PSYCHOLOGICAL DISTRESS IN NEW AND EXPECTING PARENTS: THE ROLE OF ATTACHMENT, SELF-CONCEPT, AND MALADAPTIVE PERFECTIONISM

Celeste M Benetti, BSocSc (Psych), BA (Hons) Psych

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ABSTRACT

This thesis aimed to broaden the understanding of psychological distress experienced in the transition to parenthood. Although depression has been widely researched with postnatal women, there has until recently been a lesser focus on anxiety symptoms, and relatively little research has investigated the experience of obsessive compulsive symptoms. Furthermore, although much research has focused on antenatal and postnatal research, there has been a paucity of research which has focused on this transition for men. Additionally, few studies have compared childbearing groups to those without children, so it is unknown whether predictors of psychological distress in new and expecting parents are reflections of those in general populations.

This thesis aimed to test a model of psychological distress in new and expecting parents, and a comparison group of adults without children. It was proposed that attachment theory, self-concept, and maladaptive perfectionism could be integrated to provide an explanation of psychological distress. In particular, it was proposed that perceptions of low self-efficacy for the parenting role may be an important predictor of antenatal and postpartum psychological distress for individuals to whom the parenting role is of high importance (parenting self-concept sensitivity). This highlighted the need for a measure to assess parenting self-concept sensitivity, and the first study reported in this thesis developed such a measure with a sample of 131 women (aged 18-42 years) with children aged no older than 3 years of age. This measure showed a clear factor structure and good reliability in both the pilot study and with main study participants.

It was further hypothesised that the direct effect of attachment anxiety on psychological distress would be mediated by global self-worth, maladaptive perfectionism, and parenting self-concept sensitivity, and that the effect of maladaptive perfectionism would be moderated by self-esteem. The final sample resulted in only six new fathers and six expectant fathers completing the study, and they were unable to be analysed as separate groups, instead men were compared as a whole. Thus, a total of 218 participants completed the study (46 men, 77 women without children, 43 first-time expectant mothers, and 52 postpartum women), who ranged in age from 18 to 45 years.
Results showed that there were no significant differences in terms of levels of psychological distress between groups, and compared with normative data, the sample experienced lower levels of distress. Overall, anxious attachment was positively associated with all measures of psychological distress, except for pregnant women, for whom no association was found between anxious attachment and any measures of distress. Global self-worth fully mediated the effect of anxious attachment on depression for women without children. In addition, the proposed model was supported for depression for women without children.

This thesis highlights the important role of attachment in the experience of psychological distress. This thesis has also shown that predictors of psychological distress differed between pregnant women and other participants, despite there being no significant differences in levels of distress. This supports the need for further research to develop a better understanding of psychological distress in childbearing samples, particularly with antenatal samples. There also remains a need to adequately address these issues in men, whom it is difficult to access whilst they are making this transition. Treatment implications of this study include consideration of experiences and opportunities in an individual’s current romantic relationship as a way of fostering a more secure attachment system.
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DECLARATION

I declare that this thesis does not incorporate without acknowledgment any material previously submitted for a degree at any university or educational institution or for publication without due acknowledgement. I further declare that the ethical principles of the Australian Psychological Society in relation to research have been observed.

Celeste M Benetti
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CHAPTER 1
ANTENATAL AND POSTNATAL MENTAL HEALTH: AN INTRODUCTION TO
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1.1 The Transition to parenthood

Becoming a parent, although welcomed by many individuals, nonetheless requires relatively abrupt adaptation to significant social, emotional, and physical changes. The majority of adult men and women become parents, making it a common and normative experience, and this transition is often considered to be the most important developmental phase of adulthood (Riecher-Rössler & Hofecker Fallahpour 2003). Despite the normalcy of this transition, the nature and extent of the adjustments which are made over a brief amount of time lead it to be a highly stressful experience for many. Indeed, the transition to parenthood has been consistently identified as a stressful life event (e.g., Hobson et al.1998; Holmes & Rahe, 1967). Furthermore, new and expecting parents undergo changes in their self-perceptions and relationships with others that may actually be experienced as losses and with ambivalence (Barclay & Lloyd, 1996; Riecher-Rössler & Hofecker Fallahpour, 2003). There may be less opportunity to engage in previously enjoyed relationships, activities, and commitments as an effort is made to accommodate the needs of the new infant. The transition to parenthood may also be a time when early experiences in one’s own family of origin are elicited (Fraiberg, 1980). Additionally, men traditionally are expected to continue to meet all of their pre-baby responsibilities, such as maintaining employment and income, in addition to becoming a support to the new mother. Changes to societal expectations of paternal involvement in these transitions are also pertinent: now, compared to even a decade or so ago, there is a growing expectation for men to be fully involved in this process and the expectations of the role of fatherhood have significantly changed (Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000; Christiansen & Palkovitz 2001; Lamb, 2000). Thus, new fathers are now expected to be involved in ways that they may never have experienced with their own fathers (Anderson, 1996; Fägerskiöld, 2008)
The broad aim of this thesis is to explore the mental health of men and women experiencing the transition to parenthood. This chapter will build a case for the importance of conducting this research, define the terms to be used in this thesis, and will conclude with an overview of the subsequent chapters.

1.2 Psychological Distress in the Transition to Parenthood

Considering the broad nature of the adaptations involved in the transition to parenthood, it is not surprising that the mental health of new and expecting parents is an area which has become the focus of an increasing number of research studies with a particular boom in interest over the past 20 years. Research suggests that the antenatal and postnatal periods may place women at risk of mental health problems, not only in terms of exacerbation of existing conditions, but also in terms of new onset (e.g., Börjesson, Ruppert, & Bågedahl-Strindlund, 2005). Further, Hipwell, Reynolds, and Crick (2004) argue that the transition to parenthood is a stressful life event in itself that may precipitate depression. Considering that many of the adaptations that occur for women also occur for men, it follows that the antenatal and postnatal periods may also increase risk for mental illness in men, although this transition in men has received less research attention. This paucity of research may be reflective of society’s general view of men’s roles in this transition; that is, as a source of support for the new mother, not as individuals who they themselves may need support, a view that also seems to be held by new fathers themselves (Bradley, Mackenzie, & Boath 2004). There has also been some research to suggest that women experience more changes than their male partners across this transition (Feldman & Nash, 1984). Most typically, women become the primary caregiver of the infant whilst men tend to continue to work and provide financial support to the family. The changes made in the transition to parenthood may also be more predictable and consistent for women than for men, for whom there may be less clear expectations (Feldman & Nash, 1984).

Additionally, research by Cowan, Cowan, Heming, and Miller (1991) found that there are significant changes in self-concept in new parents, and that the reduction in viewing self as a partner/lover was actually two times that in women compared to men.
The majority of the antenatal and postnatal mental health literature concerning women remains focused on depression, despite findings that anxiety disorders are at least as common in antenatal and postnatal samples (Brockington, Macdonald, & Wainscott, 2006). Furthermore, it seems that the co-occurrence of anxiety symptoms in postnatally depressed women is more prevalent than at other times (Hendrick, Altshuler, Strouse, & Grosser 2000), and the experience of intrusive thoughts is common in new parents (Abramowitz, Schwartz, & Moore, 2003). It is beyond the scope of the present thesis to discuss all disorders that may occur within the antenatal and postnatal periods, such as post-traumatic stress disorder, psychosis, and other complex mood disorders such as Bipolar disorder. Conversely, this thesis focuses on depression, generalised anxiety symptoms, and obsessive-compulsive symptoms.

1.2.1 Some definitions of terms to be used in this study

The term “transition to parenthood” will be used in this study to describe the period of time beginning when an individual first learns that they are expecting their first child through to the end of the first year following the birth of the child. The term “antenatal” refers to the period of time from when a woman is pregnant with her first child until the time of the birth, or for a man, the time during which he female partner is pregnant with his first child until the birth.

The term “postnatal” will be used in this thesis to describe the first year experienced by both men and women following the birth of their infants, although it is acknowledged that there is some debate regarding whether the term should be used for the first three, six, or 12 months (Grigoriadis & Romans, 2006). A 12-month cut-off was decided upon for several reasons. If the transition to parenthood is considered to be a stressful life event, it can be considered to last until at least one year after the birth of the infant. There is also evidence to suggest that, at least for women, mental health problems that arise during the time after their babies’ birth continue to be experienced for at least 12 months (e.g., Garel, Dardennes, & Blondel, 2006; Goodman, 2004; Hiscock & Wake, 2001; Matthey, Barnett, Ungerer, & Waters, 2000). For instance, McMahon, Barnett, Kowalenko, and Tennant (2005), investigated psychological factors associated with postnatal depression and found
that overall 30% of new mothers reported significant symptoms of depression at 12 months, and that anxious attachment at 12 months was associated with depression levels at this time.

It is necessary to consider that although the term “postnatal depression” has become a widely-used lay term, the Diagnostic and Statistical Manual for Mental Disorders (DSM-IV-TR; American Psychological Association, 2000) provides only for a postpartum onset specifier for Major Depressive Disorder and the psychotic disorders, and this is limited to onset that occurs within the first four weeks following childbirth (six weeks for the ICD-10: World Health Organization, 1992). The lack of official diagnoses for syndromes such as “postnatal depression” is reflective of the majority of research, suggesting that the experience of depression during the first year postpartum is not qualitatively different to that experienced at other time points (e.g., Cox, Murray, & Chapman, 1993; Kumar & Robson 1984; O’Hara, Schlechte, Lewis, & Varner 1991; Whiffen, 1991). It does seem though that depression experienced at this time may be more likely to co-occur with anxiety than in the general population (Hendrick et al., 2000). Although postnatal depression may not be a distinct clinical entity, the use of a distinct term remains useful due to the specific needs of those with the condition (Riecher-Rössler & Hofecker Fallahpour 2003). Thus, the term “postnatal depression” will be used in this thesis to refer to depression occurring anytime in the first year after the birth of one’s child, as distinct from “postpartum depression”, only occurring with an onset in the first four weeks postpartum (or six weeks for the ICD-10). In addition to examining depression, this thesis will adopt a broader view of mental health, and also examine anxiety and obsessive compulsive symptoms. Thus, the term “psychological distress” will be used to broadly refer to the experience of any of these mental health problems.

1.2.2 Problems with detecting psychological distress in antenatal and postnatal samples

In any discussion of antenatal and postnatal mental health it is important to acknowledge the increased difficulties that exist in relation to diagnosis compared to the general population. Many of the common symptoms of depression and anxiety are also
found in the majority of new mothers in particular, and a large proportion of new fathers, for example, changes to sleep, appetite, energy levels, and other physiological symptoms. Thus, it may be more difficult for health professionals to distinguish symptoms of psychological distress from the normative experiences of adjusting to parenthood. Despite this, an increased awareness through education of healthcare professionals and the development of screening tools specifically for postnatal depression (e.g., the Edinburgh Postnatal Depression Scale; EPDS; Cox, Holden, & Sagovsky, 1987) has led to better diagnosis and treatment of depression in recent years even though it remains under diagnosed (Chaudron, 2003; Cooper & Murray, 1998). As many as three out of four of new mothers experiencing depression do not seek help due to fears of being labelled as mentally ill, being separated from their children, and beliefs that medications might not be helpful to them (McIntosh, 1993). Additionally, although the use of measures such as the EPDS may have increased detection of depression, this could also lead to cases of anxiety without depression remaining undetected. In comparison to new mothers, there is even less focus on the mental health of new fathers in community settings, which is exacerbated by a more general male reluctance to seek help for mental health problems (Addis & Mahalik, 2003).

1.3 Depression in Childbearing Samples

Without a doubt, the most commonly studied mental health issue in pregnant and postnatal women to date has been depression. It is widely accepted that postnatal mental illness occurring in women is part of a continuum from the relatively normal experience of the postpartum “blues”, through to major depression and psychotic disorders. Psychotic disorders are relatively rare (experienced by approximately 1 to 2 postpartum women of every 1,000; Nonacs & Cohen, 2000), and may be a variant of Bipolar disorders (Pope, 2000). The postpartum “blues” are experienced by approximately 30-80% of women (Kennerly & Gath, 1989; Milgrom, Martin & Negri, 1999; O’Hara, Neunaber, & Zekoski, 1984; Pope, 2000), usually occurring between the 3rd and 5th day following childbirth, and resolving within 10 to 14 days at most (Kendell, McGuire, Connor, & Cox, 1981; Milgrom et al., 1999; Miller, 2002; Pope, 2000). They are characterised more by lability of mood...
than by depressed mood, and are considered to result from the sudden hormonal changes that occur following childbirth (Stein, 1982).

Although some researchers of antenatal and postnatal depression have included measures where a clinical diagnosis is possible (e.g., Cutrona, 1983; Lee, Yip, Leung, & Chung, 2000), many have assessed for more moderate levels of depression and have used measures such as the EPDS (e.g., Evans, Heron, Francomb, Oke, & Golding, 2001; George & Elliott, 2004). Symptoms of depression that are commonly experienced in postnatal samples do not appear to differ from those experienced at other times (Riecher-Rössler, & Hofecker-Fallahpour, 2003). Symptoms typically include: tearfulness; feelings of hopelessness; somatic complaints, such as fatigue; loss of appetite, disturbed sleep, poor concentration and memory, and feelings of guilt. Symptoms that may be more particular to postnatal depression include feelings of inadequacy, obsessive thinking, and lability of mood (Grigoriadis & Romans, 2006). Most episodes resolve within three months of onset (Cox et al., 1993), however, it seems that residual symptoms may continue until at least the first year postpartum (Cooper, Campbell, Day, Kennerley, & Bond, 1988). Although relatively rare, postnatal depression can also lead to an increased risk of infanticide (Spinelli, 2004), and thoughts to harm their babies are common in women with postnatal depression (Jennings et al., 1999).

Most investigations of possible biological causes of postnatal depression have either been unsuccessful or un-replicated (e.g., Bloch, Schmidt, Danaceau, Murphy, Nieman, & Rubinow, 2000; Oretti, Hunter, Lazarus, Parkes, & Harris, 1997). There does appear to be some evidence that hormonal changes may play a role in the development of depression very early on in the postpartum period, typically in cases where postpartum ‘blues’ do not resolve. However, there is a second peak incidence occurring between six and eight months postpartum (Milgrom et al., 1999), which is not linked to hormonal changes.

A recent review of the literature by Leahy-Warren and McCarthy (2007) suggests that prevalence of postnatal depression in women is generally between 5% and 25%, whilst another review by Grigoriadis and Romans (2006) places it more specifically at between 10% and 15%. On average the prevalence appears to be approximately 13% according to a meta-analysis of 59 studies (O’Hara, & Swain, 1996). Interestingly, depression in postnatal samples also appears to occur across cultures, for instance, in Pakistan (Karmaliani et al.,
2006), and Turkey (Sayil, Güre, & Uçanok, 2006). Consistent with rates of postnatal depression in other Western countries, a prospective study of 490 Australian women found a rate of 13.1% for postnatal depression at eight weeks postpartum (Johnstone, Boyce, Hickey, Morris-Yates, & Harris, 2001). Henderson, Andrews, and Hall (2000) report on the Australian National Mental Health Study, which found a 12 month prevalence rate for depression of 7.4% for general population women, which suggests that there is an increased risk postnatally when compared to Johnstone et al. (2001). However, some studies have found no such increase, and a Finnish register-linkage study also suggests that apart from very young mothers, pregnancy and childbirth may actually be a protective factor against suicide (Gissler, Hemminki, & Lönnqvist 1996).

A family and personal history of psychiatric illness increases vulnerability to postnatal depression, (Breitkopf et al. 2006), and there is a high rate of subsequent episodes, which are experienced by between 30% and 50% of women (Brockington, 1996; Nonacs & Cohen, 2000; Warner, Appleby, Whitton, & Fargher, 1996; Wisner, Parry, & Piontek 2002). Furthermore, subsequent non-antenatal/postnatal episodes of depression are also common (O’Hara & Swain, 1996). There is also increased risk of depression postnatally if a woman has been depressed during her pregnancy (van Bussel, Spitz, & Demyttenaere, 2006; Verkerk, Pop, Van Son, & Van Heck, 2003). There is less available data on the course of antenatal and postnatal depression in men. Ballard and colleagues (Ballard, Davis, Cullen, Mohan, & Dean, 1994) found that of ten fathers depressed at six weeks postpartum, three remained depressed at six months. Zelkowitz and Milet (2001) found that 60% of fathers who had been diagnosed with a psychiatric disorder at two months postpartum continued to experience symptoms at a six month follow-up. There does not appear to be available data on relapse linked to further postnatal periods for males.

Rates of postnatal depression in men have also demonstrated wide variability, ranging between 1.2% (Lane et al., 1997) and 25.5% (Soliday, McCluskey-Fawcett, & O’Brien, 1999), and as high as 50% in men whose partner was also depressed (Lovestone & Kumar, 1993; Morgan, Matthey, Barnett, & Richardson, 1997). This rate exceeds that of partners of general psychiatric cases, which has been placed at approximately 30% (e.g., Fadden, Kuipers, & Bebbington, 1987). Overall, the rates for men postnatally appear to be between 5% and 10% (e.g., Davé, Nazareth, Sherr, & Senior, 2005; Madsen & Juhl, 2007).
General population rates of major depression in Australia, according to ICD-10 criteria (World Health Organization, 1993), were found to have a twelve-month prevalence rate of 4.2% for males (Henderson et al. 2000). This would suggest a slight increase in risk, and is consistent with Australian qualitative research by Barclay and Lupton (1999) who found that despite their positive expectations for fatherhood, new fathers generally found the transition disappointing and frustrating. The authors did not, however, assess depression or anxiety levels in these new fathers.

