards self and others was shared by most of the participants (Five out of six participants).

III. A CONTINUING BOND

A final theme entitled ‘a continuing bond ’emerged around the relationship with the deceased child and was articulated by all the participants. This was also observed in the co-existing relationship between deceased and living infants. Three subthemes emerged under this theme as follows:

III.1 My baby existed after all

The death of an infant before birth giving rise to hardly any memories seems to complicate the natural bereavement process. Women were faced with accepting a baby’s loss before realising their existence. It appears that this realisation becomes clearer only with the arrival of the new baby. This collectively shared experienced was articulated in Sharon’s excerpt.

> There is the real child, and the one we have created in our minds. Understanding this was a beautiful and helpful thing for my relationship with Oliver. It made part of him still exist for me. Accepting this allowed me to continue to know him as my child. I just had to come to terms with the fact that I would never get to see who he was as compared with my creations. (981-988), (**SHARON)**

III.2 Betrayal

The majority of participants (4 out of 6), felt that they have betrayed their deceased infant when they became pregnant again and subsequently gave birth to a living infant. Women’s natural desire to have children appeared to contradict their desire to stay in touch with their baby, as illustrated by Sarah.

> It was very complicated. I felt terribly guilty, as if we were already forgetting Joseph. I'm sure others judged the fact that we conceived right away, but our doctor recommended it and I was already 33. Even when I discovered the positive pregnancy test, I remember calling Dylan and just feeling scared and nervous. It was difficult to

> enjoy the pregnancy and all the joys of expecting--first kicks, ultrasound photos, etc. We were constantly fearing for the baby's life. (225-230), (**SARAH)**

It also appears that the majority of women at a later stage in their journey reflected on how they dealt with the process and regretted the missed opportunities afterwards, as articulated by Sharon.

> She presented me with a card with the footprints in and photos of her. I was very grateful for her doing that, although I think back now and wish I'd have done it myself. I was her Mum after all. (332-338), (**SHARON)**

III.3 *Longing and need to be in touch*

Women expressed a longing for their infant and the need to stay in touch somehow with their infant.

> 'my husband and I felt incredibly lonely in the sense that we had these empty, aching arms that should be more than filled with two babies. (622-623)**, (ISABEL)**.

Women chose different ways to be in touch with their baby and their memories:

> Ok, keep the questions coming. I am glad to be purging all of this. Sometimes I go weeks without talking about Joseph. (114-115), (**SARAH)**

And some stayed in touch with their infant via involving themselves in activities in their child's memory, supporting families going through similar experiences or taking part in research in the area of stillbirth experiences.

> I just love to talk about my daughter; it helps to 'keep her alive' in my heart. (210 - 212), **(RUTH)**

One of the participants said that although their infant is not living anymore, they are still part of their family. This loss is also the whole family's loss including the subsequent children.

> I walk around thinking I should have two sons on either side of me. My husband says we are blessed with our son Jacob because we lost our first son Joseph, but I still feel that they are brothers who should be together right now, playing, getting into trouble, getting ready to start nursery school, etc. I think of myself as a mom to two boys, but no one else sees me that way.(85-89), **(SARAH)**

It appears that the co – existence, as discussed in 'broken canopy', between the dead and living baby enables mothers to be able to be connected with their infant, for whom they feel a longing. **Isabel** reported explicitly how she connected with her infants via sensory experiences with her living infant.

> Coped with the guilt of devoting all my time and attention to Amelia by doing certain things. Probably sounds weird, but there are times when I can 'smell' them. All babies have a particular scent and so did Ella before she died. From time to time, I can smell her and I always say hello to both her and Mia.(1001-1110), **(ISABEL)**

In summary, mothers appeared to be initially occupied with making sense of their baby's loss. The recognition of the baby's existence is something articulated in all mothers accounts at a later stage. At the same time mothers expressed longing for their infant and the need to be in touch with their baby. Betrayal of the deceased infant was also expressed when the mother experienced joy. They reflected on their missed opportunities in interacting with their baby, such as holding their baby, and keeping memories so that they can continue to stay in touch with their baby.

5.2.3 Discussion

Women's accounts revealed that the experience of stillbirth is a process where women **re-visit** the experience and reflect their experiences **throughout other life events such as the arrival of a new baby.** The experience of stillbirth appears to **influence the relationship with the**

subsequent infant and parenting. Further discussion and interpretation points, for the three main principle themes follow:

Broken Canopy

Women collectively appeared to question their sense of mastery in the world, and the foundations upon which they build their lives following their stillbirth experiences. It is plausible that an existential crisis as discussed by Yalom (1980) appeared to be evident in participants' accounts, particularly, in debating thoughts of existence vs non-existence and the fragility of life. Similarly Janoff – Bulman (1992) discuss how the death of a loved one shatters individual's core assumptions about self and world view. Women's increased awareness of death and their questioned ability to be able to cope appeared to be translated into the **subsequent parenting** as **constant awareness and anxiety**. This finding was line with the emerging literature for parenting following perinatal loss (Côté-Arsenault & Donato, 2007; Warland et al., 2011). Yet some women reported an integration of death into **their life, a self-growth** following their trauma experiences, as discussed by Yalom (1980), Linley and Joseph (2004) and Davis & Nolen-Hoeksema (2001) . Furthermore, this authentic, enriched perception appeared to i**nfluence mothers' relationships with their subsequent infant** and **others. This finding is similar to** the findings of a recent qualitative self - growth study following stillbirth (Thomadaki, 2012) and the findings of Cacciatore (2010) and Lichtenthal, Currier, Neimeyer & Keesee (2010) following upon the loss of an infant. The current study extends this understanding to the subsequent parenting experiences of mothers and supports the emerging findings in relation to the influence of self-growth on parenting (O'Leary & Warland, 2012).

From an existential point of view (Yalom, 1980) women faced with the possibility of their inability to be immortal by generating life and yet had the urgency to try for other babies. At the same time women also needed to grieve and continue to stay in touch with their stillborn baby and their memories. This desire to have more children in order to generate life, seemed to have left women with the dilemma of betraying their deceased infant **(**Weiss 2001, Thomadaki, 2012).

The fact that mothers questioned both themselves and others in response to such an existential threat can also be examined from the perspective of attachment theory (Bowlby 1969). Bowlby suggests that attachment behaviour is activated under a threat and individuals then engage in support seeking behaviour. All participants collectively wanted their experiences to be acknowledged. Stillbirth, such an 'off- script' experience appears to threaten other people's own assumption of the safety of the world. Thus others failed to validate participants' experiences and feelings. This in itself appears to isolate women in their bereavement process and forces them to hide or deny their feelings. Participants found it hard to deal with others' dismissive approach (e.g. suggesting 'moving on' or reminding women to be grateful for their living baby). This rejection also appeared to cause one woman to criticise herself. For example, one participant stopped seeking medical and social help while going through grief, depression and the demanding needs of a new born baby. Being critical of oneself, and a lack of social support are both identified risk factors for prolonged grief or delayed grief reactions. Acceptance, however from their wider community helped women to embrace their experience. These findings concur with the findings of Forrest (1982); Nichols (1989); O'Leary & Thorwick (1997); Surkan, Rådestad, Cnattingius, Steineck and Dickman (2009).

What was also striking in the mothers accounts, was the co-existence of contradictory powerful feelings, which was described by one of the mothers as 'surreal experiences'. Women expressed joy and at the very same time disbelief, when they gave birth to a living, breathing baby. The joy was also coupled with their grief and longing for their dead infant. The co -existence between the living and the dead baby was also reported from conception to birth and was even present in mothers' parenting experiences of the subsequent infant. Mothers appeared to define their new born baby's existence according to the loss of their infant and they only seemed to be able to process the existence of their baby, who they had never met, via their interaction with their living infant. This co-existence also enabled women to stay in touch with their longed for infant. However, the women were also aware of their infant's individual place and existence. Although they acknowledged that one of their infants is not still alive , they fought for their infants' separate places especially when the outside world appeared to dismiss or ignore this independent existence ('they are like brothers' ; 'second child is not a consolation prize') . In addition, it can be speculated that the co - existence of the two infants also helped women in their grieving process, however, this hypothesis needs further investigation in future studies with women who do not have any living children following their loss. The findings of this study regarding this co-existence, does however extend the current replacement child and vulnerable child debate as discussed by Turton, Badenhorst, Pawlby, White and Hughes (2009) for the subsequent infant, while bringing attention to the connection between the deceased and living infant; the co-existence.

How This Happened

Whilst mothers were facing the new existence of a subsequent child, they all questioned their ability to cope and others' availability for them during their journey. This inevitably gave rise

to the question ‘why’, and in response, women expressed anger towards self and others, including significant others. Anger towards self, and others were reported by almost all participants. Questioning of the self and self-blame as part of the anger process was also observed, similar to the findings of a qualitative study of Cacciatore (2010). Only one of the participants did not express anger or self-blame towards self and others. This perhaps was due to the way in which she conceptualised the loss and integrated the death into her life or the way in which her experience was also acknowledged by her close community, unlike other participants’ experiences. Perhaps the acceptance and validation of their experiences and their feelings at an earlier stage contributed to the person’s own acceptance of the situation , without turning the woman’s anger towards herself or others. Further research focusing around the need of validation and acceptance of mothers’ experiences may expand this speculative point. However, it is evident both in this study, and other similar studies (Cacciatore, 2011; Cacciatore, Schnebly, & Frøen, 2009; Leon, 1990), that support from significant others was sought after stillbirth and needed for the experiences and feelings to be validated

A Continuing Bond

Another overarching theme was about continuing the bond with the dead infant. As discussed by Klass, Silverman and Nickman (1996) the need to be in touch with, and longing for, their deceased infant was shared by all the participants. The adaptive value of this continuing bond has been discussed in the literature (Bonanno & Kaltman, 1999).This was evident in the account of mothers, who gave both still birth to either a full term baby or a preterm baby. The connection with the baby was sometimes achieved via a living baby, by holding on to their little memories, experiencing co-existence, engaging in activities like research, or supporting

other families. This theme also emerged in another study where women's accounts of stillbirth experiences were examined in relation to self-growth (Thomodaki, 2012).

According to attachment theory, the need for a continuing bond can be an indication of failure to integrate the death of a loved one, and individuals can be classified as Ud – unresolved status of mind with loss. Some mothers in their accounts refer to their deceased infant as 'they were gone' (implying just left not dead), or had been left at the hospital. This may suggest a disorganised belief in relation to loss and unorganised state of mind. However, the Ud category should only be given when there is a disorganisation or disorientation in discourse or reasoning by the individual during the discussion of traumatic events (e.g. loss, abuse) (Hesse & Main 2000). Effective dismissal of the import of loss rather indicates a failure in the resolution of mourning, but is not considered as disorganised or disoriented (Main, Goldwyn & Hesse, 2002). However, how recent the loss is also taken into consideration during classification.

In the current literature, there are contradictory findings in terms of the adaptive effects of 'continuing psychological and emotional bond's with the deceased loved ones, in bereavement. Klass and Walter (2001), Field (2008) and more recently, Field and Filanosky (2010) identify continuing bonds as either internal and external continuing bonds (CB). Their analysis, inspired by attachment theory, revealed that external CBs (illusions and hallucinations) were positively correlated with responsibility for the death, whereas internalized CBs (use of deceased as an autonomy - fostering secure base) were negatively associated with identified risk factors as well as uniquely associated to personal growth. In the current study it appears that the grief process becomes complicated in the stillbirth experience, as the death occurs before life and there are hardly any memories that remain; as

if the baby never existed. Therefore, being able to acknowledge this loss appears to become complicated as mothers need to accept their infant's existence while knowing they are not living. Perhaps this dilemma is one of the reasons for worsening mental health problems in these mothers, such as continuing depression and PTSD (Turton, Hughes, Evans & Fainman, 2001; Turton, Evans, & Hughes 2009). It can be speculated that the issue in the current debate about the link between PTSD and seeing and holding the deceased baby lies in the existence of externalised continuing bonds between mothers and their deceased infant as discussed by Field & Flonosky, 2010) Further research is required to investigate this possible relationship.

5.2.4 Importance of findings

The findings of this study provide **an insight into the stillbirth experience** of mothers and its meaning to them with **an existential focus**. It highlights the dilemmas and difficult decisions that women face in their experiences. It also provides **evidence about how these experiences are then translated into mothers' relationships, including parenting their subsequent infant.**

This study reveals the **mothers' struggle in accepting the existence of their baby while being aware of the non-existence** of their baby, as they have no shared or past memories other than those of the pregnancy and birth. It can be speculated that this changed order perhaps then complicates the grief process (Kubler-Ross,1969; Boanna, (2004) and may retain women in denial or in the recovery period where symptoms of depression and PTSD are common.

All of those women who participated in this study saw their baby, although not all chose to hold their baby. None of the mothers **wished not to see their baby but those who did not**

hold their baby later regretted the missed opportunity. This was also observed in the descriptive findings of chapter 3 in this thesis. The current limited literature suggests a link between PTSD and seeing and holding a deceased baby (Hughes, Turton, & Evans,1999). However, in the current study, it seems that **meeting with the dead baby** actually **was a crucial point at which women started processing their grief.** Only from this point onward was there a full acknowledgment of their baby's death, unlike the experience of pregnancy with the dead baby and giving birth to the dead baby. These findings are in parallel with the recent stillbirth management related findings and advice (Cacciatore, Radestad & Froen, 2008; Facchinetti et al., (2010); Radestad et al., (2009).

Although seeing the deceased baby seems to facilitate the grief process, the established strategies of each individual were important while they were dealing with the emotional aftermath of meeting their dead baby. For example, a mother with dismissive strategies or mothers with avoidant attachment styles, may find it difficult to process such direct contact. Although this is a speculative point it is, however, important to note the importance of **individual differences in dealing with stressful situations** when providing efficient guidance in the management of stillbirth. Therefore more research should be carried out to understand individual differences in dealing with stillbirth experience and this should then inform the relevant guidance (e.g. NICE guidance) It is also important to note that participants did not receive clear information about the options that they had in relation to their stillborn baby. This could be because of a hesitant attitude of the staff due to the current guidance. **Therefore a clear and unified guidance is essential for better management of stillbirth.**

Furthermore, mothers' awareness of danger and heightened anxiety, along with their unmet support needs, were present during their subsequent pregnancy and their parenting of a subsequent infant. These findings are in line with the available literature (Phipps 1985; Robertson & Kavanaugh 1998; Price 2008; Warland et al 2011). Anxious parents can become controlling and critical, may experience difficulty in bonding, and subsequent infant attachment can be disorganised (Hughes, 2001). This has further implications for the subsequent infants' adult life, including the possibility of anxiety and depression disorders (Main and Solomon, 1986).

5.2.5 Practical Implications

First of all, the findings of this study inform the professional practice for pre and post-care of mothers who experienced stillbirth. It provides a better understanding of mothers because it explains the meaning to the mother of a stillbirth . Particularly relevant for psychological support services is that emphasis should be placed on the acceptance of the dead baby and co-existing experiences (e.g. joy & grief ; betrayal & fruition). Including the lost child in the family and its narrative may also allow women to integrate their deceased infant into their life and allow them to be able to realise that their baby existed but is no longer living. This may allow women to grieve and stay in touch with their baby's memory. Mothers' need for a continuing bond should also be recognised and the unmet validation needs of women should be part of the psychological support process. Issues around anxious parenting should be expressed and addressed appropriately, taking into account individual needs. The findings from this study could also inform public health authorities regarding the need for awareness of stillbirth and a better stillbirth management (e.g. available information, support in difficult decisions) and that individual differences in response should be taken into consideration.

Particular attention should be given to the isolation that women experience due to their off-script experiences. The findings of this study also had personal implications in that the researcher had a chance to reflect on her own experiences and remain in touch with her own experiences.

6 Chapter VI: General Discussion

6.1 Introduction

This section provides an overview of the main aims and findings of this thesis and highlights the main contributions of the current research to the literature. An overview of the theoretical and practical implications is also discussed here.

6.2 Thesis Aims

The main aim of this thesis was to investigate the effects of perinatal trauma and its implications for women who have experienced it, using the framework of attachment theory. The thesis also aimed to examine and provide further evidence for the relationship between perinatal trauma and mental health problems, including both depression and anxiety specific symptoms. Other purposes of this thesis included examining the difference between perinatal traumas; understanding the meaning of the trauma to the mother and understanding the consequence of the trauma for their subsequent parenting. This thesis employed both qualitative and quantitative designs as detailed in method section. The aim of the quantitative studies (*Study* 1-3), in broad terms, was to provide an understanding of the factors that are related to the mental health of women who experienced perinatal trauma (infant loss / difficult childbirth). The qualitative studies, on the other hand, aimed to focus, in a more detailed fashion, on the individuals' trauma experiences and the relationship of the trauma experiences to the parenting of their subsequent infant (*Study* 4-5).

6.3 Summary of Findings

As outlined in Chapter 2 (Methods section), the empirical chapters of this thesis revealed some interesting findings (Chapter 3, 4 & 5) about perinatal mental health, as well as for the mother and subsequent infant relationships.

Chapter 3 examined the predictors of general and specific perinatal mental health problems, following a perinatal trauma experience, using the framework of attachment theory, and including anxiety specific mental health problems. The interest in examining attachment in relation to perinatal /postnatal mental health symptoms has been relatively recent (Bifulco et al., 2004; McMahon, Kowalenko & Tennant, 2005; McMahon, Trapolini & Barnett 2008). Although in the current literature, depression in postpartum and its predictors have been studied extensively (Ross & McLean 2006), there is a paucity of research in perinatal health and anxiety symptoms (Ross & McLean 2006). Some women who experienced perinatal trauma adjust well to the trauma, while some women will continue to suffer debilitating symptoms of anxiety and depression (Badenhorst & Hughes 2007; Hughes et al., 2002). The findings of this chapter from *Study* 1 provided support for the limited research into the presence of anxiety specific symptoms, including obsessive compulsive disorder, post traumatic disorder, social phobia, generalised anxiety disorder, agoraphobia and panic in the perinatal period. The findings indicated that attachment anxiety appeared to be a particularly important factor in predicting perinatal mental health following perinatal trauma(s) in line with the emerging literature, i.e., Besser, Priel & Wiznitzer (2002) and Bifilco et al., (2004). In addition to attachment anxiety, high levels of parental rejection were also observed, and this is similar to the findings of Parker (1983); Bifulco, Brown & Harris, (1994) and Lieb et al., (2000). Moreover, in line with the findings of Cacciatore, Schnebly and Froen (2009) low

levels of emotional support from health professionals predicted the poorest mental health outcomes for those women who experienced perinatal trauma. The direction of the influence between the variables of this study were mainly discussed from Attachment Theory's perspective as the hypothesis of the study were constructed via this framework, other possible discussion points were included in the discussion section of the *Study1*.

As outlined in the literature review in Chapter 1, support and attachment styles are interrelated constructs (Collins and Feeney, 2000; Simpson, Rholes & Phillips,1996). There has only been a limited examination, however, of the interrelated nature of support and attachment styles in predicting mental health problems with non-perinatal groups (Moreira et al., 2003; Muller & Lemieux, 2000; Perrier, Boucher, Etchegary, Sadava, & Molnar, 2010). Perrier et al.,(2010) asserted that support alone does not explain individual variation in adjustment related outcomes in response to trauma, further than does attachment styles. Therefore, *Study* 2, in Chapter 2, looked into the mediational relationship between perceived emotional support from significant others and the attachment dimensions (anxiety – avoidance) in predicting perinatal mental health in women who had experienced a perinatal trauma. The mediation analysis revealed that in predicting mental health problems, attachment - avoidance is also an important factor along with attachment - anxiety. These findings extend the current understanding in terms of attachment styles and their relationship to mental health, (Hammen et al., 1995; Mickelson, Kesler, Shaver, 1997; Mikulincer, & Shaver, 2007) particularly to perinatal mental health. Moreover, the findings also indicated some differences in the role that the different sources of support play, as discussed by Sarason, Sarason and Pierce (1990), as well as Muller, Gragtmans, and Baker (2008). Findings of study also contributed to the attachment hierarchy in adulthood research (i.e., Antonucci, Akiyama

& Takahashi, 2004; Ainsworth 1991; Schachner, Shaver & Gillath, 2008) by providing evidence that hospital staff members may be the people that women turn to seek reassurance for their heightened anxiety and to regulate their attachment needs, instead of turning to their partner or their close friends.

Further to the findings of Chapter 3 and Chapter 4 focused on the characteristics of single trauma experiences without the combination of other traumas. It aimed to examine each perinatal trauma experience closely and look at the women's perception of emotional support in particular, in a more descriptive/qualitative study. The descriptive observations revealed the women's satisfaction with the available emotional support from significant others and their experiences in difficult decisions surrounding stillbirth. It appeared that women, who saw their stillborn baby, did not regret seeing their baby, however, women who did not see their baby wished that they had seen their baby. These observations, along with the findings of Chapter 5, around mothers' need to see and hold their stillborn baby to process the grief, contributed to current debate in stillbirth management (Cacciatore, Radestad & Froen, 2008; Facchinetti et al., (2010); Radestad et al., (2009). Relevant guidance and staff training should reflect the importance to the mother of seeing and holding the stillborn baby, and staff should give informed choices to individuals so that they can make their decisions around seeing, holding or making mementos of their stillborn baby.