Of particular importance to this thesis are findings which suggest that antenatal depression is just as common as depression experienced postnataally (e.g., Whiffen, 1992). Furthermore, antenatal depression is a significant risk factor for postnatal depression (O’Hara & Swain, 1996). However, research with men, albeit scarce, suggests that they may experience greater depression whilst their partner is pregnant compared to after the birth. An Australian study by Condon, Boyce, and Corkindale (2004) assessed new fathers at four time points during the transition to parenthood and found that pregnancy was the most stressful time for men, with gradual improvement in mental health following the birth of their infant. Thus, new fathers may experience most distress antenatally. This finding may also explain results by Munk-Olsen and colleagues (Munk-Olsen, Laursen, Pedersen, Mors, & Mortensen, 2006), who conducted a large population-based study in Denmark, and obtained records for over one million citizens who became parents for the first time between 1973 and 2005. Whilst women had an increased risk for both in-patient psychiatric hospital admission and outpatient psychiatric service contact for the first three months following childbirth, there was no such increase for men. Kaitz and Katzir (2004), who interviewed 55 Israeli couples, also found an increase in positive affect and positive moods following the birth of their infants compared with the antenatal period; however, this was for both women and men. Considering the findings of these three studies, it seems pertinent to assess mental health across the transition to parenthood, not solely during the postnatal period, particularly for men.

1.4 Anxiety in Childbearing Samples
Despite the majority of research focusing on depression, for women, the experience of anxiety disorders, both antenatally and postnatally, appears to be at least as common (e.g., Brockington et al. 2006). Consistent with general populations, there are high rates of co-morbidity between depression and anxiety in childbearing samples (Hendrick et al., 2000; Miller, Pallant & Negri, 2006; Ross, Evans, Sellers, & Romach, 2003; Wenzel, Haugen, Jackson, & Brendle, 2005), and antenatal anxiety is also an important predictor of postnatal depression in women (e.g., Beck, 1996; Milgrom et al., 1999).

Similarly to childbearing depression, rates of anxiety in childbearing samples differ across studies. Brockington et al. (2006) found that 60% of their sample of 129 mothers who were referred to specialist psychiatric services in New Zealand and the United Kingdom, experienced anxiety of at least a moderate severity (using clinical interviews), with one third of these women experiencing anxiety without depression. An earlier study by Robinson and Young (1982) found that the occurrence of anxiety without depression in their community sample of new mothers was 7.4%. Studies of preexisting panic symptoms have reported mixed results. Although Cohen and colleagues (1996) found that nine out of ten women in their samples continued to experience significant levels of panic symptoms throughout their pregnancies and postnatally, Hertzberg and Wahlbeck (1999) conducted a review of the effect of pregnancy and the postpartum on anxiety disorder, and overall found no effect. This appeared to be because equal numbers reported either improvement or exacerbation. A review article by Ross and McLean (2006) concluded that rates of both generalized anxiety disorder and Obsessive Compulsive Disorder were higher in postpartum women compared to rates in the general population. However, Breitkopf et al. (2006) found that there was no increase in anxiety rates in pregnant women compared to a control group of non-pregnant women, and that compared to both controls and pregnant women, postpartum women actually had the lowest rates of anxiety.

In terms of prevalence rates for new and expecting fathers, findings are similarly contradictory. Harvey and McGrath (1988) found that 17.5% of 40 postpartum fathers met diagnostic criteria for Generalised Anxiety Disorder, whereas Lovestone and Kumar (1993) found no postnatal fathers had an anxiety disorder. The rates reported by Harvey and McGrath and those of Matthey, Barnett, Howie, and Kavanagh (2003) appear to exceed
twelve month prevalence rates in the general population, which have been reported as 9.7% for all anxiety disorders combined in a large Australian sample (Henderson et al., 2000). Although there were differences in the ways that anxiety was assessed, it does not seem that these discrepancies can be explained by methodological issues. These conflicting studies highlight the need for further research of anxiety disorders in childbearing women and men. Although the symptoms of antenatal and postnatal anxiety may not differ from anxiety experienced outside of childbearing periods, it seems that the focus tends to be related to the infant, and some women may even develop a phobic reaction to their infant (Grigoriadis & Romans, 2006; Sved-Williams, 1992).

1.4.1 Obsessive Compulsive Disorder (OCD) in childbearing samples

Although anxiety symptoms are now more of a focus for researchers in this area than in the past, there remains an even lesser focus on obsessive-compulsive symptoms. A large proportion of the literature pertaining to OCD occurring antenatally and postnatally has focused on case studies, particularly for men (e.g., Abramowitz, Moore, Carmin, Wiegartz, & Purdon, 2001). Furthermore, both onset and relapse of OCD appear to be heightened in the antenatal and postnatal periods (Brockington et al. 2006; Fairbrother & Abramowitz, 2007), which may be due to pregnancy and childbirth leading to an abruptly inflated sense of responsibility to protect the infant from harm (Fairbrother & Abramowitz, 2007).

In contrast to depression, and consistent with generalised anxiety, obsessive-compulsive symptoms do appear to be qualitatively different from those experienced at other time points, with ruminations and obsessions significantly more likely to be focused on their infant or related to thoughts that the foetus might be harmed (Abramowitz et al., 2003; Jennings, Ross, Popper, & Elmore, 1999; Wisner, Peindl, Gigliotti, & Hanusa, 1999). There may also be less incidence of overt compulsions compared to covert compulsions (Buttolph & Holland, 1990; Sichel, Cohen, Dimmock, & Rosenbaum, 1993). In the postnatal period, OCD tends to be characterised by a sudden onset (Abramowitz et al., 2003). Pregnancy and the postnatal period have both been linked to the exacerbation of
OCD in some women (e.g., Williams & Koran, 1997) and also in some men (Abramowitz et al., 2001).

Research also suggests that the experience of intrusive thoughts is comparatively frequent in new parents, although these thoughts may be more distressing to mothers than fathers (Abramowitz et al. 2003). Abramowitz and colleagues (Abramowitz et al., 2001) reported four case histories of men who had experienced an acute onset of OCD, which had also coincided with the pregnancy or birth by their partner. They demonstrated that the nature of their symptoms were similar to reports of women with postpartum onset OCD. Maina, Albert, Bogetto, Vaschetto, and Ravizza (1999) found that women with postpartum OCD had significantly more aggressive obsessions to harm their infants than a control group without postpartum OCD. They also found a significant relationship between OCD and childbearing (e.g., pregnancy or the postpartum) than controls for women, but not for men.

OCD has a life-time prevalence rate of 1.9-3 percent in the general population (American Psychological Association, 2004). Wenzel, Gorman, O’Hara, and Stuart, (2001) considered sub-syndromal levels of obsessive-compulsive symptoms in women with depression. They found that 8% had difficulties with obsessions, and 9% had trouble with compulsions, with a total of 14.3% having obsessions or compulsions. Overall, 3.9% of their sample (588 women) was actually diagnosable with OCD. Retrospectively, a substantial proportion of women with OCD who have children recall the onset of their symptoms first occurring during pregnancy (Neziroglu, Anemone, & Yaryura-Tobias 1992). Evidence from Uguz et al. (2007a) suggests that the rate is higher in pregnant women: 3.5% in the third trimester in a sample of 434 Turkish women, and an additional 0.5% reported development during the second trimester. An increased risk for childbearing onset OCD may also explain the bimodal distribution of age of onset, whereby there tends to be an early adult onset for women, and a childhood/adolescent onset for men (e.g., Noshirvani, Kasvikis, Marks, Tsakiris, & Monteiro, 1991; Rasmussen, & Tsuang, 1986).

Research conducted by Uguz et al. (2007b) followed 16 women with OCD and measured their symptom levels at three time points: when their diagnosis of OCD was made at 19-38 weeks gestation, at 38 weeks gestations, and at six weeks postpartum. Interestingly they actually found that 50% of the sample reported at least a 25%
improvement in symptoms, and only one of the 16 women experienced exacerbation of at least 25%, which suggests that pregnancy and the postnatal period are linked to the improvement of OCD symptoms.

Similar to findings from normal populations, there are significant comorbidities between depressive and anxiety disorders (including OCD) antenatally (Labad et al., 2005) and postnatally (Arnold, 1999; Brockington et al., 2006; Jennings et al., 1999; Sichel et al., 1993; Wenzel et al., 2005; Williams & Koran, 1997). Of interest is that in contrast to the general population, the comorbidity of OCD with depression is actually higher than the comorbidity of panic disorder with depression in postpartum women (Wenzel et al. 2001). This finding may indicate that when postnatal women develop a non-generalised anxiety disorder co-morbid with depression, it is more likely to be OCD than panic disorder. Whether similar patterns exist for pregnant women or fathers remains unknown.

1.5 Effects of Psychological Distress in the Transition to Parenthood

Regardless of whether or not there is increased incidence of mental health problems in child bearing samples, the effects of antenatal and postnatal parental mental health problems not only affect the individuals themselves, but also have implications that extend beyond the individual. For instance, relationship functioning may be impacted upon at a time when there is already increased strain (Areias, Kumar, Barras, & Figueriedo, 1996), and it has been well documented that men who have a partner with postnatal depression are more likely to experience psychological problems themselves (Roberts, Bushnell, Collings, & Purdie, 2006). However, perhaps of most importance is the disruption that parental mental illness can cause to parent-infant relationship.

Impaired mother-infant relationship has been estimated to occur in between 10% and 25% of women referred to psychiatrists postnatally (Brockington 1996). Mothers with depression spend less time looking at, touching, and talking to their infants than non-depressed mothers, in addition to making more negative and fewer positive faces (Cohn, Campbell, Matias, & Hopkins, 1990; Field, 1984). Righetti-Veltema, Conne-Perréard, Bousquet, and Manzano (2002) found that depressed mother-infant dyads showed less
communication (vocal and visual), less physical interactions, and less smiling than non-depressed dyads. These women tended not to express pleasure regarding their babies, and were generally more awkward with their infants in terms of holding and interacting with them. It seems that infants in turn match their behaviour to that of their mothers; for instance Field, Healy, Goldstein, and Guthertz (1990) showed that compared to non-depressed mother-infant dyads, depressed mothers and their infants matched negative behaviour states more frequently and positive behaviour states less frequently. The infants’ reaction to maternal emotional unavailability occurs almost immediately (Cohn & Tronick, 1983), and is more distressing to infants than actual separation from their mothers (Field, Vega-Lahr, Scafidt, & Goldstein, 1986; Field, 1995). Similar effects have also been found for infants of mothers who had been depressed during pregnancy (e.g., Whiffen & Gottlieb, 1989). Chronic antenatal and postnatal stress, distinct from the effects of depression, have also been found to predict infant temperament (Pesonen, Räikkönen, Strandberg & Järvenpää, 2005). In a meta-analysis of seven studies, Martins and Gaffan (2000) found that the infants of mothers with depression were less likely to have a secure attachment style, and more likely to have insecure styles such as avoidant or disorganized. Mothers with depression are also more likely to view their infants’ behaviour as more negative than it actually may be, whilst viewing their own behaviour more positively, which may indicate denial (Field, Morrow, & Adelstein, 1993), and may inhibit help seeking.

Antenatal and postnatal parental mental health problems can lead to significant infant difficulties in a number of health and developmental areas. For instance, Righetti-Veltema et al. (2002) found that infants of depressed mothers had more eating and sleeping problems, and concordant results have been reported for women depressed during pregnancy (Field et al., 2007). Similarly, research which reports an 18 month follow-up of infants whose mothers were depressed at two to three months postpartum, found that these infants were more likely to have eating and sleeping problems and temper tantrums than infants whose mothers had not been depressed (Murray, 1992). Maternal antenatal anxiety has also been found to predict poor infant sleep patterns (O’Connor et al., 2007). Disturbed sleep in infants can also impact upon parent-infant attachment (Anders, 1994), and may result in increased parental depression and anxiety (Smart & Hiscock, 2007) and poorer parental general health (Martin, Hiscock, Hardy, Davey, & Wake, 2007). Thus, due to the
correlational nature of these studies, it is difficult to determine the direction of the relationship between parental mental health and poor infant sleep, however, it likely that it is a reciprocal relationship.

There is some research to suggest that effects of maternal postnatal depression on infants may no longer be seen by the end of the first year postpartum in cases where the depression has been resolved by six months (Field, 1995), whereas longer term effects have been reported when the mother’s depression has not resolved by 12 months postpartum (Field, 1995; Patel, DeSouza, Rodrigues, 2003). Maternal depression may also affect the cognitive development of infants (Murray 1992), even after controlling for effects of subsequent depression (Coghill, Caplan, Alexandra, Robson, & Kumar, 1986). However, subsequent research (e.g., Milgrom, Westley, & Gemmill, 2004; Murray, Hipwell, Hooper, Stein, & Cooper, 1996) suggests that this relationship is mediated by impaired mother-infant interactions. Exposure to maternal postnatal depression may also impact upon the transition to primary school, with greater effects for boys and children from low socio-economic status families (Sinclair & Murray 1998). Thus, exposure to maternal postnatal depression may exaggerate the difficulties that these boys and low socio-economic status children have in relation to their attendance.

Longitudinal research also supports the role of poor parental mental health in the infant’s life and the development of later infant psychopathology. Research conducted by Halligan and colleagues (Halligan, Murray, Martins, & Cooper, 2006) followed infants of postnatally depressed mothers over a 13 year period. These children were more likely to develop an anxiety disorder at age 13, regardless of whether or not their mother experienced subsequent episodes of depression. The authors suggest that this link between maternal postnatal depression and adolescent anxiety disorders may occur due to the environment that is created when the mother is depressed; that is, a lack of interaction and being less attuned to their infants, which then leads to insecure attachment. Thus, a single episode of depression postnatally can have both short-term and long-term effects on the children of these women, effects seen even in the children’s adolescence. Indeed, research suggests that biological changes (i.e. altered cortisol levels) occurred in adolescents exposed to maternal postnatal depression, which in turn increases their vulnerability to mood disorders (Halligan, Herbert, Goodyer, & Murray, 1994).
Although there has been little research focused on the longer term effects of paternal mental health problems during the transition to parenthood, recent research by Ramchandani and colleagues suggests that there may be similar outcomes to those described for mothers (Ramchandani, Stein, Evans, O’Connor, & the ALSPAC Study Team, 2005). Ramchandani et al. investigated the effects of parental postnatal depression assessed at eight weeks after the birth of their infant on the infant’s subsequent emotional and behavioural difficulties at age three and a half years. The authors found that postnatal depression in fathers was significantly predictive of emotional and behavioural problems in children at three and a half years even after controlling for maternal depression and for subsequent levels of depression in fathers, which indicates that fathers’ depression early in the postnatal period can have long-term effects on children.

1.6 A Brief Word on Risk Factors for Psychological Distress in the Transition to Parenthood

Despite a plethora of research on postnatal depression in women, the nature of risk factors for antenatal and postnatal mental health disorders remain in need of further clarification. Although factors such as the experience of depression and anxiety during, or prior to, pregnancy, and a lack of social support have been established as risk factors (Robertson, Grace, Wallington, & Stewart, 2004), research into personality and trait variables is less clear. Although some studies have found associations between obstetric and socioeconomic status and postnatal depression (e.g., Warner et al., 1996), meta-analyses have shown these associations to be of only small effect size (e.g., Beck, 2001; O’Hara & Swain, 1996; Robertson et al., 2004). Risk factors that appear to be of at least a moderate effect size are a past personal psychiatric history, or history of depression; antenatal depression and anxiety; low social support life stress; relationship dissatisfaction; difficult infant temperament; low self-esteem; high levels of trait neuroticism (Beck, 2001; O’Hara & Swain, 1996; Robertson et al., 2004).

1.7 Initial Aims and Organisation of the Current Study
The aim of this thesis was to investigate mental health problems experienced by new and expecting mothers and fathers relative to individuals who have not had children. Mental health issues of interest were depression, anxiety, and obsessive-compulsive symptoms, and anticipated predictors of these problems. Studies of psychological distress across the transition to parenthood have indicated the potential influence of attachment styles, self-construals, and specific cognitive patterns (e.g., perfectionism) in the aetiology (e.g., Bifulco et al., 2006; Fontaine & Jones, 1997; Logsdon & Usui, 2001; Mazzeo et al., 2006; Mikulincer & Florian, 1998; Milgrom & Beatrice, 2003; Nieland & Roger, 1997; Porter & Hsu, 2003; Scharfe, 2007). However, few studies have simultaneously assessed all three of these factors, and consistent with the majority of research in this field, most studies have been conducted only with postnatal women. It is hoped that an investigation of these factors will provide a better understanding of predictors and periods of vulnerability, which in turn will improve identification of at-risk individuals and lead to better informed treatment options.