Chapter 4 also aimed to explore differences in mental health between the women who experienced a trauma which involved a loss of foetal or infant life compared to women whose trauma did not involve a loss (difficult childbirth). *Study* 3 revealed that, contrary to expectations, the trauma without loss group reported significantly higher mental health problems than the trauma with loss group. The findings, as suggested by the current literature

(Beck, 2004b; Lemola, Stadlmayer & Grob, 2007), emphasise the need for emotional support for mothers who have experienced a difficult childbirth with a living infant. They also highlight the need for a change in the focus from outcome based (the survival of infant), to an individual based focus for women's birth experiences. Moreover, in line with the current research, these findings identified previous mental health problems as a risk factor for worsening mental health problems of women during the perinatal period (e.g. Johnstone, Boyce, Hickey, Morris-Yatees& Harris 2001; Milgrom et al., 2008, O'Hara &Swain 1996).

Furthermore, *Study* 3 also examined the relationship between attachment dimensions (attachment – anxiety; attachment - avoidance) and the perinatal mental health of women with different trauma experiences. The main finding suggested that both attachment anxiety and avoidance may be a risk factor for women who experienced trauma without loss. Attachment anxiety, specifically, is a significant risk factor for mental distress after a trauma with loss experience. There is no other research to date which has examined the differences between perinatal traumas with loss and without loss.

Chapter 5 aimed to explore the individual accounts of the women's perinatal trauma (stillbirth) with an existential focus. In *Study* 4, the mother's 'meaning making' of their loss experience and their relationship with their subsequent infant was investigated. Women's accounts revealed an on-going process where women accepted a new 'unsafe' view of the world, re-evaluated their view of self and others, and established relationships with both the deceased and the living infant. The findings of the study highlighted the experiential value and significance of being able to hold and spend time with the stillborn child, as discussed by Cacciatore, Radestad and Froen, 2008; Facchinetti et al., (2010). In addition, it brought forward the concern that the stillbirth of their child seemed to isolate the parents from many

of their informal support networks. The findings also indicated the importance of co-existence between the deceased baby and the living infant. This was discussed in terms of the contradictory theories of Continuing Bonds and Attachment in order to understand prolonged grief and pathological symptoms (e.g. PTSD) experienced following the loss of an infant (Horowitz, Bonanno & Holen, 1993; Turton, Hughes, Evans & Fainman, 2001). This contributes to our understanding of the fact that some women may need to maintain a continuing bond with their deceased infant in order to go through the stages of grief, and so that they may not to suffer from pathological grief (complicated grief including a prolonged grieving period accompanied by mental and physical impairment). Pathological grief includes PTSD like symptoms (see Horowitz, Bonanno & Holen, 1993 for detailed information). The findings of this thesis indicate the importance of understanding PTSD like symptoms following stillbirth (e.g. Turton, Hughes, Evans & Fainman , 2001) , pathological grief and the importance of continuing bonds with the deceased infant. This finding supports the suggested integrative framework compasses of various theories for understanding grief reaction (Bonanno & Kaltman,1999).

Finally, Chapter 6, looked at case studies of mothers following a perinatal loss in order to examine their caregiving and caretaking experiences; specifically the relationship between the caretaking experiences of the mothers (when they were children) and their caregiving experiences with their subsequent infant, born following a stillbirth. As expected, mothers' own attachment classifications appeared to influence their attitude to parenting experiences, approach to parenting, as well as their strategies in emotion regulation when dealing with their concerns of parenting. One of the interesting findings of this chapter was around the unresolved state of mind (the Ud classification) of mothers regarding trauma. Case vignettes

indicated a link between the mothers' feelings of helplessness, their inconsistent emotional availability, and their Ud state of mind in terms of previous loss as well as perinatal loss. These findings contributed to the emerging caregiving literature (Collins & Ford, 2010; Feeney & Collins, 2001; George & Solomon, 2011) by indicating the importance of disorganised attachment classification of the mother in determining caregiving strategies. This study was also the first to examine the perinatal trauma of stillbirth from the reciprocal systems of attachment theory: caregiving and caretaking systems. It highlighted how a mother's own attachment needs may influence their caregiving experiences following a perinatal loss.

6.4 Theoretical and Practical Implications

The overall theoretical implication of this thesis indicate the importance of using attachment theory as a framework for understanding perinatal traumas, the consequences of this experience for women with regards to their mental health, as well as the relationship of trauma to their subsequent parenting. The thesis initially examined perinatal traumas as a general construct, including various trauma experiences that happened during the perinatal period, to identify important factors and predictors for better mental health following a perinatal trauma. The thesis was also concerned with individual trauma experiences and their specific consequences to women. The findings contribute to current practice with regards to dealing with general perinatal trauma experiences, as well as with specific trauma experiences and their influence on women's mental health and subsequent parenting experiences, following a perinatal trauma .

The major practical implication of the findings can be summarised in six main points. First of all, attachment theory's framework is about the importance of understanding the

individuals' attachment orientation which defines emotion regulation strategies and support seeking behaviour under stressful situations. Using this framework will help psychological support and medical staff to assist women following a perinatal trauma. Secondly, hospital staff should be aware of the emotional support which the individual needs from them, as well as from significant others, and should be trained and equipped to provide the required support to women when dealing with perinatal trauma. Thirdly, the findings of this study inform policy makers and related professions in providing effective guidance in dealing with perinatal trauma. Particularly when dealing with a stillbirth experience, the findings of the study, outlined in Chapter 3, suggests a need for clearer guidance in assisting women around making difficult decisions after the birth (e.g. holding or seeing the deceased baby). Fourthly, women who experienced a perinatal trauma with a living infant (difficult childbirth) are at risk of more severe mental health problems in comparison to women who experienced a perinatal loss, if the previous mental health problems had not been taken into account. Thus, staff should be aware of this and should move away from an outcome based approach, where the focus is on the survival of an infant after a delivery. Fifthly, the experience of stillbirth appears to bring women to an existential crisis where women questioned the meaning and purpose of their life, their existence, as discussed by Yallom (1980). Understanding the meaning of a perinatal trauma is important in order to provide appropriate psychological support to women. Support professionals should be aware of the need for the women to stay in touch with their deceased baby, while accepting and integrating their loss into their lives in terms of working through grief. Finally, the major implication of this thesis is the understanding of the caregiving and caretaking needs of women who have experienced perinatal trauma, especially in assisting them in their parenting of subsequent children following a perinatal loss.

6.5 Limitations

The overall limitation of the quantitative studies of this thesis lies in the prospective design, its dependence on internet based data collection and its self - report measures Sampling bias is the main issue with data gathered via online internet based resources, due to the fact that there is no sampling framework which currently exists for the relevant population (Kraut et al., 2004). Therefore, it is not possible to be certain of the general demographic variables of the population who use the internet based support groups, accessed in this research. This self - selection bias limits the generalizability of the findings of this research.

However, the findings of the study are an exploratory attempt at understanding the consequence of perinatal trauma for women from the perspective of Attachment theory. By using this method, it was possible to study multiple outcomes and the use of self - report measures was time and cost effective. It also allowed examination of the predictors of perinatal mental health of women who had already experienced perinatal traumas.

It has been reported that access to computers has become widely available and use of internet has become more popular (Nie, Hillygus, & Erbring 2002). Wright (2005) outlines the advantages of an online survey as 'time, access and cost', however also highlights self-selection bias in samples constituted from internet based support groups due to unknown demographic factors of the groups. However, these limitations are not exclusive to samples constituted via internet based support groups, and the use of internet based social support network was a very efficient way of accessing the specific sample groups of the study (e.g. ectopic pregnancy). It could be that the use of internet based surveys may exclude those potential participants who do not have access to a computer and use of the internet, however,

the benefits of such surveys include how easy they are to complete and the fact that they can be accessed from different parts of the world.

It is important to note that participants of the study were actually seeking help and support via internet based social networks. This could be due the fact that these women were unresolved with their trauma experiences and experienced heightened mental health problems as a consequence. Therefore, the participants of this study were predominantly anxious and distressed women who were actively seeking help. Thus individuals with avoidant styles were not well represented in our samples as these individuals are not expected to utilise such support strategies. It is also plausible that people with avoidant attachment style may prefer such support networks as they do not need to get close to the individuals while seeking support. In addition, the large majority of the participants in this study were educated white women; multicultural groups were not equally represented in our sample. Internet based social support is perhaps something that is not as common a source of support in other cultures, as they may use or have access to different sources of support. However, such a survey was very easy to complete for women at their convenience. It was also useful to reach some of the specific perinatal loss and trauma groups of the study who would not have attended local support groups. For example, for the stillbirth group there were only a very limited number of women local to Birmingham who had experienced still birth and who therefore could have taken part in this study (Clinical Report, Birmingham Women's Hospital, 2010).

A further limitation is that data for the variables "time since the event of trauma for stillbirth group" and "perceived support from close friends" could not be collected due to an error in the electronic online form. Therefore, an important variable "the time since the

event" could not be examined in relation to the occurrence of mental health problems. Similarly, support perceived from close friends could not be examined in comparison to the support from other significant others. This lack of data did not affect other variables or other analyses of the study.

Some of the studies of this thesis (*Study 4 & 5*) employed qualitative design. Due to the nature of the qualitative design, the samples of the studies were small. Therefore, generalisations of the findings are limited. However, as the aim of the research was to examine closely the experience of stillbirth and the relationship with subsequent infants born to the mother, the samples were both adequate and relevant to the study. However inferring cause and effect relationships and generalising the findings are limited. The data was collected via a semi structured interview therefore it involves a subjective process (i.e. the use of prompting questions varied from person to person depending on the information they have disclosed to the main questions of the interview). However, the use of semi structured interview, where women talked or wrote about their trauma experiences was essential in order to capture the meaning of such experiences (e.g. stillbirth). Such interviews may allowed women to express and stay in touch with their own experiences and therefore may have served a therapeutic function, as suggested by Baikie (2005) and Pennebaker (1997). In a similar fashion the use of semi structured interviews were essential to the interrelated relationships between caregiving and caretaking systems and the perception of mothers' about their care giving. This was best achieved in a qualitative design where mothers are recorded when they were talking about their traumatic stillbirth experiences.

Another limitation was about the representations of the AAI classifications in the sample of Study 4. The majority of the participants of the study were insecure or unresolved. Secure

attachment classifications were not well represented in the sample in the study. Bakermans-Kranenburg and van lJzendoorn (2009) reported attachment distribution in non-clinical mothers as 23% dismissing, 58% secure, 19% preoccupied attachment representations, and 18% additionally coded for unresolved loss or other trauma. It is possible that women who have an insecure attachment or were preoccupied with their loss experiences, may actively use the internet to access support and therefore may have wanted to participate in the study.

Similar to the quantitative studies the samples of the qualitative studies were from a homogenous group (middle class, educated white women). Therefore generalisations from the findings of the study will be limited. However, the homogeneity of the group (women with similar experiences and backgrounds) was instrumental for the purposive sampling (see Smith, Flowers & Larkin, 2009) of the study.

6.6 Conclusions

Overall this thesis highlights the usefulness of attachment theory's framework in understanding the perinatal trauma experiences. It also provides further evidence of specific mental health problems, including anxiety symptoms in addition to depression, and general mental health problems, for the perinatal period. The findings of the thesis add to the understanding of both the overall perinatal trauma experiences, where general predictors and mediational relationships were discussed, as well as single trauma experiences and their differences and similarities. It highlighted the need to understand the individual's own personal characteristics, including their own working models and appraisal systems in responding to a perinatal trauma experience, and the need to reflect this in current relevant guidance (i.e. National Institute Health and Care Excellence – NICE guidance). It also provided evidence for an emerging literature in subsequent parenting following loss, and

examined perinatal trauma and subsequent parenting via the relationship between the co-evolutionary systems of caregiving and caretaking (George & Solomon, 2008). Further studies are needed to help develop and provide appropriate intervention techniques, particularly for mental health problems in the perinatal period, and studies which aim to develop screening tools for the perinatal period should include an attachment theory perspective in biopsychosocial models, as discussed by (Buultjens, Murphy, Robinson &Milgrom, 2013). Particular focus should be on the women's strategies in self and other's value and worth, working models of attachment, emotion regulations and their support seeking strategies.

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APPENDICIES

APPENDIX A: Study 1, 2 and 3 Participant information sheet and leaflet

UNIVERSITY OF BIRMINGHAM

Participation Information Sheet

What is the study about?

The aim of this research is to look at how anxious mothers are after a loss or trauma and also to look at the attitudes, thoughts of these mothers about support they have received.

Who is taking part?

You may like to take part in this study, if you have experienced the following losses or traumas within the last 4 years

Did you have a stillborn baby?

Did you have a miscarriage or ectopic pregnancy?

Did you lose your baby after delivery (within 4 weeks of birth)?

Did you have a traumatic or life threatening birth?

What will I have to do?

If you agree to take part in the study, you will be asked to

Complete a consent form

Complete a demographic information questionnaire

Complete a set of psychological questionnaires a set of questionnaires looking into emotional wellbeing, childhood memories and close relationships. These will be available for online submission or hard copies on request. This may take 30 - 40 minutes.

If you would like to take part in this study please visit https://psgfs2.bham.ac.uk/womens-experience-of-loss-and-trauma-study or click here. If you like to have further information please click here or contact the researcher Mrs A.Meltem Budak on

What are the risks?

The participants will be asked about sensitive issues such as loss and trauma experiences. Participants may experience distress or wish to explore certain issues that might have been raised by some of the questions of this research. Participants will be informed about the

options if they wish to speak about or explore these issues. Sources of help and support will be provided on the debrief sheets.

What are the benefits?

There are no benefits to the individuals taking part in the study, however,this study's findings will be very useful for Health Practitioners in order to help women to overcome any negative consequences of these experiences.

What if I do not wish to continue at any stage?

You are free to withdraw from the study at any time. You can refuse to answer any question, and may refuse to do anything requested of you.

What happens to the information?

Confidentiality and anonymity are ensured throughout the research. This research follows the Code of Conduct, Ethical Principles and Guidelines published by the British Psychological Society www.bps.org.uk). Participants will be given an ID code. Consent forms will be kept separately. All data will be kept in a secure location with access permitted only to the researcher. All gathered information including demographic information and the consent forms will be kept for the duration of the research only and then will be destroyed. No names or identifying characteristics will be released in any publications. The findings will be available via supporting organisations web sites and via the research's own web site.

What else can I expect from the researcher?

You can ask any questions about the study that occur to you during your participation and request a copy of any of the results.

About the researcher A.Meltem Budak is a PhD student at the School of Psychology , University of Birmingham and her study is supervised by and Dr Gillian Harris and Dr Jacqueline Blissett. Meltem's interest in this subject stems from a personal stillbirth experience.

Principle Investigators

Study 's Leaflet

UNIVERSITY OF BIRMINGHAM

Women's Experience of Loss and Trauma during/after Pregnancy and Childbirth

It is important to understand the effects of loss during and after pregnancy and trauma in childbirth on emotional wellbeing. Also it is important to understand the attitudes and thoughts of mothers about the support that they received. You may like to participate in this study if you have experienced the following losses or traumas within the last 4 years:

Did you have a stillborn baby?

Did you have a miscarriage or ectopic pregnancy?

Did you lose your baby after delivery (Within 4 weeks of birth)?

Did you have a traumatic/ life threatening birth?

If so, you may like to see more information on the study. Please click here for further information or contact [redacted].

This study follows the Ethical Principles and Guidelines by British Psychological Society. [redacted]

Thank you

APPENDIX B: Demographics Questionnaire

First of all please tell us a little bit about yourself, so we know more about the people who are participating.

General Information About You : Please fill in the following information about yourself.

- Your age (years)……
- Single □ Married □ In a relationship □
- How many years did you spend in education after 16 years old?.....
- How many children do you have living with you?……..
- Your occupation (or most recent occupation)……
- Is English your first language? Yes □ No □
- Are you a resident in the UK? Yes □ No □
- Please circle the category to describe your ethnicity in the box below.

Black Caribbean	Indian	White British	Mixed/Dual background (describe)…… ……..
Black African	Pakistani	White Irish	
Any other Black background (describe)…… ……	Bangladeshi	White European	Any other Ethnic group (Please describe)…….
Chinese	Any other Asian Background (describe)…… …….	Any other White background (describe)…… …….	

Did you grow up in the UK? Yes □ No. □

If no, where did you grow up? Please state……

If you reside (live) outside the UK please state where……

Have you ever been diagnosed with any mental health problems in the past Yes □
No □

If so please state when was this……and describe the problem

APPENDIX C : Perinatal Trauma Experience and Support Measure

First of all I would like to thank you for your courage to answer the questions below regarding your loss and / or traumatic experience(s).

Some of the question below will ask you to rate the received emotional support from various people on a 1-5 scale. Please circle the appropriate number on the provided scale (see explanations below).

1: Not at all satisfied
2 : Slightly satisfied
3 : Moderately satisfied
4 : Very satisfied
5 : Extremely satisfied

Example: Please rate the emotional support that you have received from friends

1 2 3 (4) 5

If you circled 4, this would mean that you are Very Satisfied with the support that you have received.

SECTION I

1. Have you had a miscarriage?

☐ Yes ☐ No (If 'No' Please go to **Question 9**)

2. How long ago was this (the most recent miscarriage experience if you had more than one miscarriage)?

Please state _____

3. How far were you into your pregnancy?

Please state _____ weeks / or months _____.

4. Please rate the emotional support that you have received from Health Professionals regarding your miscarriage experience.

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

5. Did you feel the treatment of any health practitioner was uncaring regarding your miscarriage experience?

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

6. Please rate the emotional support that you have received from your partner or husband regarding your miscarriage experience.

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

7. Please rate the emotional support that you have received from your close family (other than your husband/partner) regarding your miscarriage experience.

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

8. Please rate the emotional support that you have received from your friends regarding the miscarriage experience.

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

SECTION II

9. Have you had an ectopic pregnancy?

☐ Yes ☐ No (If 'No' Please go to **Question 17**)

10. How long ago was this?(the most recent ectopic pregnancy if you had more than on ectopic pregnancy).

Please state _____

11. How far were you into your pregnancy?

Please state _____ weeks / or months _____.

12. Please rate the emotional support that you have received from Health Professionals regarding this experience.

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

13. Did you feel the treatment of any health practitioner was uncaring regarding this experience?

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

14. Please rate the emotional support that you have received from your partner/husband regarding this experience.

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

15. Please rate the emotional support that you have received from your close family (other than your husband/partner) regarding this experience.

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

16. Please rate the emotional support that you have received from your friends regarding this experience.

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

SECTION III

17. Have you given birth to a living baby who died within 4 weeks of his/her life?

☐ Yes ☐ No (If 'No' Please go to **Question 25**)

18. How long ago was this? (Most recent experience of lost if you had more than one such experience)

Please state _____

19. Please state if any causes identified

20. Please rate the emotional support that you have received from Health Professionals following losing your baby.

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

21. Did you feel that the treatment of any health practitioner was uncaring upon losing your baby?

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

22. Please rate the emotional support that you have received from your partner/husband following losing your baby.

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

23. Please rate the emotional support that you have received from your close family (other than your husband/partner) following losing your baby.

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

24. Please rate the emotional support that you have received from your friends following losing your baby.

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

SECTION IV

25. Have you given birth to a stillborn baby?

☐ Yes ☐ No (If 'No' Please go to **Question 47**)

26. How long ago was this? (the most recent experience of stillbirth experience if you had more than one such experience.)

Please state _____

27. How many weeks or months were you into your pregnancy?

Please state _____ weeks / or months _____.

28. Was this an unexpected stillborn baby? (Baby died during labour).

☐ Yes ☐ No

29. Was this an expected stillborn baby? (e.g. during routine examinations of pregnancy, health practitioners realised the baby's death)

☐ Yes ☐ No

30. How long was your labour?

Please state _____.

31. Did you have a husband/partner present during the labour?

☐ Yes ☐ No

32. Did you have a husband/partner present during your stay at the hospital?

☐ Yes ☐ No

33. Please rate the emotional support that you have received from your partner/husband regarding the stillbirth experience.

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

34. Please rate the emotional support that you have received from Health practitioners regarding stillbirth experience.

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

35. Did you feel the treatment of any health practitioner was uncaring regarding the stillbirth experience?

☐ Yes ☐ No

36. Please rate the emotional support that you have received from your close family (other than your husband/partner) regarding your stillbirth experience.

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

37. Please rate the emotional support that you have received from your friends regarding the stillbirth experience.

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

38. Did you feel that you had been given inadequate information about stillbirth and your options?

☐ Yes ☐ No

39. Did you see your stillborn baby?

☐ Yes ☐ No

(If YES please answer a and b) (If NO please answer c and d)

a) Did your husband/partner have a different opinion on seeing the stillborn baby to yours?

☐ Yes ☐ No

b) Do you wish that you had not seen your stillborn baby?

☐ Yes ☐ No

c) Did your husband/partner have a different opinion on seeing the stillborn baby to yours?