This thesis is divided into five main sections; a review of the literature, pilot study, methodology, results, and discussion and conclusions. Chapter 2 reviews three theories which are integrated to form the model of childbearing distress that this thesis will test. Chapter 3 provides a review of the literature pertaining to studies which have investigated these theories in child bearing samples. Chapter 4 reports on the development and testing of a new measure specifically designed for use in this thesis. Chapter 5 begins with a discussion of methodological issues relevant to the present investigation, specifically relating to measurement of depression and examining sensitive self-domains, including the development of a new scale for this current study. Following this, the study’s samples, procedures, and measures are detailed. Chapter 6 begins with a statistical validation of a new measure designed for this study. This is followed by results of the statistical analysis used to test the hypotheses of this study, and this is divided according to the broader research aims and hypotheses. Chapter 7 discusses the results of the current study in light of the existing research reviewed in chapters 2 and 3 according to research aims and hypotheses. Finally, chapter 8 provides a summary of the general findings of this study, and their implications for identification of men and women at higher risk of mental health
problems during pregnancy and postnatally, and clinical treatment. This chapter also discusses the limitations of the current study, and in light of these and the results, directions for future research are suggested.
CHAPTER 2
UNDERSTANDING PSYCHOLOGICAL DISTRESS: ATTACHMENT THEORY, SELF-CONCEPT, AND MALADAPTIVE PERFECTIONISM

Despite the increased research interest in childbearing distress that has occurred in recent times, a more thorough theoretical understanding of the risk factors which may underlie childbearing distress in both sexes is needed. Although there is a plethora of theories that seek to explain personality development, psychological distress, and mental illness, one of the most well developed and widely researched is Attachment theory. It is argued here that Attachment theory may also be of particular importance in understanding childbearing distress, as the transition to parenthood may be a time when one’s own early childhood experiences become more salient. Attachment theory is a theory of social and emotional development, and may be closely tied to self-concept and perfectionism, which may also help to explain the occurrence of childbearing distress. Self-concept refers to the beliefs that one holds about oneself. These may be beliefs about one’s competencies and abilities, or overall views of self-worth, and are influenced by early childhood experiences. Perfectionism refers to a relatively enduring pattern of striving for flawlessness across most aspects of one’s life, and it too is largely influenced by early experiences with caregivers. Thus, this chapter describes three key theories which will be integrated to form a model of psychological distress: attachment theory, a multidimensional model of self-concept, and maladaptive perfectionism.

2.1 Attachment Theory

Attachment theory was developed through the work of Bowlby (e.g., 1968; 1973; 1980; 1984) and Ainsworth and colleagues (e.g., Ainsworth 1967 & 1973; Ainsworth, Bell & Stayton, 1973; Ainsworth, Blehar, Waters, & Wall, 1978) to explain the importance of the emotional bonds that typically form between an infant and its primary caregivers, and the effects of separation and loss on the infant/child and their subsequent personality development and later psychological functioning. Bowlby extended upon the work of psychodynamic theorists, and emphasised the relational needs of the infant (i.e. protection,
support, and nurturance), in addition to biological drives. He proposed that from birth, the infant is ready to interact, making the attachment experience reciprocal, in that it is influenced by the infant’s responses. Bowlby argued that developing a well functioning attachment system is vital not only to emotional stability and the development of close and fulfilling relationships, but also to mental health.

The primary aim of the attachment system is to facilitate a sense of protection and security, and it is activated when perceived threats to attachment bonds are detected, which can be external (e.g., an attachment figure leaving) or internal (e.g., threat related thoughts). Mikulincer and Shaver (2007) describe the attachment behavioural system as an inborn regulatory system which has significant influence on both personality development and subsequent social behaviour. The way that primary caregivers relate to their infants (and the degree to which they meet their needs) influences the infants’ experience of the world and their subsequent reactions to others. When primary caregivers are not responsive, or are inconsistently responsive, this leads to difficulty in regulating the attachment system, such that it becomes chronically hyperactive, or chronically deactivated. The term “attachment style” refers to the relatively enduring pattern of emotions, expectations, needs, and behaviours that are developed from one’s attachment experiences. Attachment styles are largely influenced by the most accessible internal working models, which will be discussed below.

2.1.1 Infant attachment styles

Attachment styles were first indicated by Ainsworth and colleagues’ research (Ainsworth et al., 1978) involving infant reactions to the ‘Strange Situation’ which involved a series of temporary separations and reunions between the mother and infant (see Ainsworth et al., 1978 for a full description of the Strange Situation). Although Ainsworth did not coin the term “Attachment Style”, she did describe three styles of attachment behaviour: secure, anxious/ambivalent, and avoidant. Infants classified as secure were seen as having a sense of trust in their caregiver, who would remain available to them if needed. Hence, secure infants were able to explore their environments with confidence, knowing that if they needed help or reassurance they could turn to their caregiver. Infants who were
described as anxious/ambivalent showed less trust in their caregiver to remain available to them. They were less confident and hesitant to explore their environments, and reacted with a mix of clinginess and anger towards their caregiver when they perceived or experienced unavailability. Infants with an avoidant attachment style often gave an appearance of emotional aloofness. They appeared not to trust in the availability of their caregiver, being apparently disinterested in the availability of their caregiver. However, later research (e.g., Crittenden 1988) suggested a fourth attachment style which was characterized by a mixture of the avoidant and anxious/ambivalent types. Main and Solomon (1990) referred to this as “disorganized/disoriented” attachment.

2.1.2 Internal working models

Early attachment experiences shape expectations and beliefs about the self and others, and are internalized into “working models” of the self and others (Bowlby, 1973). According to Bowlby (1968), when an attachment figure is available and responsive, needs for comfort and closeness and support are met, and the infant will develop an internal working model of the self as “lovable and competent”. When the attachment figure is unavailable, the infant will internalize this experience into a working model of the self as unworthy, unlovable and incompetent. Securely attached individuals possess mental representations of their responsive caregivers which in themselves are often sufficient comfort when the attachment system is activated, thus, it is enough to know that comfort and support is available so that actual comfort and support does not always need to be obtained. Internal working models are thought to become the basis of self-worth and are what influences one’s expectations of others. Beliefs about the self and others also shape future emotional and behavioural responses, particularly at times when the attachment system is activated. These expectations and beliefs are not always conscious, but are relatively stable and tend to persist throughout adulthood (Brennan & Shaver, 1993).

Internal working models are confirmed and consolidated by consistent information about self and others through experiences in which the attachment system is activated, however, they can also be changed by powerful contradictory experiences. For example, Ainsworth & Bowlby (1991) believe that negative early experiences with caregivers can be
overcome by later positive experiences where attachment figures are available and able to provide proximity and comfort, and these experiences are then internalized into new mental representations. This highlights the importance of assessing current attachment behaviour (i.e. with romantic partners in adults).

2.1.3 Adult romantic attachment

Researchers first became interested in adult attachment processes in the 1980’s, which lead to the development of a wide range of measures to assess adult attachment styles (see Brennan, Clark, & Shaver, 1998, for a thorough review of these). Adult romantic attachment differs from infant-caregiver attachment because it is normative and healthy for one to be both the “needy” and the “protective” partner at different times in romantic relationships, and adult romantic relationships are more reciprocal in nature. In adolescence and adulthood, there is generally a broader range of available attachment figures (e.g., peers and romantic partners). Furthermore, the activation of the attachment system in adulthood does not always lead to observable behaviours to satisfy needs of proximity and comfort – these may be provided by mental representations.

In terms of attachment styles, research with adults has largely been consistent with infant research (e.g., Collins & Read, 1990; Feeney & Noller, 1990; Hazan & Shaver, 1987; Mikulincer & Nachshon, 1991). Bartholomew (1990) proposed a two-dimensional model of adult attachment style which yielded a four-category model of attachment style (secure, dismissing avoidant, fearful avoidant, and preoccupied). Bartholomew drew from Bowlby’s concept of internal working models and suggested that these four categories were reflective of positive versus negative views of self and others. Thus, the secure style would have a positive view of self and others; the preoccupied style would have a negative view of self, but positive view of others; the dismissing avoidant style would have a positive view of self and negative view of others; and the fearful avoidant style would have a negative view of both self and others.

However, research has consistently found that the two underlying dimensions of adult attachment security are anxiety about abandonment and separation, and avoidance of intimacy and emotional expressiveness (Brennan et al., 1998; Fraley, Waller, & Brennan,
The avoidant dimension reflects a deactivation of the attachment system, whereas the anxiety dimension reflects a hyper activation of the attachment system. More broadly, avoidance is associated with discomfort with closeness to romantic partners and a discomfort with relying on relationship partners. This can also include a heightened preference for being self-reliant and emotionally distant. In contrast to avoidance, inherent in the anxious dimension is a strong craving for closeness and protection, concerns regarding the partner’s availability, and concerns about one’s own value to the partner. This conceptualization is also consistent with a four-category two-dimensional model of attachment style (see figure 1, below).

Figure 2.1. Two dimensional model of attachment. Adapted from Brennan et al. (1998).

Individuals with a generally secure attachment style are low on both anxiety and avoidance. There is a balance between activation and deactivation of the system. They possess internal working models of successful attempts at proximity-seeking and successful
attainment of security. Anxious individuals are high on the anxiety dimension and low on avoidance, and therefore there tends to be a hyper activation of the system. Individuals within this style experience a lack of harmony and a lack of caregiver responsiveness, which leads to conflicted and ambivalent feelings. Avoidant individuals are high on avoidance and low on anxiety. Their attachment system has a propensity for deactivation. Typically these individuals have experienced attachment figures as rejecting or reacting with anger towards the individual when they seek proximity and support. The fourth category, labelled disorganized, is perhaps the most troublesome, due to the inconsistency that is inherent in an individual who is both high on anxiety and avoidance, who experiences both hyper activating and deactivating of the system. This leads to an oscillation between approach and avoidance strategies which can seem odd and inconsistent to people around.

2.1.4 The role of attachment security in the experience of depression, anxiety, and obsessive compulsive symptoms

There are a number of mechanisms by which attachment security is thought to impact upon psychological distress. Attachment styles influence cognitive, emotional, and interpersonal aspects of functioning. According to Bowlby (1973; 1980), individuals with insecure attachment styles are more likely to have hopeless and helpless models of causal reasoning. They are likely to self-criticise and to have maladaptive perfectionistic tendencies. Aaron Beck (1976) views negative cognitive styles as central to vulnerability to psychopathology, such as depression and anxiety. A view that has since been empirically supported in many studies (see Alloy, Abramson, Walshaw, & Neeren, 2006).

Bowlby argues that secure individuals possess an interpersonal and intrapersonal psychological and behavioural repertoire of responses that assist them to maintain wellbeing. The primary aim of this system is to cope with anxiety effectively, and to restore a sense of emotional equilibrium, which is essential for mental health (Mikulincer & Shaver, 2007). Individuals with an anxious attachment style have difficulty with the down regulation of negative emotions, therefore, being unable to resolve this distress results in it being heightened and prolonged, to the point that the distress can continue even after the
actual threat has abated. Anxious individuals experience cognitive disorganization that can culminate in psychopathology and when losses and failures are encountered they are likely to experience depression. In contrast, avoidant individuals are generally able to maintain an outward appearance of control and composure, and they may appear unaffected by losses, failures, and traumas. However, this unaffected outward appearance is maintained by suppressing normative negative emotions and thoughts, and this ‘bottling –up’ of emotions results in them being unprocessed and unresolved. Thus, both avoidant and anxious individuals have difficulty self-regulating behaviour, due to disorganized thinking. In both cases, this leads to withdrawal, creating an experience which reinforces negative beliefs about one’s ability to cope, which leads to feelings of failure and frustration. This then leads to uncertainty about identity, and perceptions of low self-efficacy for being able to cope with wide ranging life tasks, and this relationship becomes circular, so that there is a lack of resilience when faced with stressful tasks and experiences.

Bowlby (1980) also hypothesized that when the loss of attachment security following the death, or chronic unavailability of a primary attachment figure, occurs during infancy, early childhood, or even adolescence, it can lead to subsequent depression and anxiety, especially when later losses and adversities are experienced. In adulthood, the activation of the attachment system leads to behaviours that are the result not only of previous experiences with early caregivers, but also of the current relationship functioning and context (Mikulincer & Shaver, 2007).

Anxious attachment style is consistently found to be associated with depression and anxiety, whereas the avoidant style is less consistently related. In terms of depression, this may be understood by examining the influence of each insecure style on specific aspects of depression. Research has shown that anxious attachment is more related to interpersonal aspects of depression (e.g., overdependence on others), whereas avoidant attachment is more related to achievement aspects of depression, including perfectionism and self-criticism. (Batgos & Leadbeater, 1994; Davila, 2001; Murphy & Bates. 1997; Zuroff & Fitzpatrick, 1995). Low self-efficacy has been found to be a mediating component of insecure attachment on depression and anxiety (Mallinckrodt & Wei, 2005; Strodll & Noller, 2003), as has maladaptive perfectionism (Wei, Mallinckrodt, Russell, & Abraham, 2004). Individuals with an insecure attachment style hold beliefs that their self worth is
dependent upon being able to secure the love and approval of those who are significant to them.

Recent theoretical explanations of Obsessive Compulsive Disorder (OCD) implicate early insecure attachment to primary caregivers with the development of the disorder. Doron and Kyrios (2005) suggest that early disruptions to secure attachment lead to the development of internal working models that promote the type of thoughts and beliefs that underlie OCD, which also implicates the role of the self. Furthermore, the Obsessive Compulsive Cognitions Working Group (OCCWG, 1997) identified six main belief domains, three of which seem particularly relevant to attachment: perfectionism, intolerance for uncertainty, and overestimation of threat. The role of attachment in the development of obsessive-compulsive symptoms can also fit within proposed cognitive-behavioural models of OCD (e.g., Salkovskis, 1985, 1989), which propose that faulty thinking patterns underlie the development and maintenance of obsessive compulsive symptoms. This theory suggests that the majority of adults will experience intrusive and ego-dystonic thoughts, but those that develop obsessive-compulsive problems appraise these thoughts as highly significant, whereas others do not. It may be that individuals with an insecure attachment style are more likely to make these misappraisals, particularly those with an anxious attachment style who have difficulty with the down regulation of difficult emotions, and perceive more threat.

2.2 Self Concept

2.2.1 Attachment theory and self-concept

Whilst attachment theory can arguably be linked to most personality traits, perhaps the most pervasive effect is on self-concept (the way one views oneself). The way that we view ourselves influences our thoughts, behaviour, affect, and moods. Self-concept is formed as children, but can continue to change into adulthood. During the early stages of development, self-concept is most highly influenced by experiences of parents, and although this influence continues (Coopersmith, 1967), it is later also influenced by peers (Harter, 1990; Oosterwegel & Oppenheimer, 1993). There are numerous terms used to describe the self. This thesis will focus on both global self worth, or self-esteem, and
domain-specific perceptions of competency, or self-efficacy. Self-esteem refers to more
generally held perceptions of one’s self, or global self-evaluations, such as “I believe that I
am a worthwhile person”, reflects an individuals’ overall view of themselves (Harter,
1986a; Marsh, 1986). In contrast, self-efficacy refers to more specific beliefs that one is
able to control the outcome of a specific situation, and that one will be able to do so
competently and successfully (Bandura, 1990). These concepts will be discussed in further
detail in the next section.

Numerous researchers have highlighted the role of attachment in the development
of the self. Mikulincer and Shaver (2007) propose that “being supported by attachment
figures and becoming autonomous and assertive are interrelated, not mutually exclusive,
processes” (p. 151). Research by Hazan and Shaver (1987) also supports this link, with
findings that adult romantic attachment styles assessed via self-report, were associated with
beliefs about relationships and the self. Thus, attachment security plays a key role in
identity formation (considered to be one of the primary tasks of adolescence and young
worth develops during infancy from the experience of positive emotions that occur when
attachment figures are consistently available and responsive. This core sense of self worth
then influences the valence of cognitive self-evaluations about the child’s ability/mastery in
domain-specific areas. Marcia (1980) suggests that identity formation involves two
processes: exploration and commitment. According to Mikulincer and Shaver (2007),
secure individuals are confident with examining alternatives in their environments, and
with exploring new opportunities, due to feelings of being loved, valued and accepted by
others, which leads to positive self-regard. In contrast, insecure individuals have difficulties
with exploration and identity formation. Anxious type individuals are proposed to have
doubts about their self-efficacy and mastery, and in avoidant type individuals distancing
also leads to problems with gender identity.

Mikulincer and Shaver (2004) also explain that through the internalisations of
attachment figures via internal working models, people treat themselves as they were
treated by attachment figures. This leads securely attached individuals to be able to
recognise their human flaws without becoming self-critical, whilst maintaining a positive
sense of self-worth, and the ability to self-soothe and to regulate their own emotions. The
types of attachment figure behaviour that lead to insecure attachment (i.e. lack of availability, sensitivity and responsiveness) also lead to a lack of self-cohesion and vulnerable self-esteem/self-worth, which is overly reliant on the approval of others and transient performance, be it success (leading to a temporary increase), or a failure (leading to a temporary, but reinforcing, decrease). Insecurely attached individuals, especially avoidant ones, may also use mental defences to distort reality and make it more tolerable. Just as secure individuals are able to incorporate others’ positive treatment of them, and regard and treat themselves accordingly; insecure individuals do too, so that they may treat themselves, and sometimes others, with disapproval and contempt. Therefore, insecure individuals self-criticise, experience excessive self-doubt, or may employ defences that distort their feelings of low self-worth.