☐ Yes ☐ No

d) Do you wish that you had seen your stillborn baby?

☐ Yes ☐ No

40. Did you hold your stillborn baby?

☐ Yes ☐ No

(If YES please answer a and b)(If NO please answer c and d)

a) Did your husband/partner have a different opinion on holding the stillborn baby to yours?

☐ Yes ☐ No

b) Do you wish that you had not held your stillborn baby?

☐ Yes ☐ No

c) Did your husband/partner have a different opinion on holding the stillborn baby to yours?

☐ Yes ☐ No

d) Do you wish that you had held your stillborn baby?

☐ Yes ☐ No

41. Do you have mementos (keepsakes) of your stillborn baby?

☐ Yes (If yes please go to question **43**) ☐ No

42. Do you wish that you had mementos of your stillborn baby?

☐ Yes ☐ No

43. Did you have a funeral for your stillborn baby?

☐ Yes ☐ No

(If YES please answer a) (If NO please answer b)

a) Do you wish that you did not have a funeral for your stillborn baby?

☐ Yes ☐ No

b) Do you wish that you had not had a funeral for your stillborn baby?

☐ Yes ☐ No

44. Have you given birth to a living baby before this experience?

☐ Yes ☐ No

45. Have you had any conceptions (become pregnant) after this experience.

☐ Yes ☐ No

46. Have you given birth to a living baby after a stillbirth experience?

☐ Yes ☐ No

SECTION V

47. Did you have a life threatening birth/ traumatic birth?

☐ Yes ☐ No (If NO please See 59)

48. How long ago was this? (the most recent experience of traumatic birth experience if you have had more than one traumatic birth .

Please state _____.

49. How long was your labour?

Please state _____.

50. Did you have a husband/partner present during the labour?

☐ Yes ☐ No

51. Did you have a husband/partner present during your stay at the hospital?

☐ Yes ☐ No

52. What medical complications did you have? Please describe

53. What were the immediate emotional consequences for you?

54. What medical complications and consequences did your infant have?

55. Please rate the emotional support that you have received from Health Professionals regarding the birth experience

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

56. Please rate the emotional support that you have received from your partner/husband regarding the birth experience.

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

57. Please rate the emotional support that you have received from your close family (other than your husband/partner) regarding the birth experience.

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

58. Did you feel the treatment of any health practitioner was uncaring regarding the birth experience?

Not at all satisfied ← 1 2 3 4 5 → Extremely satisfied

59. This is the end of the questionnaire - **Thank you** for your participation.

APPENDIX D Psychiatric Diagnostic Symptoms Questionnaire

This form asks you about emotions, moods, thoughts and behaviours. For each question check the box in the Yes column if it describes how you have been acting, feeling or thinking. If the item does not apply to you, check the box in the No column. **Please answer every question.**

Yes	No	**During the past 2 WEEKS…**
☐	☐	1. …did you worry obsessively about dirt, germs or chemicals?
☐	☐	2. …did you worry obsessively that something bad would happened because you forgot to do something important – like locking the door, turning off the stove, or pulling out the electrical cords of appliances?
☐	☐	3. …were there things you felt compelled to do over and over (for at least ½ hour per day) that you could not stop doing when you tried?
☐	☐	4. …were there things you felt compelled to do over and over even though they interfered with getting other things done?
☐	☐	5. …did you wash and clean yourself or things around you obsessively and excessively?
☐	☐	6. …did you obsessively and excessively check things or repeat actions over and over again?
☐	☐	7. …did you count thing obsessively and excessively?

Yes	No	**During the past 2 WEEKS…**
☐	☐	8. …did you get very scared because your heart was beating fast?
☐	☐	9. …did you get very scared because you were short of breath?
☐	☐	10. …did you get very scared because you were feeling shaky or faint?
☐	☐	11. …did you get sudden attacks of intense anxiety or fear that came on from out of the blue, for no reason at all?
☐	☐	12. …did you get sudden attacks of very intense anxiety or fear during which you thought something terrible might happen, such as your dying, going crazy, or losing control?
☐	☐	13. …did you have sudden, unexpected attacks of anxiety during which you had three or more of the following symptoms: hear racing or pounding, sweating, shakiness, shortness of breath, nausea, dizziness, or feeling faint?
☐	☐	14. …did you worry about having unexpected anxiety attacks?
☐	☐	15. …did you have anxiety attacks that caused you to avoid certain situations or to change your behaviour or normal routine?

Yes	No	
☐	☐	16. **Have you ever** experienced a traumatic event such as combat, rape, assault, sexual abuse, or any other extremely upsetting event?
☐	☐	17. **Have you ever** witnessed a traumatic event such as rape, assault,

		someone dying in an accident, or any other extremely upsetting event?

Yes	No		**During the past 2 WEEKS**…
☐	☐	18.	…did thoughts of a traumatic event infrequently pop into your mind?
☐	☐	19.	…did you frequently get upset because you were thinking about a traumatic event?
☐	☐	20.	…were you frequently bothered by memories or dreams of a traumatic event?
☐	☐	21.	…did reminders of a traumatic event cause you to feel intense distress?
☐	☐	22.	…did you try to block out thoughts or feelings related to a traumatic event?
☐	☐	23.	…did you try to avoid activities, places, or people that reminded you of a traumatic event
☐	☐	24.	…did you have flashbacks, where it felt like you were reliving a traumatic event?
☐	☐	25.	…did reminders of traumatic event make you shake, break out into a sweat, or have a racing heart?

Yes	No		**During the past 2 WEEKS**…
☐	☐	26.	…did you feel distant and cutoff from other people because of having experienced a traumatic event?
☐	☐	27.	…did you feel emotionally numb because of having experienced a traumatic event?
☐	☐	28.	…did you give up on goals for the future because of having experienced a traumatic event?
☐	☐	29.	…did you keep your guard up because of having experienced a traumatic event?
☐	☐	30.	…were you jumpy and easily startled because of having experienced a traumatic event?

Yes No **During the past 2 WEEKS…**

☐	☐	31.	…did you feel sad or depressed?
☐	☐	32.	…did you feel sad or depressed for most of the day, nearly every day?
☐	☐	33.	…did you get less joy or pleasure from almost all of the things you normally enjoy?
☐	☐	34.	…were you less interested in almost all of the activities you are usually interested in?
☐	☐	35.	…was your appetite significantly smaller than usual nearly every day?
☐	☐	36.	…was your appetite significantly greater than usual nearly every day?
☐	☐	37.	…did you sleep at least 1 to 2 hours less than usual nearly every day?
☐	☐	38.	…did you sleep at least 1 to 2 hours more than usual every day?
☐	☐	39.	…did you feel very jumpy and physically restless and have a lot of trouble sitting calmly in a chair, nearly every day?
☐	☐	40.	…did you feel tired nearly ever day?
☐	☐	41.	…did you frequently feel guilty about things you have done?
☐	☐	42.	…did you put yourself down and have negative thoughts about yourself nearly every day?
☐	☐	43.	…did you feel like a failure nearly every day?
☐	☐	44.	…did you have problems concentrating nearly every day?
☐	☐	45.	…was decision making more difficult than normal nearly every day?
☐	☐	46.	...did you frequently think of dying in passive ways like going to sleep and not waking up?
☐	☐	47.	…did you wish you were dead?
☐	☐	48.	…did you think you'd be better off dead?
☐	☐	49.	…did you have thought of suicide, even though you would not really do it?
☐	☐	50.	…did you seriously consider taking your life?
☐	☐	51.	…did you think about a specific way to take your life?

NOTE: The Following Questions Refer To The <u>PAST 6 MONTHS</u>

Yes No **During the past 6 MONTHS…**

☐	☐	52.	…did you regularly avoid any situations because you were afraid they'd cause you to have an anxiety attack?
☐	☐	53.	…did any of the following make you feel fearful, anxious, or nervous because you were afraid you'd have an anxiety attack in the situation?
☐	☐	a	going outside far away from home
☐	☐	b	being in crowded places
☐	☐	c	standing in long lines
☐	☐	d	being on a bridge or in a tunnel
☐	☐	e	traveling in a bus, train, or plane
☐	☐	f	driving or riding in a car
☐	☐	g	being home alone
☐	☐	h	being in wide-open spaces (like a park)
☐	☐	54.	…did you almost always get very anxious as soon as you were in any of

		the above situations?
☐	☐	55. …did you avoid any of the above situations because they made you feel anxious or fearful?

Yes	No	**During the past 6 MONTHS…**
☐	☐	56. …did you worry a lot about embarrassing yourself in front of others?
☐	☐	57. …did you worry a lot that you might do something to make people think that you were stupid or foolish?
☐	☐	58. …did you feel very nervous in situations where people might pay attention to you?
☐	☐	59. …were you extremely nervous in social situations?
☐	☐	60. …did you regularly avoid any situations because you were afraid you'd do or say something to embarrass yourself?
☐	☐	61. …did you worry a lot about doing or saying something to embarrass yourself in any of the following situations?
☐	☐	a. public speaking
☐	☐	b. eating in front of other people
☐	☐	c. using public restrooms
☐	☐	d. writing in front of others
☐	☐	e. saying something stupid when you were with a group of people
☐	☐	f. asking a question when in a group of people
☐	☐	g. business meetings
☐	☐	h. parties or other social gatherings
☐	☐	62. …did you almost always get very anxious as soon as you were in any of the above situations?
☐	☐	63. …did you avoid any of the above situations because they made you feel anxious or fearful?

Yes	No	**During the past 6 MONTHS…**
☐	☐	64. …were you a nervous person on most days?
☐	☐	65. …did you worry a lot that bad things might happen to you or someone close to you?
☐	☐	66. …did you worry about things that other people said you shouldn't worry about?
☐	☐	67. …were you worried or anxious about a number of things in your daily life on most days?
☐	☐	68. …did you often feel restless or on edge because you were worrying?
☐	☐	69. …did you often have problems failing asleep because you were worrying about things?
☐	☐	70. …did you often feel tension in your muscles because of anxiety or stress?
☐	☐	71. …did you often have difficulty concentrating because your mind was on your worries?
☐	☐	72. ...were you often snappy or irritable because you were worrying or feeling stressed out?
☐	☐	73. …was it hard for you to control or stop your worrying in most days?

APPENDIX E: Edinburg Postnatal Depression Scale

Please **UNDERLINE** the answer which comes closest to how you have felt **IN THE PAST 7 DAYS**, not just how you feel today. Please complete all the questions. Here is an example, already completed.

In the past 7 days:

1. I have been able to laugh and see the funny side of things.
As much as I always could
Not quite so much now
Definitely not so much now
Not at all

2. I have looked forward with enjoyment to things.
As much as I ever did
Rather less than I used to
Definitely less than I used to
Hardly at all

3. I have blamed myself unnecessarily when things went wrong.
Yes, most of the time
Yes, some of the time
Not very often
No, never

4. I have been anxious or worried for no good reason.
No, not at all
Hardly ever
Yes, sometimes
Yes, very often

5. I have felt scared or panicky for no very good reason.
Yes, quite a lot
Yes, sometimes
No, not much
No, not at all

6. Things have been getting on top of me.

Yes, most of the time I haven't been able to cope at all
Yes, sometimes I haven't been coping as well as usual
No, most of the time I have coped quite well
No, I have been coping as well as ever

7. I have been so unhappy that I have had difficulty sleeping.
Yes, most of the time
Yes, sometimes
Not very often
No, not at all

8. I have felt sad or miserable.
Yes, most of the time
Yes, quite often
Not very often
No, not at all

9. I have been so unhappy that I have been crying.
Yes, most of the time
Yes, quite often
Only occasionally
No, never

10. The thought of harming myself has occurred to me.
Yes, quite often
Sometimes
Hardly ever
Never

APPENDIX:F : Experience in Close Relationship Questionnaire

ECR Revised

The statements below concern how you feel in emotionally intimate relationships. I am interested in how you *generally* experience relationships, not just in what is happening in a current relationship. Respond to each statement by circling a number to indicate how much you agree on a 7-point scale where 1 = strongly disagree to 7 = strongly agree.

1. I'm afraid that I will lose my partner's love.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
2. I often worry that my partner will not want to stay with me.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
3. I often worry that my partner doesn't really love me.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
4. I worry that romantic partners won't care about me as much as I care about them.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
5. I often wish that my partner's feelings for me were as strong as my feelings for him or her.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
6. I worry a lot about my relationships.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
7. When my partner is out of sight, I worry that he or she might become interested in someone else.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
8. When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree

9. I rarely worry about my partner leaving me.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
10. My romantic partner makes me doubt myself.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
11. I do not often worry about being abandoned.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
12. I find that my partner(s) don't want to get as close as I would like.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
13. Sometimes romantic partners change their feelings about me for no apparent reason.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
14. My desire to be very close sometimes scares people away.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
15. I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
16. It makes me mad that I don't get the affection and support I need from my partner.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
17. I worry that I won't measure up to other people.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
18. My partner only seems to notice me when I'm angry.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
19. I prefer not to show a partner how I feel deep down.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree

20. I feel comfortable sharing my private thoughts and feelings with my partner.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
21. I find it difficult to allow myself to depend on romantic partners.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
22. I am very comfortable being close to romantic partners.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
23. I don't feel comfortable opening up to romantic partners.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
24. I prefer not to be too close to romantic partners.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
25. I get uncomfortable when a romantic partner wants to be very close.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
26. I find it relatively easy to get close to my partner.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
27. It's not difficult for me to get close to my partner.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
28. I usually discuss my problems and concerns with my partner.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
29. It helps to turn to my romantic partner in times of need.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
30. I tell my partner just about everything.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree

31. I talk things over with my partner.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
32. I am nervous when partners get too close to me.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
33. I feel comfortable depending on romantic partners.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
34. I find it easy to depend on romantic partners.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
35. It's easy for me to be affectionate with my partner.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree
36. My partner really understands me and my needs.	Strongly Disagree ← 1 2 3 4 5 6 7 → Strongly Agree

APPENDIX G : EMBU : My Memories of Childhood (Egna Minnen Betraffande Uppfostran)

For each question please circle the responses applicable to your mother's and father's behaviour towards you whilst you were a child / growing up. Read through each question carefully and consider which one of the possible answers applies to you. Please answer separately for your mother and your father. If you do not have brother(s), sisters(s) please leave this question blank. If you were raised by one parent please only rate for mother or father only.

		No, Never	**Yes, but Seldom**	**Yes, Often**	**Yes, Most of the time**
1. My parents were sour or angry with me without letting me know the cause	Father	1	2	3	4
	Mother	1	2	3	4
2. My parents praised me	Father	1	2	3	4
	Mother	1	2	3	4
3. I wished my parents would worry less about what I was doing	Father	1	2	3	4
	Mother	1	2	3	4
4. My parents gave me more corporal punishment than I deserved	Father	1	2	3	4
	Mother	1	2	3	4
5. When I came home, I then had to account for what I had been doing, to my parents	Father	1	2	3	4
	Mother	1	2	3	4
6. It think that my parents tried to make my adolescence stimulating, interesting and instructive (for instance by giving me good books, arranging for me to go on camps, taking me to clubs)	Father	1	2	3	4
	Mother	1	2	3	4
7. My parents criticised me and told me how lazy and useless I was in front of others	Father	1	2	3	4
	Mother	1	2	3	4
8. It happened that my parents forbade me to do things other children were allowed to do because they were afraid that something might happen to me	Father	1	2	3	4
	Mother	1	2	3	4
9. My parents tried to spur me to become the best	Father	1	2	3	4
	Mother	1	2	3	4
10. My parents would look sad or in some other way show that I had behaved badly so that I got real feelings of guilt.	Father	1	2	3	4
	Mother	1	2	3	4

11. I think that my parents' anxiety that something might happen to me was exaggerated	Father	1	2	3	4
	Mother	1	2	3	4
12. If things went badly for me, I then felt that my parents tried to comfort and encourage me	Father	1	2	3	4
	Mother	1	2	3	4
13. I was treated as the 'black sheep' or 'scapegoat' of the family	Father	1	2	3	4
	Mother	1	2	3	4
14. My parents showed with words and gestures that they liked me	Father	1	2	3	4
	Mother	1	2	3	4
15. I felt that my parents liked my brother(s) or sister(s) more than they liked me	Father	1	2	3	4
	Mother	1	2	3	4
16. My parents treated me in such a way that I felt ashamed	Father	1	2	3	4
	Mother	1	2	3	4
17. I was allowed to go where I liked without my parents caring too much	Father	1	2	3	4
	Mother	1	2	3	4
18. I felt that my parents interfered with everything I did	Father	1	2	3	4
	Mother	1	2	3	4
19. I felt that warmth and tenderness existed between me and my parents	Father	1	2	3	4
	Mother	1	2	3	4
20. I felt that warmth and tenderness existed between me and my parents	Father	1	2	3	4
	Mother	1	2	3	4
21. My parents put decisive limits for what I was and was not allowed to do, to which they then adhered rigorously	Father	1	2	3	4
	Mother	1	2	3	4
22. My parents would punish me hard, even for trifles (small offences)	Father	1	2	3	4
	Mother	1	2	3	4
23. My parents wanted to decide how I should be dressed or how I should look	Father	1	2	3	4
	Mother	1	2	3	4
24. I felt that my parent were proud when I succeeded in something I had undertaken	Father	1	2	3	4
	Mother	1	2	3	4

APPENDIX H: Debrief Sheet for Study 1,2,3

UNIVERSITY OF BIRMINGHAM

Women's Experience of Loss and Trauma during/after Pregnancy and Childbirth: Participants Debrief Sheet

This research had 3 aims. Firstly, it aimed to examine women's emotional well being following a loss or trauma experience. Second, we looked at women's perception of the support that they had received; and finally we tried to understand the factors that might have affected how women feel about their support. If you would like to see the findings of the study please contact the researcher.

Should you have any other questions about this study please contact A.Meltem Budak via email (

If taking part in this study has raised any concerns about your emotional well being, you may wish to contact your GP for advice for Psychological help or Psychological Counselling. You can also make use of the Cruse Bereavement Care web site http://www.crusebereavementcare.org.uk or their telephone support line 0844 477 9400 **or email at:** helpline@cruse.org.uk

You can also access further information regarding stillbirth and neonatal loss via Stillbirth and Neonatal Death Society's (SANDS) web site http://www.uk-sands.org/ and access further information regarding birth trauma via Birth Trauma Association (BTA) http://www.birthtraumaassociation.org.uk/

Please keep this sheet in case you would like to **refer to sources of support** at a later date.

Thank you for your support.

APPENDIX I Participant Information Sheet Study 4

Mothers' experiences with their infant born after a stillbirth experience

(Part I)

What is the study about?

The aim of this research is to provide a valuable insight into mothers' relationships with infants born after a previous stillbirth, from mothers' accounts of their experiences.

Who is taking part?

You may like to take part in this study if you experienced stillbirth with your first pregnancy and have since had a living child who is now aged between 3 months to 4 years.

What will happen in the study?

If you are interested in taking part in this study you can contact me via email. Upon receiving your email I will provide you with further information and answer any questions that you may have. If you decide to participate in the study then I will ask you to complete a consent form. Then we will have a few exchanges (5 to 8) emails regarding your stillbirth experience, including questions about how you felt during your subsequent pregnancy and your relationship with your living infant born after your stillbirth experience.

What are the risks?

You will be asked about your stillbirth experience, your subsequent pregnancy and your relationship with your subsequent infant. You may experience distress or wish to not answer a particular question. You can withdraw from the study at any point and not answer any questions that you do not want to answer. Sources of help and support will be provided on the debrief sheets which you will receive at the end of your participation to the study.

What are the benefits?

There are no direct benefits to the individuals taking part in the study. However, some people may find it helpful to write about their experiences. This study aims to collect information on women's personal insight about their stillbirth experiences. It

also looks into the effects on her relationship with her subsequent infant. Thus, it is expected to contribute to better after care for women who experienced stillbirth. A summary of the overall research study can be given to you when the study is complete, if you request one.

What if I do not wish to continue at any stage?

You are free to withdraw from the study. You can refuse to answer any question, and may refuse to do anything requested of you. You will be given a reflection period for your responses to the researcher's questions. If you wish to change your mind once I have received your written account, you can ask me not to include it in the research at any point up until any publication of the research.

What happens to the information?

This research follows the Code of Conduct, Ethical Principles and Guidelines published by the British Psychological Society (www.bps.org.uk). All gathered information including consent forms will be kept in a secure location with access permitted only to the researchers and then will be destroyed. In any publication where sections from your written accounts are used, it is ensured that no real names will be released.

I and one of my supervisors, Michael Larkin will look at all the stories and examine closely so that we can indentify, firstly, the things that are important to you about your experience, and secondly, so that we can see what connections there are between your experience and other people's. In the final report, which will be publicly available, but mainly read by scientists and health professionals, we will quote from your interview, and from other interviews that we have conducted. People will be able to see what you said, but they won't know that it was you who said it. We will give you a false name, and will change any references that you make to other people's real names. If we think that there is a risk that readers of the work might be able to identify you from any of the quotes, we will check them with you before using them.

What else can I expect from the researcher?

You can ask any questions about the study that occur to you during your participation and request a copy of any of the results.