Many studies have investigated links between attachment style and global self-esteem. Results consistently show that anxious adults have lower global self-worth than secure adults, and that there is a significant association between high attachment-related anxiety and low self esteem (Mikulincer & Shaver, 2007). Furthermore, the self-esteem of anxious individuals is highly dependent on gaining the approval of others (e.g., Andersson & Perris, 2000). Results are less clear and consistent in relation to attachment related avoidance, with many studies showing no association (e.g., Collins & Read, 1990; Gamble & Roberts, 2005; McGowan, 2002; Schmitt & Allik, 2005; Shaver et al., 1996; Wearden, Lamberton, Crook, & Walsh, 2005), and others showing that avoidant individuals do also experience low self-esteem (e.g., Davila, Hammen, Burge, Daley, & Paley, 1996; McCarthy & Taylor, 1999; Roberts, Gotlib, & Castle, 1996; Treboux, Crowell, & Waters, 2004). It is difficult to interpret these discrepancies in the literature, as attachment theory itself does not lead to a clear hypothesis in either direction: although avoidant attachment leads to a fragile view of the self, and the nature of defences involves a distortion of one’s flaws and vulnerabilities, and emphasise a need to present the self as robust and self-sufficient. However, these defences are quite fragile (Mikulincer & Shaver, 2007), and do not always work; so self-doubt is experienced. Secure individuals also consistently show higher self-efficacy across social and global domains than less secure individuals, and attachment anxiety shows an inverse relationship with ratings of efficacy and competency, regardless of the domain measured.
In contrast, the association between attachment avoidance and competency and efficacy depends on the type of self-domain that is being assessed: avoidant individuals show more negative appraisals of their competency and self-efficacy in social situations, compared to their apparently favourable views of self in other domains (Mikulincer and Shaver 2007). For instance, Pietromonaco and Carnelley (1994), Allen, Moore, Kupermine, and Bell (1998), Allen et al. (2002), and Moreira et al. (1998) all found that avoidant and anxious individuals had lower ratings of efficacy/competency in social domains than securely attached individuals. Bringle and Bagby (1992) found lowered ratings of efficacy/competency only for avoidant individuals, and Cooper et al. (1988) found that whilst anxious individuals had lower efficacy/competence than secure individuals, avoidant individuals were significantly lower again.

Although no studies have investigated such a potential relationship in antenatal or postpartum samples, considering the close, interactive nature of the care of infants, this may be another area of social efficacy that the defences of avoidant individuals do not withstand. However, avoidant individuals are generally dismissive of the importance of competency in social domains, which would therefore not lead to much distress. It is unclear whether or not avoidant individuals would be dismissive of the importance of their ability to care for their infants.

The assertion that an area must be considered important to the individual for self-competency/efficacy to affect overall self-worth or distress fits with multidimensional and hierarchical models of self-concept, such as those proposed by Harter (1997, 1998). The transition to parenthood is well recognised as time when there is adjustment to self-concept (Banister & Hogg, 2006; Morfei, Hooker, Fiese, & Cordeiro, 2001; Vliegen, Luyten, Meurs, & Cluckers, 2006).

Mikulincer (1995) reported on six studies relating to attachment styles and views of the self conducted with older adolescents (16-18 years). The final two of these studies looked at self-discrepancies and their relationship to attachment style. It was found that an insecure attachment style (either avoidant or anxious) was related to greater discrepancy between actual self and ideal self, actual self and ought self, and ideal self and ought self. It was also found that both avoidant and anxious individuals had more discrepancies between how they viewed themselves and how they believed that significant others viewed them.
Interestingly however, avoidant individuals thought that others viewed them more negatively than they viewed themselves, where anxious individuals tended to believe that others viewed them more positively than they viewed themselves.

2.2.2 A multidimensional model of self

There have been many approaches to understanding the self, including those which focus on overall global views of the self (e.g., self-esteem; Coopersmith, 1967; Rosenberg, 1979), and on the role of efficacy in the development of the self (e.g., Epstein, 1973; Harter, 1986; Marsh, 1986). Despite the self being conceptualized as multidimensional as early as the writings of William James (1890), it was not until the 1980’s that researchers began moving away from the unidimensional models, and proposed multidimensional theories of self-concept (e.g., Epstein, 1973; Shavelson, Hubner, & Stanton, 1976). The earliest theorist of self-concept of modern times was William James, who suggested the importance of a hierarchical model, where some aspects of the self were more important than others, and he also introduced the idea that the effects of success or lack of success in any one area will depend on the degree to which success in that area is important to the individual. Other theorists have also postulated the importance of determining discrepancies between the actual self (perceptions of competency and efficacy) and ideal or ought self (e.g., Higgins, 1987, 1997). According to Higgins (1987) there are two types of beliefs about the self that are used as self-guides (self-standards): “ideal self” – who one hopes to be, and “ought self” - what one’s moral duty to be is. These self-guides are compared to actual self, and when there is a discrepancy this leads to emotional distress in the form of depression or anxiety.

Harter (1986) also proposed a multidimensional model of self concept. Specifically, Harter suggests that a persons’ self-concept comprises both their beliefs about their competency across a wide range of areas, and the importance that each of these areas holds to them. As young children, perceptions of actual competencies are confused with what we would like to be. During early to middle childhood with greater cognitive development children are then able to develop different representations for what their actual and desired competencies are, but they are unable to consider both simultaneously. By middle to late
childhood children are able to consider their actual competencies compared to their desired competencies, and are thus able to recognise when discrepancies exist. As a child grows older and becomes an adolescent and then an adult, domains change and increase in number. Thus, there are two core processes which influence global self-worth: perceptions of efficacy in different domains of self-concept, and the extent to which one sees a domain as important. Although research provides strong support for a multi-dimensional model of the self, overall global self-worth also remains important, as even children make both evaluations of their competencies in specific domains, and of their overall self-worth. However, there are individual differences in the extent to which individuals value different aspects of the self, therefore the extent to which overall self-worth is influenced by competency in different domains depends upon how much that domain is valued by the person. Thus, the global self-worth of an individual who does not place importance on sense of humour, for instance, will not be greatly influenced by their perceived competency in this area. Therefore, the amount of importance one assigns to a specific aspect of self-concept determines whether positive or negative views of competency in this area influence their global self-worth.

In contrast, Marsh and others (Marsh 1986; 1993; Marsh & Hattie, 1996) have suggested that considering the importance of specific domains does not increase the understanding of the way that self-efficacy domains influence overall global self-worth. However, Carver, Lawrence, and Scheier (1996) and Strauman and Higgins (1993) suggest similar processes to Harter, as do Doron and Kyrios (2005). Doron and Kyrios propose that when a large discrepancy exists between a person’s sense of competence in a specific aspect and the importance of that aspect, they become “sensitive” in this domain. These assertions are consistent with the work of Harter (1982), who suggested that individuals are vulnerable in situations in which they feel their self-worth is threatened (i.e., when the situation is important, but they feel low competence/efficacy), and discrepancies in specific domains can lower overall self-worth, so that although self-concept is relatively stable, it can also be context specific.
2.2.3 Self-concept and psychological distress

Self-concept involves both perceptions of efficacy or competency in specific tasks, as well as global views of self-worth, which is also often referred to as self-esteem. In the current study, the terms “self-worth” and “self-esteem” will be used interchangeably to refer to the degree that one views themselves favourably. It has been proposed that the failure to resolve the crisis of knowing who you are and behaving in a way that is consistent with this (a major developmental task of adolescence) leads to psychopathology when it is not resolved adequately (Van der Werff, 1990). Poor sense of self is also listed in the DSM-IV-TR as a symptom of a wide range of mental illnesses. Accordingly, low global self-worth has been consistently associated with a wide range of psychopathology, including depression, anxiety, and obsessive compulsive symptoms.

More recent conceptualisations of OCD also view the role of self as central to the development and maintenance of the disorder. Views of the self have been found to relate to OCD symptom severity and obsessive compulsive cognitions (Doron, Kyrios, Moulding, Nedeljkovic & Bhar, 2007b). According to Doron and colleagues (Doron, Moulding, Kyrios, & Nedeljkovic, 2008), the term ‘sensitive self-domain’ refers to a self-aspect that is of high importance to the individual, but in which they view themselves as incompetent. This sensitivity then leads the individual to be hyper vigilant for intrusive thoughts which relate to that self-aspect, and when these occur negative evaluations of the self are made. When this is also coupled with over-estimations of threat (which occurs in individuals high in attachment anxiety) and responsibility and beliefs that the world and consequences can be controlled, the result is OCD symptoms. Drawing from Doron et al., a parent with a sensitive self domain for parenting who experiences the intrusive thought “I might have made a mistake in the way I tried to stop my child crying” experiences a threat to their parenting competence which in turn leads to both anxiety and negative beliefs about the self. The self-aspect of parenting may be influential in the experience of distress for new and expectant parents.

Job competence has also been implicated as an important self-aspect which influences OC phenomena (e.g., Salkovskis, 1999; Doron et al., 2007a; Doron et al., 2008). Becoming a parent, particularly for women, often leads to the cessation of paid
employment or at least a change in life roles, with parenting becoming the main “job”. Thus, sensitivity in the parenting role may also lead to OC symptoms, particularly as the experience of intrusive thoughts is common in new parents (Abramowitz et al., 2003).

McVeigh and Smith (2000) suggest that women with high self-esteem are able to tolerate the stressful experiences of early motherhood. Cohen and Edwards (1989) suggested that self-esteem can act as a buffer against stress because people with high self-esteem do not convert stress into a negative self-evaluation. The role of self-worth has also been highlighted by Jomeen (2004) in a review focusing on a multidimensional conceptualisation of psychological status across the childbearing process. However, not all women with low self-efficacy for parenting, experience psychological distress. A lack of maternal efficacy may not lead to the experience of psychological distress in a woman if parenting is not particularly important to her. In contrast, if another woman perceives her parenting efficacy to be low, but this is an area that is of great importance to her, it is logical that she would be more likely to experience adverse mental health outcomes. Considering that theoretically, feeling less competent in a self-domain that is of high importance leads to lower global self-worth, it appears that assessing global self-worth/self-esteem is also relevant in childbearing samples.

A multidimensional model of self may explain conflicting research findings with postpartum studies which have found that self-efficacy is not consistently linked to distress. Following from the work of Harter and others, it may be that low self-efficacy for the parenting role may only lead to psychological distress when the individual holds the area of parenting to be a self-aspect that it is highly important to them. Conversely, an individual who does not view parenting to be an important aspect to be competent in rates themselves as low in self-efficacy in that area, it would be expected that they would not experience distress.

2.3 Maladaptive Perfectionism

2.3.1 Attachment theory and perfectionism

Perfectionism is a personality trait which is also largely influenced by the early family environment, and has been linked, both theoretically, and empirically, to self-
concept and attachment security (Andersson & Perris 2000; Gamble & Roberts, 2005; Rice, Lopez, & Vergara, 2005; Wei, Heppner, Russell, & Young, 2006). Perfectionism has also been found to mediate between parental care and depression (Enns, Cox, & Larsen, 2000). Flett, Hewitt, Oliver, and Macdonald (2002) describe a cluster of theories that all highlight the importance of the early family environment in the development of perfectionism, whether it is actual or perceived. According to Frost, Marten, Lahart, and Rosenblate (1990), most major theorists suggest that parental connection is the basis for perfectionism. That is, perfectionists grow up in an environment in which the receipt of approval and love from their parents is conditional, which in turn results in these individuals seeking to perform perfectly so that they may receive this love and approval. Empirical links for this proposed relationship between early family environment and perfectionism are most commonly found in the eating disorder literature which suggests that individuals with eating disorders tend to come from over-controlling, perfectionistic, demanding families with a lack of warmth (e.g., Brookings & Wilson, 1994; Graber, Brooks-Gunn, Paikoff, & Warren, 1994; Head & Williamson, 1990). It seems that parental expectations/control and degree of parental warmth are what create this link between early caregiver environment and perfectionism.

The degree of presence or absence of parenting warmth, ranging from extreme harshness through to extreme warmth, and both intensity and valence are important. It is also important to understand that the child is not a passive participant: their interpretations of caregivers' actions lead them to develop self-orientated perfectionism too. This occurs when children internalise parental pressures and expectations, and they develop pressures and expectations of themselves. They may also externalize the pressures and develop other-orientated perfectionism, which involves a need for others around them to be perfect. Thus, there are clear links between the types of parental interactions which lead to perfectionism, and those conditions which influence attachment security.

Furthermore, Rice and Mirzadeh (2000) argue that individuals with an insecure parental attachment are likely to develop maladaptive perfectionism traits because they experience their parents as either non-approving or only inconsistently approving. This then leads to experiencing the parent as having overly demanding and disapproving standards for the child, or as unavailable for support, and inconsistent in providing approval and
acceptance. Wei and colleagues (Wei et al., 2006) also report that maladaptive perfectionism actually mediated the impact of attachment on future depression in a longitudinal study of college students. This suggests that attachment experiences influence the development of maladaptive perfectionism, which in turn effects depression. Furthermore, research such as that conducted by Rice and Lopez (2004) indicates that there may be an interactive effect between adult attachment and maladaptive perfectionism on self-esteem and depression. Milkulincer & Shaver (2007) also suggest that “insecurely attached people harbour serious doubts about their self-worth and self-efficacy” pp. 370, and that: “they suffer from self-criticism and destructive perfectionism”.

Mikulincer and Shaver (2007) suggest that there are two related mechanisms by which self-criticism and self-standards arise. First, through the internalisations of one’s attachment figures, into internal working models of the self as deserving of criticism and disapproval. Secondly, unrealistic and demanding self-standards may also be a means of coping with their insecurities. Hence, for anxious individuals, if they can live up to their perfectionistic ideals, they will be able to prove themselves to others, and since they are reliant on external sources for self-esteem, obtaining perfectionism means (at least to them) that they will also experience high self-worth. In contrast, for avoidant individuals, setting over-demanding personal standards and pursuing perfectionism serves as a defence mechanism so that they can maintain their façade of self-sufficiency and camouflage their deficiencies, especially for the dismissing style. Insecurely attached individuals have been found to be higher on various measures of perfectionism (e.g., Rice & Mirzadeh, 2000; Andersson & Perris, 2000).

2.3.2 A multidimensional model of perfectionism

At the most basic level, perfectionism can be defined as a striving for flawlessness, and perfectionists as those who strive for perfection across all facets of their lives. The term perfectionism is used in various ways by various researchers (who use a variety of scales to measure perfectionism); however, a full review of the debate surrounding the conceptualisation and measurement of perfectionism is beyond the scope of the present chapter. Despite these differences in theories of perfectionism, most researchers would now
agree that earlier theories of perfectionism as a uni-dimensional, entirely maladaptive trait are outdated. These earlier theories were criticised for their failure to consider more adaptive aspects of perfectionism, such as striving for achievement, setting goals, and obtaining rewarding outcomes. In contrast to this, maladaptive perfectionism can be conceptualized as setting rigid, inflexible goals and setting high personal standards, and “an inability to feel a sense of fulfilment and distress over one’s capabilities” (Enns & Cox, 2002). Perfectionism is now commonly viewed as a more complex, multidimensional personality trait.

Evidence for a multidimensional view of perfectionism can be found in the simultaneous development of two multidimensional measures, which resulted in two measures of the same name (Multidimensional Perfectionism Scale; Hewitt & Flett, 1989; Frost et al., 1990). However, there exists disagreement between the two research teams in regard to the way perfectionism is multidimensional. Hewitt and Flett (2002) consider perfectionism to be multidimensional in terms of it encompassing both intrapersonal and interpersonal aspects. They propose these dimensions to be self-orientated perfectionism, other-orientated perfectionism, and socially prescribed perfectionism. However, others have argued that it is not whether perfectionism is inter- or intra-personal that is of most importance, but whether it is adaptive or maladaptive. (e.g., Frost et al., 1990; Hamachek, 1978; Slaney, Ashby, &Trippi, 1995).

Frost and colleagues developed the Frost Multidimensional Perfectionism Scale in 1990 over a series of four studies which revealed six factors (Frost et al., 1990). Later research (e.g., Khawaja & Armstrong, 2005) suggests that a four-factor solution may be more appropriate. It appears that the primary maladaptive dimension of perfectionism involves both excessive concerns over mistakes and doubts over one’s actions. Parental expectation and parental criticism are also maladaptive factors. The adaptive factor appears to be having high personal standards. Another factor, organization, appears to be erroneous and more likely reflective of overall conscientiousness rather than a facet of perfectionism per se. Frost and DiBartolo (2002) described these factors as follows: “Concern over mistakes” refers to the extent to which mistakes are interpreted as failures, responded to negatively, and the assumption that others also evaluate their mistakes negatively. It seems that it is this fear that others will judge them negatively for their mistakes which leads
perfectionists to have concerns about their mistakes, and leads to a desire to keep their mistakes secret. “Doubts over actions” relates to the degree to which a person is confident that they can complete tasks. “Parental expectations” reflects a person’s perceptions that their parents set very high standards for them, and “parental criticism” a person’s perceptions that their parents were highly critical of their efforts. “Personal standards” reflects the extent to which a person sets excessively high standards for themselves, and “base their self-evaluation on their ability to achieve those standards”, this can have both positive and negative effects on an individual, although is generally considered to be adaptive. More recently, DiBartolo, Li, and Frost (2008) found that the key type of perfectionism associated with psychopathology was maladaptive evaluative concerns.

2.3.3 Maladaptive perfectionism and psychological distress

Whilst there are a number of theorists who have proposed likely explanations of how perfectionism is linked to psychopathology, there are common themes across these theories. According to both Frost and DiBartolo (2002), and Hewitt and Flett (2002), the experience of life stress is central to this relationship. Frost and DiBartolo suggest that perfectionists may experience more life stress than individuals low in perfectionism. It is thought that when individuals high in perfectionism encounter everyday life events that others would not consider stressful, their overly critical sense of self leads to the experience of anxiety. Research also suggests that perfectionism interacts with the experience of stressful life events and hassles to increase anxiety. Maladaptive evaluative negative aspects of perfectionism are linked to the experience of daily stress and hassles (i.e. concern over mistakes, doubts over actions, and parental criticism). Hewitt and Flett (2002) also suggest that perfectionists experience more stress, which makes them particularly vulnerable to the experience of negative life events.

Thus, the link between perfectionism and psychopathology can be understood as a diathesis-stress model, whereby individuals high in perfectionism encounter life events which they perceive as negative and stressful because these events have demonstrated to them that things (and themselves) are not perfect (Hewitt & Flett, 2002). They then experience heightened stress and anxiety, which may also lead to other types of
psychopathology. This model also implicates self-efficacy in this relationship. For example, if a highly perfectionistic individual becomes a parent for the first time, this parent may be more likely to view this transition as stressful due to his or her increased likelihood of being overly concerned about mistakes, doubting of their actions, and perceiving their own parents as having excessive expectations of them and being overly critical. Perfectionists are also more likely to endorse personal imperative statements and believe that they should perform better, even on daily tasks (Ellis, 2002), which suggests a cognitive style which has been well linked to the experience of depression.

Perfectionism has also long been implicated in the development of OCD (e.g., Salkovskis, 1985, 1989). According to Frost and DiBartolo (2002), the origins of perfectionism are in the need for control, and cognitive theories of OCD have emphasized control, security and concern over criticism (Beck, Emery and Greenberg, 1985). According to Guidano and Lotti (1983) perfectionism is a fundamental trait of people with Obsessive Compulsive Personality Disorder, and that symptoms arise from core beliefs and assumptions that are associated with perfectionism. Across most theories of OCD there are common themes of perfectionistic thinking and behaviour that occurs in order to prevent something aversive, that is; there is an avoidance of making mistakes, rather than a striving to achieve goals. Although perfectionism may lead to non specific psychological distress, some features of perfectionism may be able to differentiate between OCD and other anxiety disorders: specifically doubt over actions (Frost & Steketee, 1997).

Thus, perfectionism likely develops through the combination of degree of parental warmth and degree of parental expectations/control. When individuals encounter life events, particularly those with an evaluative component, they are more likely to perceive them as stressful and negative, which in term demonstrates to them that they are not perfect. They may also experience a low sense of self-efficacy, and employ a cognitive style which leads to depression and anxiety.

2.4 Summary of Chapter 2

It is clear that attachment security is central to the development of a sense of self worth and self-efficacy, and the same types of parent-child interactions which lead to
insecure attachment styles can also lead to the development of maladaptive perfectionism. Furthermore, perfectionists are likely to have a lower sense of self-efficacy than non-perfectionists due to their doubts about their actions and concerns about mistakes. Thus, attachment, self-concept, and perfectionism all share a common aetiology, and are intertwined. They have all shown clear links to psychological distress in normal populations. Although no research to date has examined all three theories concurrently in childbearing samples, given the theoretical links between the theories, and that attachment security is particularly important at the times of major life transitions, it may be that attachment security, self-concept and perfectionism interact to influence childbearing distress. The following chapter will review the research to date pertaining to each of these variables, and will conclude with the presentation of a model of childbearing distress.
CHAPTER 3
REVIEW OF THE LITERATURE PERTAINING TO THE EFFECTS OF ATTACHMENT, SELF-CONCEPT, AND PERFECTIONISM ON PSYCHOLOGICAL DISTRESS IN CHILDBEARING SAMPLES

The three key concepts reviewed in the previous chapter have been investigated to various degrees in the antenatal and postnatal periods. It is proposed here that the attachment system may be activated by the transition to parenthood and could therefore be of high importance in explaining psychological distress which occurs at this time for some individuals. Self-concept variables such as self-worth and self-efficacy, as well as maladaptive perfectionism, have also been investigated to varying degrees in these populations and stem from similar early familial interactions and may be useful in explaining how insecure attachment influences psychological distress. This chapter aims firstly to review this literature. Following this, a model of childbearing distress is proposed, and research aims and hypotheses are presented.

3.1 Attachment and Adjustment to Parenthood

A number of researchers have investigated the effects of attachment security on child bearing distress. Although the majority of these have been primarily focused on the experience of depressive symptoms, some have also investigated anxiety. Several studies have also focused not on the experience of parental psychopathology, but on the overall adjustment and adaptation to parenthood. Numerous different approaches to studying attachment have been undertaken, with some researchers looking at internal working models, others at degree of attachment security, and others at actual attachment styles. There has also been some variation in the measurement of attachment. Some have used interviews, whereas others have used self-report measures. Regardless of this, however, they have mostly looked at current attachment style in terms of romantic attachment. This approach is consistent with the proposition of attachment theory, that attachment style may
change when important and inconsistent information is encountered, making it more relevant to measure current romantic attachment.

3.1.1 Changes to attachment style during the transition to parenthood

Several studies have investigated the role of attachment in relation to adjusting to the transition to parenthood, and the stability of attachment styles at this time. For instance, Simpson, Rholes, Campbell, Tran, and Wilson (2003) were interested in whether changes to attachment style would occur across the transition to parenthood, as attachment theory suggests that changes can occur when individuals face highly stressful significant life events. They recruited couples making this transition and assessed attachment, support, self-perceptions, and marital relationship six weeks before childbirth and six months after. Several significant findings were reported in terms of variation across time in attachment style. Women became more ambivalent across the transition when they perceived their husbands as less supportive and angrier. Women became more avoidant when they entered the transition seeking less support and when their husbands were more avoidant. Men became less avoidant when they perceived themselves as providing prenatal support to their wives. Thus, the effects of one’s partners’ attachment style and behaviour can lead to a change in one’s own attachment style.

Stability of attachment styles was also addressed by Feeney, Alexander, Noller, and Hohaus (2003), who used a prospective design whereby couples making the transition to parenthood were recruited during their second trimester, and followed up at six weeks postpartum and six months postpartum. Although the authors assessed both male and female first-time parents, in addition to a control group of couples who did not have children and who were not pregnant with their first, they presented results only from the perspective of the women. They found that in terms of attachment anxiety, women making the transition to parenthood were less stable compared to all other male and female participants, and in terms of attachment avoidance, transition wives were less stable compared to comparison wives. However, there were no significant differences in mean levels of attachment avoidance and anxiety for any participant groups. These findings suggest that although attachment security is variable across the transition to parenthood, the
transition to parenthood does not necessarily threaten individuals’ attachment security, instead some women may experience a change for the better, some may experience a change for the worse, and others may remain unchanged. Such responses could potentially be explained by interactions with others (e.g., partner or parental support), or by individual differences which may alter the way one experiences stressful transitions (e.g., self-concept or perfectionism).

3.1.2 Attachment styles and coping

The role of attachment style in coping with the transition to parenthood has also been a focus of research. Alexander and colleagues (Alexander, Feeney, Hohaus, & Noller, 2001) were interested in the effects of one’s own, and one’s partner’s, attachment security on coping strategies used across the transition to parenthood. Data from 92 couples was collected during the second trimester of the couples’ first pregnancy, and between four to six weeks after the birth of their child. Drawing from attachment theory, it was expected that insecure attachment styles would lead to less constructive coping and that there would be a tendency for insecurely attached individuals to report greater strain. Using structural equation modelling, both direct and indirect effects of attachment security on coping, which differed with gender, were found. A full discussion of this complex pattern of results is beyond the scope of this thesis, however, it can be concluded from Alexander et al.’s (2001) results that attachment anxiety and avoidance are important variables in determining coping resources and coping strategies across the transition to parenthood.

3.1.3 Attachment and psychological distress

According to Monk, Leight, and Fang, (2008), pregnancy is not a general life stressor, but “a life event intrinsically related to attachment domains in women’s lives” (pp. 118). They collected data during the second and third trimesters of pregnancy, and four months postpartum to study attachment and depression. There were low retention rates however, and of the original sample of 186 women, only 56 completed the four month follow-up. Participants who dropped out differed only in terms of higher depression scores
in their 3\textsuperscript{rd} trimester compared to those who were followed up at four months. For the prenatal data, results were as expected: secure attachment was associated with fewer depressive symptoms, and all insecure attachment styles were associated with depressive symptoms. Interestingly, at the postpartum follow-up, although less attachment security was associated with greater depression levels, it was also associated with less fear about relationships (avoidance). Therefore, the direction of attachment fear and depression actually changed between the third trimester of pregnancy and four months postpartum. This finding must be interpreted with caution due to the high drop-out rate reported. Although further research needs to be conducted to fully understand this result, it may be that attachment style characterised by fear of relationships (avoidant) is protective of depression postnatally: whereas during pregnancy there is increased social interest in their pregnancy, and physical closeness to the foetus; postnatally, there may be a sense of comfort or relief in finding themselves more alone than anticipated, and having the ability to place some distance between themselves and their infants. Alternatively, it may be that they experience less fear about relationships because they now have a new relationship forming with their unborn infant.

Differential effects of attachment anxiety and attachment avoidance are also reported by Scharfe (2007), who conducted prospective research with 235 women first assessed during their pregnancy, and who completed attachment and depression measures at this time and again at six months postpartum. Depression was also assessed via telephone questionnaire upon discharge from hospital (approximately one week postpartum), and at three weeks, two months, and four months postpartum. Results showed that prenatal attachment anxiety was associated with postpartum depressive symptoms, and these associations remained significant despite actual levels of depressive symptoms declining across the first six months postpartum. The authors suggest that this indicates evidence for a causal effect of attachment on depression. This seems to be particularly the case for attachment anxiety, whereas for attachment avoidance there is a more complicated bi-directional relationship, in that depression led to greater endorsement of the avoidant attachment dimension.

A broader conceptualisation of distress was used by Wilkinson and Scherl (2006) who in addition to measuring depression, also measured anxiety and negative affect. They
were interested in differences in maternal-infant attachment, attachment style and psychological health in an Australian sample of 36 breast-feeding mothers and 24 formula-feeding mothers, all of whose infants were between 4 and 6 months of age. They found no difference between the two groups of mothers. For the sample as a whole, they found that a secure attachment style was related to better psychological health, and to a lesser extent, well-being. Specifically, mothers with a secure attachment style had higher levels of positive affect, and lower levels of state anxiety, depression, and negative affect. Although the sample sizes were relatively small, the results do suggest that attachment security may buffer again the experience of depression, anxiety, and negative affect in postpartum samples.

Similar findings are reported by Mikulincer and Florian (1998), who described two studies of attachment security in the transition to parenthood. Their first study focused on attachment style and anxiety regarding the women’s own health and health of the baby during pregnancy. They assessed a total of 225 pregnant women. As expected they found that both avoidant and anxious attachment styles were positively associated with anxiety, whereas secure attachment showed an inverse association. However, of interest was that these relationships were only significant for women in their first or second trimester, and not those in their final. In their second study they focused on attachment style and adjustment to, and coping with, the transition to parenthood. They compared 80 primiparous women at between two and three months postpartum, to 80 matched controls of married women without children. Attachment style was found to mediate the relationship between becoming a new mother and mental health. For women with an insecure attachment style, new mothers reported higher levels of psychological distress than control women. There were no differences between securely attached new mothers and controls, and women with a secure attachment style found the transition less threatening. Accordingly, Feeney et al. (2003), in their study of couples transitioning to parenthood, found that for women who were pregnant with their first child, and who showed no initial signs of depression during pregnancy, attachment insecurity appeared to trigger onset in the postpartum. No such relationship was found for their comparison group of married women without children. Therefore, attachment insecurity (particularly attachment anxiety) may
only predispose women to become depressed when they are also going through a major life transition, in this case, becoming a parent.

A large cross-cultural study was conducted by Bifulco and colleagues (2004). This team of researchers examined the association between attachment style and antenatal and postnatal distress. The authors also aimed to validate a new measure of attachment in nine centres across: Ireland, Italy, USA, UK, Portugal, Austria, and Switzerland. The original sample of 204 women was assessed antenatally, and 96 were followed up postpartum. They found that women who had an insecure attachment style during their third trimester of pregnancy were more likely to report onset of depression during pregnancy, although not for those with an anxious attachment. Excluding those already depressed antenatally, insecure attachment was also related to postnatal onset of depression, however, in contrast to onset during pregnancy, those with postnatal onset were more likely to have an anxious attachment, and no relationship was found for avoidant types, which is consistent with others (Meredith & Noller, 2003). Thus, effects of attachment style differed during pregnancy compared to the postpartum. Whilst the authors suggest that more research needs to be conducted to fully understand this finding, they explain that for women with avoidant attachment styles, a pregnancy may feel intrusive given their preference for distance from close relationships, and once the child is born they can re-establish their typical pattern of avoiding close interaction, whereas for women with an anxious attachment style, the closeness of having their baby in their womb provides enmeshed closeness and may allay fears of separation and abandonment, whereas after the birth, it may be that even brief separations may trigger these perceived threats.

Although there appears to be no research to date which has specifically assessed the influence of attachment security or style on men’s mental health across the transition to parenthood, Mayes and Leckman (2007) did investigate the effect of recalled early parenting experiences on antenatal and postpartum mood in men and women. They found that for both mothers and fathers, certain early parenting experiences (recalling their own mothers as affectionless or controlling) were associated with mood fluctuations during pregnancy (or partner’s pregnancy) and following the birth of the child. While recalled early experiences with caregivers can not be viewed as interchangeable with attachment security or attachment style, these early experiences do form the basis of attachment styles.
3.1.3.1 Attachment and psychological distress in ‘high-risk’ and clinical childbearing samples

Research from high-risk pregnancy and clinical samples also highlights the importance of attachment theory in childbearing distress. For instance, McMahon, et al. (2005) studied 100 first-time mothers who had undergone a one-week admission to a parent craft hospital, and assessed them at four and 12 months postpartum. They investigated attachment security amongst other related variables such as low maternal care during childhood, marital dissatisfaction, and cognitive defence styles. They found that anxious attachment, together with immature defence styles, low maternal care in childhood, and marital dissatisfaction, all assessed at four months, predicted elevated depression scores at the 12 month interval. Both anxious and avoidant attachment styles were associated with depression, but anxious attachment was also associated with the persistence of symptoms. Thus, whilst both attachment anxiety and avoidance may be vulnerability factors for the development of childbearing depression, individuals with high attachment anxiety are likely to continue to experience these symptoms for a greater period of time. At four year follow-up on this same cohort of women (McMahon, Trapolini, & Barnett, 2008), attachment security measured at one year, and severity of depression, both predicted depression at four years, but only secure versus insecure attachment was investigated. Thus, it is not known whether this pattern continued in the long term.

Meredith and Noller, (2003) investigated possible predictors of postnatal depression in a sample of 74 women (both primiparous and multiparous), 36 of whom had had an admission to maternal residential facility for problems with infant feeding, sleeping, and behaviour, and 38 obtained from the wider community. Rates of depression were 13% in the community based sample classified as depressed, and 59% in the residential facility sample. Women with an anxious attachment style were more likely to identify themselves as being depressed than women with a secure style. They also reported that no relationship between maternal attachment style and infant difficulties or relationship with the infant was found. This suggests that the contributions of attachment style were not because attachment
affected the parent-infant relationship or how the infant was perceived by its mother, that is, there was a unique contribution of attachment on depression.

Besser, Priel, and Wiznitzer (2002) investigated the role of internal working models on childbearing depression in women with, and without, gestational diabetes (considered a high-risk pregnancy). They viewed attachment in terms of Bartholomew’s conceptualisation (1990) comprising internal working models of both self and of others. In order to control for pre-existing depression they assessed their sample of 200 women initially at between 25 and 29 weeks pregnant and then at eight weeks postpartum. Interestingly they found related, but differential, effects of attachment and social support on depression, which varied according to pregnancy risk. Individuals with a secure attachment style reported significantly fewer depressive symptoms than individuals with an insecure attachment style, who reported higher levels of depression, particularly those with a “dismissing” (avoidant) attachment style. They also found that attachment security was a particularly important factor for depression in women with high risk pregnancies, which could be because of the increased experience of stress.

3.2 Self-Concept in Antenatal and Postnatal Research

Self-concept has been investigated in antenatal and postpartum samples by varying methods, including assessing global self-worth/self-esteem, and self-efficacy for parenting, yielding somewhat mixed results. Comparatively little research has been published assessing self-efficacy for the parenting role, and it has only been relatively recently that self-esteem has been considered as a possible risk factor for childbearing distress. Beck (2001) conducted a follow-up meta-analysis of predictors of postnatal depression to the first that she published in 1996 (Beck, 1996). In conducting the earlier meta-analysis, no studies had focused on self-esteem. In contrast, five years later, whilst only six out of 84 studies had assessed self-esteem as a possible predictor, of the 13 significant predictors identified, self-esteem was the strongest. Crockenberg and Leerkes (2003) found that, after controlling for prenatal levels of depression, the relationship between remembered parental rejection (which links to attachment theory) and postnatal depression was mediated by self-esteem. The authors explain that the relationship between remembered acceptance/rejection and
postnatal depression as resulting from parental rejection leading to internal working models of ‘self in relationship’ which also influence emotional reactions in adulthood (Bowlby 1973; Gotlib & Hammen, 1992).

There has been little research which has looked at males during these time periods, however, research by Beaton, Doherty, and Rueter (2003) and Beaton and Doherty (2007) has found that fathers’ family of origin relationships significantly impact upon their attitudes to parenting, which indicated that there is both a modelling and compensation effect. Furthermore, qualitative research suggests that men in particular may have difficulty adjusting to parenthood, due to difficulty with role identity and juggling new demands with the need to maintain a sense of self (Fägerskiold, 2008; Hendwood & Procter, 2003; Premberg, Hellström & Berg, 2008).