About the researcher

A.Meltem Budak is a PhD student at the School of Psychology, University of Birmingham and her study is supervised by Dr Michael Larkin, Dr Gillian Harris and Dr Jacqueline Blissett. Meltem's interest in this subject stems from a personal stillbirth experience. She is a member of the British Association for Counseling and

Psychotherapy. Please contact the researcher Mrs A.Meltem Budak on 0121 414 3410 or axb633@bham.ac.uk

Principle Investigators

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APPENDIX J : IPA Emerging Themes Process

APPENDIX K: Preliminary Analysis

The main concern of this preliminary study was to identify if there were any significant differences in general (measured by PDSQ) and specific mental health scores (measured by PDSQ sub scales) based on demographic group variables so that the identified variables could be controlled for in the subsequent analyses.

Questions of preliminary analysis:

1. Are there any significant differences in general and specific mental health symptoms in terms of groups, based on education status, job status, relationship status, ethnicity, diagnosis, country and number of traumas?

2. Is there any relationship between participant age, or number of children, with general and specific mental health symptoms?

A series of ANOVAs were conducted to explore demographic group differences in the main outcome variable of mental health symptoms (Tables K.1 to K.6) after meeting ANOVA assumptions. The relationships between continuous demographic variables (age and number of children) and mental health scores were examined by using Pearson's product-moment correlation coefficient (r) (Table K.7).

As presented in Table K.1, whilst there were no differences according to education for overall mental health , OCD, panic, PTSD and agora phobia, social phobia, GAD and EPDS scores, there was a significant difference for major depression score. However, the actual difference in mean scores between the groups was small ($\eta^2 = 0.04$) and post hoc comparisons using the Hoshberg's GT2 test (chosen because the sample sizes varied) indicated that lowest school education group differed from the other education groups).

As presented in Table K.2, while there was no significant difference according torelationship status for overall mental health, OCD, panic, agoraphobia, social phobia, GAD and EPDS scores, there was a significant difference for PTSD scores ($\eta^2 = 0.02$; Hoshberg's GT2 indicated that being single was different than the married and 'in a relationship' categories). Table K.3 presents the differences by job status for general and specific mental health scores. The only significant differences by job status were observed for major depression and EPDS scores. Further analysis (Hosberg's GT2) indicated that the unemployed group differed from the other job groups ($\eta^2 = 0.08$) for major depression scores. Similarly,the EPDS score differed by job groups ($\eta^2 = 0.06$), further analysis (Hosberg's GT2) failed to identify the differing group;(this result can be explained by a lack of power due to the small numbers in some of the groups). Table K.4 shows that there was no significant difference according to ethnicity for overall and specific mental health scores. As presented in Table K.5 there was no significant difference for overall mental health, panic, social phobia, GAD and EPDS scores, there was, however, a significant difference for OCD and agoraphobia scores according to the number of trauma experiences ($\eta^2 = 0.03$). Post hoc comparisons using the Hoshberg's GT2 test indicated that the mean score for a single trauma was significantly different from that of triple trauma; the dual trauma group did not differ significantly from either of the other groups. For agoraphobia, the difference between the trauma groups was small ($\eta^2 = 0.02$) and further analysis (Hoshberg's GT2) indicated that the single trauma group differed from the other groups of according to the number of trauma experiences. As presented in Table K.6, there was no significant difference according to previous diagnosis of mental health problems for general and specific mental health scores. In addition, the correlations between mental health symptoms, and age and number of children (Table K.7), revealed no significant relationship.

Table K.1 *Mental health scores by demographic variables - Education*

		School	Post School	Degree	Post Graduate	F	df	p
PDSQ Total	M	28.579	32.522	25.813	25.85	1.65	(3-	0.18
	SD	(17.47)	(16.21)	(16.22)	(17.89)		162)	
	N	(19)	(44)	(64)	(39)			
OCD	M	0.77	0.75	0.79	3.06	0.08	(3-	0.97
	SD	(1.19)	(1.31)	(1.09)	(1.46)		183)	
	N	(22)	(54)	(69)	(42)			
Panic	M	2.33	2.35	1.55	1.90	1.29	(3-	0.28
	SD	(2.93)	(2.56)	(2.21)	(2.31)		181)	
	N	(21)	(53)	(70)	(41)			
PTSD	M	5.25	6.55	6.10	6.12	0.41	(3-	0.75
	SD	3.78	(4.47)	(4.49)	4.34		167)	
	N	(20)	(45)	(67)	(39)			
Major Depression	M	8.28	6.30	5.86	6.25	2.78	(3-	0.04*
	SD	(4.80)	(4.68)	(4.71)	(5.22)		168)	
	N	(20)	(45)	(66)	(39)			
Agora Phobia	M	2.10	2.50	1.68	1.23	2.09	(3-	0.10
	SD	(2.59)	2.72	2.31	2.21		168)	
	N	(20)	(46)	(67)	(39)			
Social Phobia	M	4.63	4.88	4.10	3.92	0.47	(3-	0.70
	SD	(4.75)	(4.35)	(4.21)	3.80		164)	
	N	(19)	(44)	(66)	(39)			
GAD	M	5.15	6.15	4.77	5.35	1.39	(3-	0.25
	SD	(3.50)	(3.38)	(3.75)	3.33		166)	
	N	(19)	(46)	(66)	(39)			
EPDS	M	14.05	16.18	13.01	12.92	2.29	(3-	0.08
	SD	(6.47)	(5.12)	(7.07)	(6.04)		147)	
	N	(18)	(37)	(60)	(36)			

* $p < .05$

Table K.2 *Mental health scores by demographic variables - Relationship*

		Single	In a Relationship	Married	F	df	p
PDSQ Total	M SD N	33.66 (23.71) (6)	30.83 (17.25) (29)	27.13 (17.25) (133)	.93	(2-188)	.40
OCD	M SD N	0.57 (1.19) (7)	1.0 (1.43) (30)	0.81 (1.30) (154)	.39	(2-185)	.67
Panic	M SD N	2.29 (3.59) (7)	2.40 (2.67) (30)	1.85 (2.31) (151)	.718	(2-171)	.49
PTSD	M SD N	9.50 5.32 (6)	6.16 (4.30) (30)	5.73 (4.24) (138)	3.31	(2-169)	.03*
Major Depression	M SD N	8.33 (6.77) (6)	8.59 (4.68) (29)	6.45 (4.74) (137)	2.61	(2-171)	.08
Agora Phobia	M SD N	2.67 (3.32) (6)	1.89 2.78 (29)	1.84 2.37 (139)	.32	(2-167)	.73
Social Phobia	M SD N	4.63 (4.75) (6)	4.88 (4.35) (29)	4.10 (4.21) (139)	.07	(2-169)	.93
GAD	M SD N	4.83 (4.95) (6)	4.13 (4.22) (29)	4.34 (4.18) (135)	.03	(2-165)	.98
EPDS	M SD N	13.75 (6.47) (4)	16.68 (5.12) (25)	13.38 (7.07) (124)	2.85	(2-150)	.06

* $p < .05$

Table K.3 *Mental health scores by demographic variables – Job Status*

		Unemployed	Unskilled	Semiskilled	Skilled	Managerial /Professional	F	df	P
PDSQ Total	M	26.57	31.85	32.00	26.59	23.46	1.52	(4-161)	0.20
	SD	(15.54)	(18.78)	(17.68)	(16.57)	(14.59)			
	N	(14)	(20)	(43)	(61)	(28)			
OCD	M	0.75	0.90	1.22	0.66	0.57	1.79	(4-184)	0.13
	SD	(0.68)	(1.16)	(1.73)	(1.22)	(.83)			
	N	(16)	(20)	(54)	(71)	(28)			
Panic	M	1.25	2.85	2.25	1.78	1.68	1.39	(4-181)	0.24
	SD	(2.01)	(2.58)	(2.67)	(2.49)	(1.67)			
	N	(16)	(20)	(52)	(70)	(28)			
PTSD	M	4.93	7.85	6.36	6.31	4.71	1.87	(4-167)	0.12
	SD	(4.14)	(4.04)	(4.27)	(4.48)	(4.25)			
	N	(14)	(20)	(45)	(65)	(28)			
Major Depression	M	8.93	7.15	6.80	5.81	6.07	3.94	(4-165)	0.01*
	SD	(3.49)	(4.87)	(5.02)	(4.85)	(4.47)			
	N	(14)	(20)	(44)	(64)	(28)			
Agora Phobia	M	2.79	2.05	2.37	1.58	1.32	1.55	(4-167)	0.19
	SD	(2.48)	(2.74)	(2.56)	(2.36)	(2.26)			
	N	(14)	(20)	(46)	(64)	(28)			
Social Phobia	M	5.57	4.60	4.77	4.02	3.64	0.71	(4-163)	0.58
	SD	(4.31)	(4.67)	(4.24)	(4.22)	(3.78)			
	N	(14)	(20)	(44)	(62)	(28)			
GAD	M	6.07	5.15	5.36	5.14	5.46	0.21	(4-165)	0.93
	SD	(3.10)	(3.51)	(3.61)	(3.69)	(3.51)			
	N	(14)	(20)	(45)	(63)	(28)			
EPDS	M	16.14	16.07	15.71	12.48	11.24	2.77	(4-148)	0.03*
	SD	(6.47)	(5.12)	(7.07)	(6.47)	(6.47)			
	N	(14)	(17)	(39)	(58)	(25)			

* $p < .05$

Table K.4 Mental health scores by demographic variables – Ethnicity

		Asian	White	Other	F	df	p
PDSQ Total	M	14.66	28.83	22.00	2.51	(2-164)	.08
	SD	(14.81)	(16.72)	(15.62)			
	N	(6)	(155)	(6)			
OCD	M	0.66	0.84	0.75	.071	(2-187)	.93
	SD	(1.21)	(1.33)	(1.16)			
	N	(6)	(176)	(8)			
Panic	M	0.83	2.04	1.25	1.07	(2-184)	.34
	SD	(1.32)	(2.46)	(2.05)			
	N	(6)	(173)	(8)			
PTSD	M	3.50	6.23	5.67	1.17	(2-170)	.31
	SD	(4.13)	(4.37)	(3.67)			
	N	(6)	(161)	(6)			
Major Depression	M	4.83	7.04	5.17	.97	(2-168)	.38
	SD	(4.26)	(4.91)	(4.70)			
	N	(6)	(159)	(6)			
Agora Phobia	M	0.83	1.98	0.50	1.61	(2-170)	.20
	SD	(3.07)	(2.26)	(1.22)			
	N	(6)	(161)	(6)			
Social Phobia	M	0.83	4.54	2.33	3.03	(1-166)	.06
	SD	(1.60)	(4.21)	(3.93)			
	N	(6)	(157)	(6)			
GAD	M	3.16	5.40	2.33	1.19	(2-168)	.30
	SD	(2.92)	(3.51)	(3.93)			
	N	(6)	(159)	(6)			
EPDS	M	12.86	14.19	8.75	1.52	(2-149)	.22
	SD	(7.27)	(6.31)	(5.67)			
	N	(5)	(143)	(4)			

* p< .05

Table K.5 Mental health scores by demographic variables - Trauma Experiences

		Single Trauma	Dual Trauma	Triple Trauma	F	df	p
PDSQ Total	M SD N	26.52 (16.68) (119)	29.85 (17.45) (44)	39.83 (10.17) (6)	2.23	(2-166)	.11
OCD	M SD N	0.72 (1.28) (139)	0.98 (1.34) (47)	2.00 (1.55) (6)	3.17	(2-189)	.04*
Panic	M SD N	1.88 (2.45) (136)	2.02 (2.30) (47)	2.83 (2.86) (6)	.48	(2-186)	.62
PTSD	M SD N	5.93 (4.35) (125)	6.16 (4.51) (44)	8.67 (2.58) (6)	1.15	(2-172)	.32
Major Depression	M SD N	6.54 (4.78) (123)	7.16 (5.15) (44)	10.83 (3.97) (6)	2.37	(2-170)	.10
Agora phobia	M SD N	1.58 (2.33) (125)	2.57 (2.72) (44)	2.83 (2.31) (6)	3.19	(2-172)	.04*
Social Phobia	M SD N	4.06 (4.21) (121)	4.93 (4.15) (44)	4.67 (4.37) (6)	.72	(2-168)	.48
GAD	M SD N	4.98 (3.50) (123)	5.82 (3.67) (44)	8.00 (1.26) (6)	2.78	(2-170)	.07
EPDS	M SD N	13.68 (6.28) (108)	14.01 (6.96) (41)	17.60 (2.07) (5)	.91	(2-151)	.41

* $p < .05$

Table K.6 *Mental health scores by demographic variables – Diagnosis*

		Diagnosis Before	Diagnosis After	F	df	p
PDSQ Total	M SD N	36.21 (18.49) (33)	33.53 (13.47) (15)	.25	(1-46)	.62
OCD	M SD N	1.010 (1.13) (33)	1.13 (1.45) (15)	.01	(1-46)	.91
Panic	M SD N	2.90 (2.83) (136)	2.86 (2.77) (47)	.01	(1-46)	.96
PTSD	M SD N	8.09 (4.59) (33)	6.60 (3.39) (15)	1.26	(1-46)	.27
Major Depression	M SD N	8.87 (5.74) (33)	7.80 (3.18) (15)	.46	(1-46)	.50
Agora Phobia	M SD N	3.18 (3.07) (33)	2.00 (2.26) (15)	1.76	(1-46)	.19
Social Phobia	M SD N	5.48 (3.93) (33)	5.46 (4.37) (15)	.00	(1-46)	.99
GAD	M SD N	6.57 (3.12) (33)	7.66 (3.13) (15)	1.26	(1-46)	.27
EPDS	M SD N	16.44 (7.24) (32)	15.07 (4.94) (13)	.39	(1-43)	.54

* $p < .05$

Table K.7 *Correlation between age, number of children and mental health symptoms*

Variables	Number of Children	Age
PDSQ total	- 0.06	- 0.02
OCD	- 0.06	0.01
Panic	- 0.09	- 0.10
PTSD	- 0.11	- 0.08
Major Depression	- 0.05	- 0.03
Agoraphobia	- 0.12	0.05
Social Phobia	- 0.01	0.07
GAD	0.02	- 0.07
EPDS	- 0.02	- 0.03

* $p < .05$

The identified demographic variables which were significantly different in general and specific mental health symptoms were controlled for in the following regression analysis, in *Study 1* Chapter 3.

APPENDIX L: Correlations between continues variables and dependent variables of Study III

Table L.1 *Correlations for OCD and independent variables (N = 133)*

Variables	OCD	PR	PS	PP	A	Av	SH	SF	SP
OCD	-								
Parental Rejection (PR)	.030	-							
Parental Support (PS)	-.090	-.569***	-						
Parental Over Protection (PP)	-.028	.431***	-.039	-					
Anxiety (A)	.335***	.283***	-.146	.131	-				
Avoidance (Av)	.026	.287***	-.203**	.222**	.593***	-			
Support Health (SH)	-.065	-.087	.054	-.046	-.253**	-.195*	-		
Support Close Family(SF)	.001	-.195*	.343***	-.060	-.092	-.188*	.261**	-	
Support Partner (SP)	.064	-.233**	.189*	-.211**	-.365***	-.521***	.319***	.376***	-

$p < .05$; **$p < .01$; ***$p < .001$

Table L 2

Correlations for PTSD and independent variables (N = 129)

Variables	PTSD	PR	PS	PP	A	Av	SH	SF	SP
PTSD	-								
Parental Rejection (PR)	.184*	-							
Parental Support (PS)	.025	-.598***	-						
Parental Over Protection (PP)	.020	.432***	-.034	-					
Anxiety (A)	.410***	.281**	-.149	.124	-				
Avoidance (Av)	.274**	.297***	-.185*	.208**	.589***	-			
Support Health (SH)	-.320	-.090	.064	-.050	-.244**	-.204**	-		
Support Close Family (SF)	-.040	-.224**	.329***	-.053	-.099	-.175*	.253**	-	
Support Partner (SP)	-.193*	-.243**	.194*	-.222**	-.361***	-.538***	.300***	.381***	-

$p < .05$; **$p < .01$; ***$p < .001$

Table L.3

Correlations for Panic and independent variables (N = 132)

Variables	Panic	PR	PS	PP	A	Av	SH	SF	SP
Panic	-								
Parental Rejection (PR)	.108	-							
Parental Support (PS)	-.016	-.581***	-						
Parental Over Protection (PP)	.026	.437***	-.031	-					
Anxiety (A)	.346***	.281**	-.157*	.136	-				
Avoidance (Av)	.153**	.295***	-.193*	.217**	.605***	-			
Support Health (SH)	-.207**	-.082	.070	-.055	-.247**	-.210**	-		
Support Close Family (SF)	-.005	-.204**	.331***	-.051	-.103	-.177**	.281**	-	
Support Partner (SP)	.036	-.230**	.203**	-.219**	-.361***	-.535***	.312***	.392***	-

*$p < .05$; **$p < .01$; ***$p < .001$

Table L.4.

Correlations for Social Phobia and independent variables(N = 130)

Variables	Social Phobia	PR	PS	PP	A	Av	SH	SF	SP
Social Phobia	-								
Parental Rejection (PR)	.300***	-							
Parental Support (PS)	-.177*	-.588***	-						
Parental Over Protection (PP)	.068	.433***	-.038	-					
Anxiety (A)	.308***	.273**	-.168*	.123	-				
Avoidance (Av)	.230**	.287***	-.203**	.206**	.595***	-			
Support Health (SH)	-.159*	-.082	.091	-.043	-.246**	-.210**	-		
Support Close Family (SF)	-.077	-.211**	.353***	-.046	-.105	-.184*	.250**	-	
Support Partner (SP)	.005	-.230**	.212**	-.215**	-.363***	-.540***	.299***	.383***	-

p < .05; **p* < .01; ***p* < .001

Table L.5

Correlations for Agora Phobia and independent variables(N = 133)

Variables	Agora Phobia	PR	PS	PP	A	Av	SH
Agora Phobia	-						
Parental Rejection (PR)	.176*	-					
Parental Support (PS)	.022	-.569***	-				
Parental Over Protection (PP)	.143	.431***	-.039	-			
Anxiety (A)	.196*	.283***	-.146*	.131	-		
Avoidance (Av)	.054	.287***	-.203**	.222	.593***	-	
Support Health (SH)	-.074	-.087	.054	-.046	-.253**	-.195*	-
Support Close Family (SF)	-.012	-.195*	.343***	-.060	-.092	-.188*	.261**
Support Partner (SP)	.066	-.233**	.189*	-.211**	-.365***	-.521***	.319***

$p < .05$; **$p < .01$; ***$p < .001$

Table L.6

Correlations for OCD and independent variables (N = 131)

Variables	GAD	PR	PS	PP	A	Av	SH	SF	SP
GAD	-								
Parental Rejection (PR)	.222	-							
Parental Support (PS)	-.024	-.581***	-						
Parental Over Protection (PP)	.089	.435***	-.030	-					
Anxiety (A)	.447***	.276**	-.156*	.132	-				
Avoidance (Av)	.166*	.290***	-.193*	.213***	.600***	-			
Support Health (SH)	-.175*	-.089	.072	-.060***	-.263**	-.225	-		
Support Close Family (SF)	-.105	-.215	.336***	-.058	-.120	-.195*	.271**	-	
Support Partner (SP)	-.072	-.233**	.203**	-.221	-.369***	-.544***	.309***	.390***	-

*$p < .05$; **$p < .01$; ***$p < .001$

Table L.7

Correlations for PDSQ-Major Depression and independent variables(N = 129)

Variables	Major Depression	PR	PS	PP	A	Av	SH	SF	SP
Major Depression	-								
Parental Rejection (PR)	.240**	-							
Parental Support (PS)	-.083	-.592***	-						
Parental Over Protection (PP)	.028	.430***	-.023	-					
Anxiety (A)	.543***	.280**	-.138	.122	-				
Avoidance (Av)	.297***	.296***	-.175*	.206*	.588***	-			
Support Health (SH)	-.272**	-.095	.058	-.057	-.251**	-.211**	-		
Support Close Family (SF)	-.175*	-.228**	.327***	-.060	-.107	-.182*	.260**	-	
Support Partner (SP)	-.235**	-.238**	.188*	-.215**	-.354***	-.533***	.298***	.383***	-

*$p < .05$; **$p < .01$; ***$p < .001$

Table L.8

Correlations for EPDS and independent variables (N = 129)

Variables	EPDS	PR	PS	PP	A	Av	SH	SF	SP
EPDS	-								
Parental Rejection (PR)	.148	-							
Parental Support (PS)	-.044	-.569***	-						
Parental Over Protection (PP)	.031	.431***	-.039	-					
Anxiety (A)	.489***	.283***	-.146	.131	-				
Avoidance (Av)	.292***	.287***	-.203**	.222**	.593***	-			
Support Health (SH)	-.247**	-.087	.054	-.046	-.253**	-.195*	-		
Support Close Family (SF)	-.089	-.195*	.343***	-.060	-.092	-.188*	.261**	-	
Support Partner (SP)	-.153*	-.233**	.189*	-.211**	-.365***	-.521***	.319***	.376***	-

*$p < .05$; **$p < .01$; ***$p < .001$