3.2.1 Self worth and psychological distress

Research conducted by Hall and colleagues (Hall, Kotch, Browne, & Raynes, 1996) found that mothers assessed at one to two months postpartum as being low in self-worth were 39 times more likely to also report high levels of depressive symptoms. Terry, Mayocchi and Hynes (1996), assessed 163 new Australian mothers across three time points: the last trimester of pregnancy, 4 weeks postpartum, and 5 months postpartum. They investigated postnatal depression from a stress and coping perspective, and investigated self-esteem as a coping resource. Consistent with their expectations, they found that self-esteem had a small, but significant protective relationship with depression: high self-esteem during pregnancy was associated with fewer symptoms of depression at five months postpartum. However, there was no such relationship found between antenatal self-esteem and depressive symptoms at four weeks postpartum. The reason for this is unclear, and it is inconsistent with subsequent research. For instance, Logsdon and Usui (2001) investigated postnatal depression and self-esteem in three groups of women: Caucasian middle class women with term infants, Caucasian middle class women with preterm babies and low income African American women with term infants. Between six and eight weeks postpartum, across all three groups of women, self-esteem was significantly associated with postnatal depression. Fontaine and Jones (1997) conducted a
small study of 45 British women who were assessed several weeks prior to childbirth and at two and six weeks postpartum for depression symptoms, dispositional optimism and self-esteem. Self-esteem was negatively associated with depression symptoms at all three time points and, this relationship was largest at the antenatal measurement. After controlling for optimism, self-esteem was still predictive of depression at two weeks postpartum. Research by Ritter, Hobfall, Lavin, Cameron, and Hulsizer, (2000) considered the influences of stress, self-esteem, and social support on depressive symptoms in a sample of 191 women. Data were collected during the women’s second trimester, third trimester, and at between seven and nine weeks postpartum. Interestingly they found that depression actually decreased over the course of their study, so that depression was higher during, than after, pregnancy. They found that although self-esteem was related to antenatal depression scores, it was not related to decreases in depression, which suggests that whilst self-esteem may provide a buffer against the development of depression in childbearing samples, it does not have a positive effect in terms of decreasing depression.

There is some research to indicate that the relationship between self-esteem and psychological distress may be stronger in childbearing samples than in other general population samples. Nieland and Roger (1997) investigated a 70 item symptom checklist and the EPDS in a sample of 152 women at 20 weeks postpartum, and 152 women who were not pregnant and did not have a child aged less than two years of age. There was an increased effect of self-esteem on depression in the postpartum sample compared to the control group: postpartum women with high scores on the EPDS had significantly lower self-esteem than non postpartum women with high scores on the EPDS.

Self-esteem has also been investigated in terms of its ability to determine whether false versus true positive screening for depression during the early postpartum could be predicted by looking at a wide range of other maternal characteristics (Dennis & Ross 2006). The researchers found that self-esteem distinguished between women with depressive symptoms at one week who had remitted by eight weeks postpartum and those whose symptoms had not. However, self-esteem was not significantly associated with new onset of depression at eight weeks postpartum. Therefore, women who had early high depression scores but high self-esteem were less likely to continue to have heightened depressive symptoms at eight weeks. In a similar vein, Tronick, Beeghly, Weinberg, and
Olson (1997) investigated whether postpartum women who scored low on self-report depression scales were actually “deniers” of postnatal depression. Their results showed that these women were not denying symptoms, instead they found that women who scored low on postnatal depression measures, had higher levels of maternal self-esteem, and higher scores on: caretaking, feelings about pregnancy, labour, and delivery, body image and health, and preparedness for parenting. Thus, high self-esteem may be a protective factor, along with feeling prepared and able to care for an infant. Feeling able to care for an infant and being prepared for the arrival of the infant seems to be highly linked to maternal self-efficacy.

There has been comparatively little research on the effects of low self-worth on antenatal and postnatal anxiety, and no research to date appears to have addressed these constructs with men. However, Sayil et al. (2006) found that antenatal anxiety levels in a sample of Turkish women were associated with lower self-esteem. There does not appear to be any available literature which has specifically examined the possible effect of self-worth on obsessive compulsive symptoms in antenatal and postnatal samples, and it seems clear then that further research of these constructs in this population is required.

3.2.2 Self-efficacy and psychological distress

There has been a lesser focus on self-efficacy than self-esteem in the literature to date, and whilst global self-worth is generally consistently linked to childbearing distress, the relationship between self-efficacy and childbearing distress is less clear. For instance, Vliegen et al. (2006) found no relationship between efficacy and either depression or anxiety in new mothers. However, both Cutrona & Troutman (1986) and Gross & Rocissano (1988) found that low self-efficacy was associated with maternal depression. More recent research by Howell, Mora, & Leventhal (2006) also supports the role of self-efficacy in childbearing depression, and Sayil et al. (2006) also reported that lower antenatal self-efficacy was associated with greater anxiety.

Howell et al. (2006) aimed to investigate the relationships between depression and a range of maternal characteristics, including those that are “fixed” and those that are “situational”. Fixed factors were those such as age, race and marital status, and situational
factors included physical symptoms, physical functioning, and infant stress, social factors such as social support, and self-efficacy. Out of an original potential pool of 1166 participants they collected usable data from 720 patients, and conducted telephone interviews of approximately 35-45 minutes in English or Spanish within a period of two to six weeks postpartum. Results indicated that low self-efficacy was significantly associated with depressive symptoms apart from the impaired physical functioning measure. However, a major limitation is that depression was measured with only two items, which brings into question the reliability and applicability of their results.

Haslam, Pakenham, and Smith, (2006) were primarily interested in the hypothesis that increased social support protects mothers against postpartum depressive symptoms by increasing their personal sense of self-efficacy. Research had previously shown that social support’s effect on depressive symptoms was mediated by self-efficacy, which the authors aimed to replicate and extend by using a large sample, investigating different types of support, and assessing both clinical depression and depressive symptoms, whilst controlling for antenatal depression. Results indicated that higher levels of parental support and maternal self-efficacy were associated with lower levels of depressive symptomatology at the postpartum time point. Self-efficacy also mediated the relationship between parental support and depressive symptoms, but not the relationship between partner support and depressive symptoms.

Self-efficacy studies have also looked at the effects of infant temperament. Porter and Hsu (2003) were interested in first time mothers’ perceptions of self-efficacy for the motherhood role. They were interested in changes from the last trimester to the first and third month postpartum and the effect that perceived infant temperament in particular, amongst other variables, would have on this self-efficacy. The authors recruited 61 women in their third trimester, 52 were retained at 1 month postpartum and 50 were retained at 3 months postpartum, however, t-tests using the initial responses showed no differences between those who were retained and those who later dropped out. Results indicated that women with lower marital satisfaction, and higher levels of depression and anxiety, had less self-efficacy for their expected parenting role. Lower pre-term expectations of efficacy were also associated with higher anxiety. The authors also found that women with lower self-efficacy tended to rate their children as more difficult. Although the direction of this
relationship is difficult to determine, a study by Donovan, Leavitt, and Taylor (2005) which manipulated infant temperament suggests that a more difficult temperament (e.g., increased crying and being difficult to soothe) does tend to lower perceptions of parenting self-efficacy.

Although there appears to be no available research to date which has investigated the effects of low self-efficacy for parenting on mental health in fathers, studies have consistently found that fathers report lower parenting self-efficacy than mothers (e.g., Elek, Hudson, & Bouffard, 2003; Ferketich & Mercer, 1995; Froman and Owen, 1989, Hudson, Elek, & Fleck, 2001). Low parenting self-efficacy for men has also been associated with parenting dissatisfaction (Ferketich & Mercer, 1995; Hudson et al., 2001; Reece & Harkless, 1998). In the long-term, being a parent is generally a protective factor for men, however, this is likely to be influenced by a number of factors, included competency for the parenting role (Bartlett, 2004). The lack of studies directly examining parenting self-efficacy and distress in men highlights the need for further research in this area.

3.2.3 Parenting self-concept sensitivity and psychological distress

To date there has been no research in pregnant or postpartum samples of men or women which has examined the role of parenting self-concept sensitivity. As discussed in chapter 2, low self-efficacy/perceptions of competency in a specific domain will lead to distress only if the individual views that domain as highly important to them. Applying this theory to parenting self-efficacy findings would explain why there has been only limited support for its effects on different measures of psychological distress. Although there are a number of measures which assess the importance of the parenting role, usually from the life-role salience literature, there appears to be no available measures which simultaneously assess self-efficacy or perceived competency for the parenting role. Although Harter’s Self-perception profile for adults includes a nurturance subscale, it is generalised and does not specifically relate to parenting. It seems clear that a measure which combines both ratings of importance and perceptions of efficacy for the parenting role is needed so that the role of parenting self-efficacy can be clarified.
3.3 Perfectionism and psychological distress

Researchers and theorists of perfectionism have reported on its possible effects on mental health for many decades (e.g., Hamachek, 1978). It seems surprising then that there are very few studies which have focused on perfectionism in antenatal and postpartum samples. There have however, been studies which have linked constructs such as self-criticism and certain cognitive styles which may reflect perfectionism, which have yielded significant results (e.g., Milgrom & Beatrice, 2003). One group of authors who have investigated perfectionism in a postpartum population is Mazzeo and colleagues (Mazzeo et al. 2006). Their focus was on childbearing eating disordered women, and whether high rates of perfectionism in these women were linked to the occurrence of postnatal depression. They used a large sample (over 1000 participants) obtained through the Virginia Twin Registry in the United States of America. They found that concern over mistakes and doubts about actions were both associated with depression scores, regardless of whether or not the women had an eating disorder, but high personal standards were not. For women who had experienced postnatal depression, concern over mistakes was also associated with the severity of the symptoms, whereas personal standards were negatively associated with severity of postnatal depression, possibly because it is a more adaptive aspect of perfectionism and may be more representative of normal achievement-striving compared to the other subscales. Despite these significant results there were a number of limitations to this study, perhaps the most important of which was that the sample was not recruited during the postnatal period; instead they were asked retrospectively to recall their mood. Furthermore, women only completed a retrospective screening measure for postnatal depression if they first endorsed one general question about whether they had experienced depression following the birth of their child. Thus, these results should be interpreted with caution. Vliegen et al. (2006) investigated the effects of personality dimensions (those associated with relatedness and self-definition) on the experience of anxiety and depression in postpartum women, and were interested not only in first-time mothers, but women who had previously had one or more children. They found that self-critical perfectionism was related to the severity of depression after controlling for anxiety and demographic variables, with no differences evident between primiparous and multiparous women. They
also found that contrary to their expectations, self-criticism was more associated with state and trait anxiety than it was with depression.

3.4 The Current Study: Proposed model of psychological distress

Drawing from the theories discussed in chapter two, and the review of the empirical evidence supporting theories discussed above, it is proposed that attachment, self-concept, and perfectionism are interrelated individual characteristics that are of particular importance during the transition to parenthood. According to Fraiberg (1980), having and caring for an infant leads to the activation of thoughts and feelings that are linked to how the woman herself was cared for as a child, or in other words: the transition to parenthood activates attachment system cognitions and associated emotions. Thus, during a major life transition, such as becoming a parent for the first time, attachment security becomes particularly significant. During these times, much change and uncertainty is experienced, which leads to the experience of anxiety and the subsequent activation of the attachment system. Individuals with a secure attachment are able to cope with threats to the attachment system through both psychological and behavioural skills which help them to regulate negative emotions. They also have a robust and resilient sense of self, experience themselves as competent, and can maintain their personal standards without becoming critical and doubting.

In contrast, insecure individuals, particularly anxious type, have difficulty regulating their attachment systems; they experience difficulties with maintaining a cohesive sense of self, and may have perfectionist tendencies. Thus, when they encounter a major life transition, such as becoming a parent, their insecure style, particularly for those high on anxiety, may lead them to experience the parenting role as highly important in which to be competent, however, if they also harbour doubts about their own self-worth and have high levels of perfectionism, they can be expected to judge their competence negatively. This then leads them to experience psychological distress. Thus, individuals with an insecure attachment style currently expecting their first child or those who have recently had their first child, are expected to be lower in global self-worth, experience more maladaptive perfectionism, and have greater parenting self-concept sensitivity, which in
turn lead to greater psychological distress. The relationships between these three variables are expected to be reciprocal, with a positive relationship between maladaptive perfectionism and parenting self-concept sensitivity, and a negative relationship between global self-worth and parenting self-concept sensitivity. Furthermore, higher global self-worth may be able to buffer the effects of maladaptive perfectionism on psychological distress. The following sections detail aims of the current research, including a proposed model of distress, followed by specific hypotheses.

3.4.1 Research aims

The broad aim of this research is to provide an improved understanding of childbearing distress, in several ways:

1. Much literature has focused solely on women, despite the transition to parenthood being a major life transition for men too: therefore, this study will include men and women.
2. Whilst a growing number of studies investigate psychological functioning antenatally, most do so in order to control for antenatal depression and anxiety, and do not investigate it in its own right. Furthermore, without providing comparison groups of individuals who are not expecting their first child, and who have not had children, it is not possible to determine whether relationships found are specific to these samples, or whether they are reflective of processing in the general population as a whole. To address these issues, this study will include three samples: men and women who are currently expecting their first child (antenatal group); men and women who have had their first child within the last 12 months (postnatal group), and men and women who have never had children (comparison group).
3. The majority of literature has focused only on depression, neglecting other aspects of psychological functioning: this study will include broader measures of psychological distress, including depression, anxiety, and obsessive compulsive symptoms.
4. Considering that attachment security, low self-worth, and maladaptive perfectionism have all been linked to poorer psychological functioning in general
populations, but that the transition to parenthood may make these constructs particularly salient, these concepts will also be investigated.

5. As there are no measures to date which assess both parenting self-efficacy and importance of parenting, a new measure will be developed to address this need. This will be addressed in the next chapter.

6. This study will test the proposed model (see figure 3.1, below) of childbearing distress which combines attachment security, global self-worth, parenting self-concept sensitivity, and perfectionism, for each of the three sample groups (excluding parenting self-concept sensitivity for the comparison group).

Figure 3.1. Proposed model of psychological distress.

Figure 3.1 shows the proposed model of psychological distress for the childbearing samples. This model is further explained, below, where specific hypotheses are detailed. The model involves both proposed mediation and moderation effects. Mediation involves a significant direct relationship between an independent variable and a dependent variable, where this direct effect is better accounted for by the independent variable’s effect on a
third mediating variable, which in turn affects the dependent variable. In contrast, moderation refers to two variables which interact with each other to have an effect on the dependent variable.

3.4.2 Hypotheses

Following from the broad research aims and the model shown in figure 3.1, it was hypothesised that:

1. Higher anxious attachment would directly predict lower global self-worth, higher parenting self-concept sensitivity, and greater levels of maladaptive perfectionism.
2. Higher anxious attachment would also predict greater experience of depression, anxiety, and obsessive-compulsive symptoms, but this effect would be mediated by global self-worth, parenting self-concept sensitivity, and maladaptive perfectionism.
3. Global self-worth would moderate the effect of maladaptive perfectionism on psychological distress.
4. There would be a positive relationship between maladaptive perfectionism and parenting self-concept sensitivity.
5. There would be a negative relationship between parenting self-concept sensitivity and global self-worth.
6. Due to mixed research findings relating to avoidant attachment, the model will also be investigated with avoidant attachment.
CHAPTER 4
THE DEVELOPMENT OF A MEASURE TO ASSESS PARENTING SELF-CONCEPT

4.1 Rationale for the Development of a Measure to Assess Parenting Self-Concept

The largest methodological issue faced in this study was the lack of an available scale to measure both importance of the parenting role and efficacy/competency for this domain of self-concept. Whilst there are a number of psychometrically sound scales specifically designed to measure self-efficacy for parenting (e.g., Gibaud-Wallston & Wandersman, 1978; Parker & Zahr, 1985; Pedersen, Huffman & Del Carmen, 1989), and whilst some of these also measure satisfaction with the parenting role (e.g., Gibaud-Wallston & Wandersman, 1978), there does not appear to be any available that simultaneously assess importance of the parenting role. The scant number of scales that do assess importance of the parenting role are generally drawn from scales that assess conflict between different role identities (e.g., Amatea, Gross, Clark, & Bobby, 1986; Callero, 1985). The theoretical reasons for assessing both competence and importance of the parenting role have been discussed in the preceding chapters. Briefly, however, according to Harter (1986), perceptions of competency in a particular domain will only be important to an individual’s self-concept or experience of distress if that domain is important to them. It is widely recognised that changes in self-perception during pregnancy and throughout the parenting cycle are not only common, but normal (Gecas & Mortimer, 1987).

Whilst there are existing separate measures of parenting role importance and parenting self-efficacy, utilising two different measures to assess these related constructs would be problematic for the aims of the current study. Firstly, using two different scales would create difficulty in comparing individuals according to the degree of discrepancy between importance and competency. Secondly, disclosing beliefs relating to parenting may be an area of self-concept influenced by social desirability. For example, some individuals may feel societal pressures to endorse more affinity with the parenting role than they really feel. Thus, measures that are overly transparent in the format in which they ask questions regarding the importance of parenting are likely to show little discrimination.
between individuals, as it is likely that people will answer in a manner which is socially conforming. Accordingly, the formatting of such scales should imply that answering in either direction is socially acceptable, and that individual variation in normative in order to limit this affect. Considering the issues relating to the measurement of parenting efficacy and importance, and the lack of a measure that assesses both aspects, it was decided that a scale be specifically designed for use in the current study. The development of this scale is described in the following sections.

4.2 Scale Development

The primary aim of developing such a scale was to develop a tool which assessed not only perceived competency/self-efficacy for the parenting role, but to also assess the extent to which parenting is viewed as an important aspect of self-concept to the individual. In other words, to create a measurement tool that was consistent with Harter’s self-perceptions scales (Messer & Harter, 1986; Neeman & Harter, 1986), which assess perceptions of competence in specific domains and the importance of those domains to the individuals in a brief format. Self-competence ratings in Harter’s scales are made by asking participants to choose which of two opposing statements best applies to them, and then asking them to rate the extent to which this statement is true of them. This question format is described in more detail below. To this end, existing scales which assessed either of these components were sought. A number of scales which could be used to develop potential items were identified. Scales which measured perceptions of parenting self-efficacy in a general manner were preferred over those that assessed specific tasks, so that the outcome would be a brief measure. It was necessary to identify items which could be used to assess competency and importance of the role. For importance ratings, these included items from: Bailey’s 2007 adaptation of Callero’s Role-Identity Scale (RIS; 1985); the Parental Role Reward Value and Parental Role Commitment subscales of the Life Role Salience Scales (LRSS; Amatea et al., 1986); and the Parenting Sense of Competence scale (PSOC; Gibaud-Wallston & Wandersman, 1978). Items relating to self-efficacy/competency for the parenting role were drawn from: the Self-Efficacy in Nurturing Role Questionnaire
(SENRQ; Pedersen et al., 1989); the Maternal Confidence Scale (MCS; Zahr, 1991); and the PSOC (Gibaud-Wallston & Wandersman, 1978).

Items for both the competency and importance scales were selected for their face validity and their ability to be contrasted with another of the existing items so that they followed the format of Messer & Harter’s (1986) Adult Self-Perception Profile (ASPP) of statements containing opposing statements. Once items were grouped into contrasting but related pairs, wordings were changed so that each statement would be as brief as possible and so that they followed the format of “some parents….BUT other parents…..”. A final number of eight statement pairs for the competency ratings, and four statement pairs for the importance ratings were decided upon. This number of items was chosen as it was double the amount desired for the new scale (i.e. consistent in length to the subscales of the ASPP), and it was planned that the scale could be refined through factor analytic procedures. Items were then embedded within a larger number of items so that no two parenting-related items would be placed consecutively. This was achieved for the self-efficacy items by including the Global Self-Worth subscale, and one item from the Humour subscale, of the ASPP (Messer & Harter, 1986). For the importance ratings, items drawn from the SPPCS (Neeman & Harter, 1986) subscales of humour and creativity were used as “filler items”. These items from the SPPCS were used because the importance ratings of the ASPP are made using only one direct question per subscale, and it was thought to be important to maintain the question style to relieve social desirability effects regarding parenting values.

4.3 Pilot Study Method

4.3.1 Participants

Respondents to the questionnaire for the pilot of the PSPS were required to be between 18 and 45 years of age and to have at least one child below the age of three years. Participants were recruited through internet-based Australian parenting forums. Although participants could be male or female, there were no male respondents with complete data, thus, participant demographics shown below in tables 4.1 and 4.2 are for females only. Table 4.1 shows participants’ age, education level, marital status, and number of children. Table 4.2 shows the age range of participants’ children.
Table 4.1
Demographic Variables for Pilot Study Sample of Mothers of Children Aged Three Years or Younger.

<table>
<thead>
<tr>
<th>Variable</th>
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<td><strong>Age</strong></td>
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<td>23-27</td>
<td>27</td>
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<td><strong>Education</strong></td>
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<tr>
<td>Completed secondary school</td>
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<tr>
<td>Non-university tertiary</td>
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<td>Postgraduate university</td>
<td>36</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
</tr>
<tr>
<td>Single, never married</td>
<td>1</td>
</tr>
<tr>
<td>Single, divorced/separated</td>
<td>3</td>
</tr>
<tr>
<td>Committed non cohabiting</td>
<td>0</td>
</tr>
<tr>
<td>De facto/marriage-like</td>
<td>22</td>
</tr>
<tr>
<td>Married</td>
<td>105</td>
</tr>
<tr>
<td><strong>Number of Children</strong></td>
<td></td>
</tr>
<tr>
<td>One</td>
<td>99</td>
</tr>
<tr>
<td>Two</td>
<td>28</td>
</tr>
<tr>
<td>Three</td>
<td>40</td>
</tr>
</tbody>
</table>

N = 131
Table 4.2

Number of Pilot Study Participants’ Children in Each Age Category

<table>
<thead>
<tr>
<th>Age of child</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-12 months</td>
<td>55</td>
</tr>
<tr>
<td>13-24 months</td>
<td>302</td>
</tr>
<tr>
<td>25-36 months</td>
<td>36</td>
</tr>
</tbody>
</table>

Most participants were aged within the 28 -32 years age category, and tended to be highly educated, with most participants having obtained at least undergraduate university qualifications. Eighty percent of participants were married, and a further 17% were in a de facto or marriage-like relationship. Seventy-six percent of participants had only one child, and no participants who completed the study had more than three children. The majority of participants’ children were aged 24 months or younger.

4.3.2 Measures

The questionnaire completed by the pilot study participants contained two sections. The first section asked a series of demographic questions. The second section contained two subscales. The first subscale was the efficacy/competency ratings, which contained the eight target items and seven filler items drawn from the Adult Self-Perception Profile (ASPP; Messer & Harter, 1986). The “filler items” for efficacy and competence included the six items that comprise a global self-worth scale and one item that assesses sense of humour. The second subscale was the importance ratings, with four target items and four filler items, drawn from the Self-Perception Profile for College Students (SPPCS; Neeman & Harter 1986). It was decided that the student importance ratings would be used as opposed to the adult importance ratings because of the difference in question format between the two scales. In the ASPP, ratings of importance are made by asking the participant “How important is it to you…?” followed by one question for each of the self-perception domains. For example “How important is it to you to be moral?”, which participants then rate as either “very important”, “pretty important”, “only sort of important”, or “not very important”. In contrast, the items from the college student version
of the scale are consistent with the self-competency ratings of the ASPP in that they use the format of two opposing statements “Some students … BUT Other students….,” which participants then chose which of the two statements best applies to them and then whether this chosen statement is “really true for me” or “sort of true for me”. It was thought that this question format of choosing between two statements would normalise both responses, i.e. that it was expected that some people would find parenting important, whereas others would find it less important. Therefore, in order for the filler items to be consistent with the newly developed parenting items, the student importance ratings were used, with the word “students” replaced with “adults”. Those used for the importance ratings include one item that assessed importance of morality, one that assessed importance of creativity and two that assessed importance of sense of humour. A copy of the pilot study questionnaire is provided in appendix 1.

4.3.3 Procedure

Participants were recruited through posts placed on internet parenting forums. These internet forums allow researchers to place “posts” requesting participants for research (see appendix 4). Prospective participants were asked to click a web-link at the bottom of the post that re-directed them to a web-page containing the questionnaire.

It was anticipated that significantly more females than males would access the internet forums. To correct this expected gender imbalance, female participants were asked to forward the webpage to their partners or other males. Prior to completing the questionnaires participants were provided with a plain language statement which provided them with information regarding what participation entailed, so that they could make an informed decision about participation. Participants were also provided with phone numbers for telephone counselling and support services. No compensation or incentive for participation was offered.
4.4 Statistical Analysis of the Parenting Self-Perception Scale: Descriptives, Factor Analysis, and Reliability

This thesis proposed that both self-efficacy for the parenting role, and importance of the parenting role may be important variables influencing the experience of childbearing distress. Review of the literature showed that whilst there are several measures of parenting self-efficacy available, none also measure the importance of the parenting role, or allow for a comparison between importance and self-efficacy to be made. A total of eight items were piloted to assess parenting efficacy and four items to assess importance of the parenting role, which was twice the number desired for the new scale (i.e. consistent in length to the subscales of the ASPP).

To determine the underlying structure of the scale and to determine which items would be included in the final version of the scale, the data were subjected to several statistical procedures, including principal components analysis, investigation of reliability and distribution, and bivariate correlations. Data were analysed using SPSS version 15 for Windows. Tables 4.3a and 4.3b provide descriptive statistics for each of the self-efficacy items, and the importance items, respectively.
Table 4.3a

*Means and Standard Deviations for Self-Efficacy for Parenting Ratings in the Pilot Study*

<table>
<thead>
<tr>
<th>Item</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Some parents wonder if they really understand their child’s needs, BUT other parents believe that they know how to take care of their child better than anyone.</td>
<td>2.98</td>
<td>0.89</td>
</tr>
<tr>
<td>2. Some parents are unsure how much attention to give to their child, BUT other parents feel they know how much attention is “just right</td>
<td>2.83</td>
<td>0.95</td>
</tr>
<tr>
<td>3. Some parents believe that they can easily soothe their child, BUT other parents sometimes worry that they will not be able to stop their child crying.</td>
<td>3.32</td>
<td>0.82</td>
</tr>
<tr>
<td>4. Some parents feel competent in their role as a parent, BUT other parents are not sure if they are doing a good job.</td>
<td>3.00</td>
<td>0.93</td>
</tr>
<tr>
<td>5. Some parents feel that they are in control, BUT other parents feel that they are the ones being manipulated</td>
<td>3.06</td>
<td>0.70</td>
</tr>
<tr>
<td>6. Some parents think that they haven’t learnt how to care for their child quickly enough, BUT other parents think that they have caught on quickly to being a parent.</td>
<td>3.17</td>
<td>0.78</td>
</tr>
<tr>
<td>7. Some parents have difficulty interpreting their child’s cries, BUT other parents believe that if anyone can tell what is troubling their child, they are the one.</td>
<td>3.16</td>
<td>0.85</td>
</tr>
<tr>
<td>8. Some parents believe that they have all the skills needed to be a good parent, BUT other parents feel unprepared for being a parent</td>
<td>3.04</td>
<td>0.85</td>
</tr>
</tbody>
</table>

N = 131
Table 4.3b

*Means and Standard Deviations for the Importance of Parenting Ratings in the Pilot Study*

<table>
<thead>
<tr>
<th>Item</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It is important to some parents to feel that they are an effective parent, BUT other parents believe there are more important things to worry about then parenting.</td>
<td>3.72</td>
<td>0.49</td>
</tr>
<tr>
<td>2. Some parents would feel a loss if they were forced to give up being a parent, BUT other parents rarely even think about being a parent when they are not at home.</td>
<td>3.79</td>
<td>0.54</td>
</tr>
<tr>
<td>3. Some parents feel that life would be empty without children, BUT other parents would not be bothered if they hadn’t had children</td>
<td>3.60</td>
<td>0.67</td>
</tr>
<tr>
<td>4. Some parents feel that there are many other things in life besides parenthood, BUT other parents feel that being a parent is a key part of who they are</td>
<td>2.95</td>
<td>1.05</td>
</tr>
</tbody>
</table>

N = 131

Data were analysed using Principal Components Analysis with a Varimax rotation, as it was expected that the scales would be related. However, as the two scales were designed to measure separate constructions, it was specified that two components be extracted. Factor loadings for the rotated solution are shown below in table 4.4.
Table 4.4

*Item Loadings from the Rotated Component Matrix of the Principal Components Analysis Using the Pilot Study Data*

<table>
<thead>
<tr>
<th>Item</th>
<th>Component 1</th>
<th>Component 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficacy 6</td>
<td>.78</td>
<td>.13</td>
</tr>
<tr>
<td>Efficacy 4</td>
<td>.78</td>
<td>.08</td>
</tr>
<tr>
<td>Efficacy 8</td>
<td>.73</td>
<td>.18</td>
</tr>
<tr>
<td>Efficacy 5</td>
<td>.69</td>
<td>-.02</td>
</tr>
<tr>
<td>Efficacy 7</td>
<td>.69</td>
<td>.22</td>
</tr>
<tr>
<td>Efficacy 3</td>
<td>.57</td>
<td>.06</td>
</tr>
<tr>
<td>Efficacy 2</td>
<td>.57</td>
<td>.25</td>
</tr>
<tr>
<td>Efficacy 1</td>
<td>.51</td>
<td>.25</td>
</tr>
<tr>
<td>Importance 4</td>
<td>.13</td>
<td>.73</td>
</tr>
<tr>
<td>Importance 2</td>
<td>.17</td>
<td>.69</td>
</tr>
<tr>
<td>Importance 1</td>
<td>-.02</td>
<td>.67</td>
</tr>
<tr>
<td>Importance 3</td>
<td>.29</td>
<td>.57</td>
</tr>
</tbody>
</table>

*N = 131*

Inspection of the correlations between the variables showed that many exceeded .30, and the Kaiser-Meyer-Olkin value was .84, which exceeded the recommended value of at least .6 (Kaiser, 1970; 1974). Bartlett’s Test of Sphericity also reached statistical significance, *p* < .001. Taken together, these preliminary findings support the use of data reduction techniques with this data. The Principal Components Analysis indicated the presence of three components with eigenvalues that exceeded 1, explaining 36%, 12%, and 9% of the variance respectively, however, examination of the screeplot showed a distinct break after the second component, supporting the decision to extract only two components. The rotated component matrix showed that all of the efficacy items loaded on the first component, and all of the importance items loaded on component two. All cross-loadings were less than .30.

In order to determine which items would be retained and to further test the psychometric properties of the scale, reliability analysis was performed on the data. The
The efficacy scale was found to have good internal consistency with a Cronbach alpha coefficient of .84. Examination of item-total statistics showed that the four items which would have the most negative impact upon the scale if they were deleted were items 4, 6, 7, and 8, which were amongst the top five component loadings. Considering the finding of the PCA and the reliability analysis, it was decided that the four items to be retained should be chosen from items 4 through 8. Re-inspection of the item content revealed that items 4, 6, 7, and 8 appeared to tap into parenting efficacy or competency, whereas item 5 seemed to be more reflective of a sense of control. Thus it was decided that items 4, 6, 7, and 8 would be retained, so that the scale would be consistent in length to Harter’s self-perception scales.

Repeating the same procedures for the importance ratings showed that the Cronbach alpha coefficient was only .63, however, as noted by Pallant (2001), with scales that contain fewer than ten variables, it is very common to find low Cronbach values, as low as .50, and it may be more appropriate to report the mean inter-item correlation (Briggs & Cheek, 1984), with an optimal range of between .2 to .4. The mean inter-item correlation was computed to be .30 indicating good internal consistency. Inspection of the item-total statistics showed that items 3 and 4 explained the greatest amount of variance and would have the most detrimental impact on internal consistency if deleted. Thus, after re-inspection of item content, items three and four were retained.

The PCA analysis was run again with a varimax rotation and with two components extracted, with items 4, 6, 7, and 8 from the efficacy scale, and items 3 and 4 from the importance scale included. Rotated component loadings are presented in table 4.5 below.
Table 4.5

*Item Loadings from the Rotated Component Matrix of the Principal Components Analysis for the Final Item Selection Using the Pilot Study Data*

<table>
<thead>
<tr>
<th>Item</th>
<th>Component 1</th>
<th>Component 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficacy 6</td>
<td>.84</td>
<td>.10</td>
</tr>
<tr>
<td>Efficacy 8</td>
<td>.81</td>
<td>.24</td>
</tr>
<tr>
<td>Efficacy 4</td>
<td>.80</td>
<td>.14</td>
</tr>
<tr>
<td>Efficacy 7</td>
<td>.67</td>
<td>.18</td>
</tr>
<tr>
<td>Importance 4</td>
<td>.11</td>
<td>.85</td>
</tr>
<tr>
<td>Importance 3</td>
<td>.23</td>
<td>.78</td>
</tr>
</tbody>
</table>

N = 131

There were two components with eigenvalues above 1, which explained 49% and 17% of the variance respectively. The rotated solution showed that the four efficacy items loaded on component one, and the two importance items loaded on component two. There were no cross-loadings equal or greater than .30.

The final items were again subjected to reliability analysis. For the efficacy items, the Cronbach alpha coefficient was .81, and mean inter-item correlation of .51. Although for the importance ratings the Cronbach alpha coefficient was only .58, this is not unexpected with a scale that comprised only two items, and the inter-item correlation was .40, suggesting good internal consistency.

### 4.4.1 Summary of statistical analysis

Initial piloting of the PSPS indicated that it had good reliability and validity. Two clear factors emerged using a Varimax rotation and stipulating that two factors be extracted. As expected, the first of these factors reflected a competency domain and the second reflected an importance of parenting domain. A second factor analysis on the items that were chosen for the final version of the scale also showed a clear factor structure, and although the number of items was small, thus inhibiting the use of more traditional measures of reliability, it appears that the PSPS is a reliable measure. To further validate this new measure, a confirmatory principal components analysis and reliability analysis will
be conducted on data collected from the main study reported in chapter 6. Following this, the development of this scale will be discussed more generally in chapter 7.
CHAPTER 5
METHODOLOGY

5.1 Overview

There were a number of methodological issues to consider prior to commencing the current project. These included: the assessment of depression in antenatal and postnatal samples, and the measurement of adult attachment. These issues will be discussed in greater detail below. There were also a number of more general issues to consider. For example, the study design chosen was cross-sectional and involved the use of self-report measures. Ideally a study of this kind would have had a longitudinal design with participants recruited during pregnancy and followed through to the postpartum with multiple data collection points. This unfortunately was not possible due to temporal limitations. The use of both pregnant and postnatal samples does begin to address this issue and will provide a starting point for future research. Self-report measures are widely used in psychological research, and although it is difficult to determine the accuracy of information obtained via self-reports, they have the benefit of anonymity for the participants. This may also limit the extent that social desirability and fears of negative judgment influence responses (i.e. because there is no actual contact with another person).

5.1.1 Measurement of depression in antenatal and postnatal samples

The measurement of depression in antenatal and postnatal samples is complicated by the reality that a number of symptoms of depression are also normative occurrences for women, and indeed men, who have recently had a child, or who are currently pregnant. These symptoms include fatigue, sleep disturbances, difficulty concentrating, and changes to appetite. Although it may be widely recognised that these are common symptoms in non-depressed mothers, it is also important to note that they may be experienced relatively commonly in new fathers. With the probable exception of appetite changes, new fathers can be expected to experience significant changes in their sleep patterns, levels of fatigue, and changes in ability to concentrate. Thus, the use of alternate standardised, otherwise
psychometrically sound and well recognised measures of depression such as the Beck Depression Inventory – II (BDI-II; Beck, Steer & Brown, 1996), and the Centre for Epidemiological Studies - Depression scale (CES-D; Radloff, 1977), are inappropriate in these samples due to their inclusion of somatic symptoms.

In recognition of these problems, Cox and colleagues developed the Edinburgh Postnatal Depression Scale (EPDS; Cox et al., 1987). The EPDS was specifically designed to measure depression in pregnant and postpartum samples of women, with items which do not relate to somatic symptoms of depression. Alternatively, the EPDS assesses only the cognitive and emotional symptoms of depression, such as anhedonia, sadness, tearfulness, self-harm, coping, reactivity, self-blame, and insomnia that is due to feelings of unhappiness. However, it appears that the EPDS is not a pure measure of depression. Brouwers, van Baar, and Pop (2001) concluded that due to the EPDS’s correlations with state anxiety measures, it is likely that the EPDS also measures anxiety. Indeed, two of its items appear to assess anxiety and panic symptoms (i.e.: item 4, “I have been anxious or worried for no good reason”; item 5, “I have felt scared or panicky for no very good reason”). Additionally, Pallant, Miller and Tennant (2006), along with Boyd, Le, and Somberg (2005) both concluded that the EPDS may be a measure of more general postpartum distress, rather than a specific measure of depression. The EPDS also appears to be less sensitive to long standing depression in postpartum and non-postpartum women (Cox, Chapman, Murray, & Jones, 1996). Despite this, the EPDS continues to be the most widely used instrument to assess postpartum and antenatal depression, both in clinical practice and research (Boyd et al., 2005). The EPDS has subsequently been validated for use with males (Matthey, Barnett, Kavanagh, & Howie, 2001) and non-postpartum, non-pregnant women (Cox et al.,1996).

A possible alternative measure of depression in the samples of interest is the Depression Anxiety Stress Scales (DASS; Lovibond & Lovibond, 1995a), which were designed to measure the negative affective states of depression, anxiety, and non-specific stress (Lovibond & Lovibond, 1995a), and were adapted into a 21-item short form (DASS-21; Lovibond & Lovibond, 1995b). They suggest that the depression scale encapsulates low self-esteem and motivation, as well as less ability to achieve life goals. The Anxiety scale is characterised by both an enduring anxiety state, situational anxiety, and the “acute response
of fear”. In contrast, the Stress scale measures a more chronic tension and arousal, in addition to poor frustration tolerance, and irritability. The subscales of the DASS-21 were constructed specifically to limit contrast overlap. Thus, the depression subscale of the DASS-21 can be considered to be a more pure measure of depression then the EPDS. The increased factor separation appears to result from the omission of items that measure sleep difficulties, weight fluctuations, appetite changes, somatic preoccupation, and irritability, which have been found in a number of studies to not discriminate adequately between depression and other affective states (e.g., Clark, 1989). The fact that the DASS-21 does not include such items is also of benefit in the current study, as these symptoms may not be unique to depression in general populations (Lovibond & Lovibond, 1995a), and are certainly all normative experiences to pregnant and postpartum women and their partners. Although little antenatal and postpartum research to date has utilised the DASS or DASS-21, Pallant et al. (2006) used the DASS-21 in a sample of women between six weeks and six months postpartum, and found it to be a useful measurement tool for investigating postpartum distress.

Considering the limitations of the EPDS, that the current study was also interested in anxiety, and that the DASS-21 is a brief, sound measure of distress which does not include somatic symptoms of depression which might be confounded in antenatal and postnatal samples, it was decided that the DASS-21 would be used to measure depression and anxiety in the current study.

5.1.2 Measurement of adult romantic attachment

Although early childhood and infancy are regarded as crucial time periods for the development of attachments to primary caregivers, it is important to note that experiences later in childhood have also been shown to affect attachment styles, and attachment theory also suggests that attachment styles can continue to change into adulthood. These changes occur when information that is incompatible with existing internal working models is encountered. Indeed, research shows that attachment styles can be changed by major life transitions, for example, across the transition to parenthood (e.g., Simpson et al., 2003). Thus, it seems particularly pertinent to this study that attachment behaviour be measured in
terms of recent attachment behaviour in romantic relationships, as opposed to recalled attachment to early caregivers. Therefore, although early parental bonding and attachment is clearly very important in the development of attachment styles, the apparent ability of these attachments to be changed by later life events suggests that measuring recalled parental bonding may not to be such an accurate assessment of current attachment style, particularly in populations undergoing major life transitions.

Adult attachment behaviour may be assessed by a variety of means, including self-report and interview. Interview measures of attachment can be a rich source of information, however, they have been described as impractical for most studies (Brennan et al., 1998). Questionnaire measures appear to be the most commonly used method for assessing adult attachment (e.g., Brennan et al., 1998), and there are a number of widely used self-report measures available to assess adult romantic attachment styles. The Experiences in Close Relationships – Revised (ECR-R; Fraley et al., 2000) has been shown to be the most psychometrically sound (Fraley et al., 2000). The measurement of romantic attachment styles was greatly simplified by the development of the ECR (Brennan et al., 1998) and its revision, the ECR-R.

The ECR-R was developed through a factor analysis of a large number of items drawn from all current available measures of adult romantic attachment (the same item pool used to develop the original ECR). In both the ECR and ECR-R studies, two clear factors emerged: anxiety and avoidance. Although the ECR had good psychometric properties, item-response analysis conducted by Fraley et al. (2000) suggested that the scale could be improved (in terms of its ability to measure secure attachments) with the replacement of some items. Both measures contain two subscales of 18 items each, however, only 72% of items from the anxiety subscale, and 39% of items from the avoidance subscale of the ECR were included in the ECR-R. The re-construction of the subscales resulted in significantly increased measurement precision (Fraley et al. 2000).
5.2 Method

The aim of this study was to provide a greater understanding of the mental health problems experienced by new and expecting parents, and to compare findings with those from individuals who have never had children who would provide a form of quasi-control group. Specifically, the role that key psychological factors may play in relation to depression, anxiety, and obsessive-compulsive symptoms in both men and women were investigated. These psychological factors were adult romantic attachment style, perfectionism, global self-worth, and sensitive-self domain for parenting. The purpose was to assess whether these variables were predictive of mental health problems during pregnancy and the first twelve months postpartum, and to compare these findings to those of men and women who had not had children and who were not (or whose partner was not) currently pregnant.

5.2.1 Sample

The total number of participants who completed the main study was 218. Of these, 77 were women without children, 43 were pregnant women, and 52 postpartum women. For men, there were 36 without children, 6 whose partners were expecting their first child, and 6 who were ‘postpartum’. Due to low male participant numbers, this group was combined. Therefore, participant characteristics are presented for men combined, and for each of the three categories of women below, in tables 5.1a, 5.1b, 5.1c, 5.1d.
<table>
<thead>
<tr>
<th></th>
<th>Women Without Children</th>
<th>Women Antenatal</th>
<th>Women Postnatal</th>
<th>Men Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-22</td>
<td>7</td>
<td>2</td>
<td>7</td>
<td>16</td>
</tr>
<tr>
<td>23-27</td>
<td>45</td>
<td>16</td>
<td>16</td>
<td>77</td>
</tr>
<tr>
<td>28-32</td>
<td>19</td>
<td>18</td>
<td>14</td>
<td>51</td>
</tr>
<tr>
<td>33-37</td>
<td>2</td>
<td>6</td>
<td>11</td>
<td>19</td>
</tr>
<tr>
<td>38-42</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>43-45</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>77</td>
<td>43</td>
<td>52</td>
<td>172</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incomplete High school</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Completed High School</td>
<td>9</td>
<td>5</td>
<td>8</td>
<td>22</td>
</tr>
<tr>
<td>Non-university tertiary</td>
<td>9</td>
<td>8</td>
<td>12</td>
<td>29</td>
</tr>
<tr>
<td>Undergraduate university</td>
<td>31</td>
<td>18</td>
<td>16</td>
<td>65</td>
</tr>
<tr>
<td>Postgraduate university</td>
<td>25</td>
<td>12</td>
<td>13</td>
<td>50</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single, never married</td>
<td>15</td>
<td>2</td>
<td>0</td>
<td>17</td>
</tr>
<tr>
<td>Single, divorced/separated</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Committed non cohabitating</td>
<td>18</td>
<td>1</td>
<td>0</td>
<td>19</td>
</tr>
<tr>
<td>De facto/marriage-like</td>
<td>20</td>
<td>6</td>
<td>12</td>
<td>38</td>
</tr>
<tr>
<td>Married</td>
<td>23</td>
<td>34</td>
<td>40</td>
<td>97</td>
</tr>
<tr>
<td>Widowed</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

\(N = 218\)
Table 5.1b
*Age of Participants’ Infants for the Postnatal Sample*

<table>
<thead>
<tr>
<th>Infant Age</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2 months</td>
<td>14</td>
</tr>
<tr>
<td>3-5 months</td>
<td>10</td>
</tr>
<tr>
<td>6-8 months</td>
<td>8</td>
</tr>
<tr>
<td>9-12 months</td>
<td>19</td>
</tr>
</tbody>
</table>

Table 5.1c
*Stage of Pregnancy for Participants in the Antenatal Sample*

<table>
<thead>
<tr>
<th>Trimester</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>5</td>
</tr>
<tr>
<td>Two</td>
<td>20</td>
</tr>
<tr>
<td>Three</td>
<td>18</td>
</tr>
</tbody>
</table>

Table 5.1d
*Planned Versus Unplanned Pregnancies for Antenatal and Postnatal Women*

<table>
<thead>
<tr>
<th></th>
<th>Planned</th>
<th>Unplanned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antenatal</td>
<td>35</td>
<td>8</td>
</tr>
<tr>
<td>Postnatal</td>
<td>48</td>
<td>7</td>
</tr>
</tbody>
</table>

5.2.2 Measures

Detailed descriptions of the measures follow. The questionnaires completed by the target and comparison groups differed minimally. Both genders of each target group completed a demographic section followed by eight scales. The questionnaire for the comparison group did not include the final scale, the PSPS. There were also minor wording differences for certain items and instructions for a number of the measures, as detailed below. Thus, both target and comparison participants received questionnaires designed to assess: basic demographic variables; recent experience of depression, anxiety and stress, using both the EPDS and the DASS-21; obsessive-compulsive symptoms using the OCI-R;
degree of attachment security in adult romantic relationships using the ECR-R; personality in the form of adaptive versus maladaptive perfectionism, using the FMPS-24; and their global self-worth and sensitivity in the morality self-aspect domain using the ASPP. In addition, target group participants also completed the newly-developed PSPS, which had minimal wording differences as appropriate to whether they had already had their child or whether they were pregnant. A copy of each of the questionnaires is provided in Appendix 3.

The Depression Anxiety and Stress Scales-21 (DASS-21; Lovibond & Lovibond, 1995a). The DASS-21 comprises three subscales designed to measure Depression, Anxiety, and generalised Stress. Each of the three scales of the DASS-21 contains seven items. Participants rate each item according to a four-point Likert scale assessing severity or frequency of the symptom over the preceding week, ranging from 0 “did not apply to me at all”, to 3 “applied to me very much, or most of the time”. There are no reverse-scored items. Total scores for the DASS-21 subscales range from 0-21. Subscale scores are then multiplied by two so that they are consistent with the norms supplied for the 42 item version. Recent research supports that this is an acceptable use of norms, with very little difference shown between full-scale and doubled 21 item version totals reported in a general population study in the UK (Henry & Crawford, 2005). Although the DASS-21 does not allow for clinical diagnosis, the manual indicates cut-off percentiles for severity ratings, specifically, percentile scores for each of the subscales of 0 to 78 are considered normal, 79 to 87 are considered mild, 88 to 95 are considered moderate, 96-98 are considered severe, and 99-100 considered extremely severe.

Cronbach’s alpha coefficients for the DASS-21 Depression have ranged between .88 and .94, for Anxiety between .81 and .90, and for Stress between .88 and .93 (Antony, Bieling, Cox, Enns, & Swinson, 1998; Clara, Cox, & Enns, 2001; Henry & Crawford, 2005).

The Obsessive-Compulsive Inventory – Revised (OCI-R, Foa et al. 2002). The OCI-R is designed to measure the distress caused by symptoms of obsessive-compulsive disorder, and comprises six subscales. It has a particular slant towards compulsions, with a
lesser focus on obsessions. The original OCI comprised 42 items, and had seven subscales, and assessed both distress and frequency. The OCI-R provides a shorter, simpler 18 item version which has six symptom subscales (the doubting subscale was not replicated), and only measures distress, not frequency as these were highly intercorrelated, and distress was found to be a better discriminator between groups than the frequency scale. The OCI and OCI-R have both been designed for clinical use and research.

The OCI-R comprises 18 items in the form of self-statements across six subscales. Participants rate the extent to which each experience has distressed or bothered them over the past month. Ratings are made on a five point Likert scale, ranging from (0) ‘not at all’ to (4) ‘extremely’. No items are reverse-scored. The six subscales are Washing, Obsessing, Hoarding, Ordering, Checking, and Neutralising. Possible total scores for each of the subscales range from 0 to 12, and for the total scale from 0 to 72. Higher scores indicate greater distress caused by obsessive-compulsive symptoms. A cut-off score of 21 for the full scale has been found to differentiate between OCD patients and non patients (Foa et al., 2002).

The OCI-R has demonstrated good to excellent internal consistency for both total scores and subscale scores in individuals with obsessive-compulsive disorder, generalised social phobia, and posttraumatic stress disorder (Foa et al. 2002). The OCI-R has also demonstrated good to excellent test-retest reliability for intervals up to one month, and has excellent convergent and discriminant validity in both clinical and non-clinical samples (Foa et al., 2002; Hajcak, Huppert, Simons, & Foa, 2004; Huppert et al., 2007; Abramowitz & Deacon, 2006).

Experiences in Close Relationships – Revised (ECR-R; Fraley et al., 2000). The ECR-R assesses degree of adult attachment security in romantic relationships across two dimensions: anxiety and avoidance. Anxiety refers to fear of abandonment, and avoidance the degree to which closeness in romantic relationships is avoided. This scale was developed using Item-Response Analysis conducted on the original scale by Brennan et al. (1998), originally developed in a large sample of undergraduate university students ranging in age between 16 and 50 years of age. The scores of each of the scales allows for distinction of four groups of attachment, labelled secure, fearful, preoccupied and
discarding, although it has been argued that attachment should be viewed as dimensional and not as categorical (Brennan et al., 1998).

The ECR-R is comprises 18 items per subscale. Participants are asked to rate the degree to which each statement applies to the way they generally experience close romantic relationships. An example of an item from the avoidance scale is: “I prefer not to show a partner how I feel deep down”, and from the anxiety scale: “I’m afraid that I will lose my partner’s love”. Statements are rated on a seven-point Likert scale, ranging from 1, “disagree strongly” to 7, “agree strongly”. Nine of the items from the avoidance subscale, and one from the anxiety subscale, are reverse-scored. Total subscale scores are obtained by totalling items and then diving by total number of items, and thus range from 1 to 7.

High test-retest correlations were reported by Fraley et al. (2000), and subsequent studies have revealed good reliability and validity (Sibley, Fischer, & Liu, 2005).

Frost Multidimensional Perfectionism Scale (FMPS; Frost et al., 1990). The FMPS assesses both adaptive and maladaptive dimensions of perfectionism and comprises 35 statements across six subscales, however, later research suggests that a four-factor model is more appropriate (e.g., Khawaja & Armstrong, 2005; Harvey, Pallant, & Harvey, 2004). These four factors are “Concern over Mistakes and Doubts about Actions” (CMDA; originally two separate factors), “Parental Expectation and Parental Criticism” (PEPC; originally two separate factors), “Organisation” (ORG; an original factor), and “Personal Standards” (PS; an original factor). Of interest to the current study were the CMDA and PEPC.

The CMDA subscale comprises 13 items. It is considered a maladaptive element of perfectionism and is thought to comprise over-concern with mistakes and dissatisfaction with the quality of one’s actions, specifically “…negative reactions to mistakes, a tendency to interpret mistakes as equivalent to failure, and a tendency to believe that one will lose the respect of others following failure” and a “tendency to feel that projects are not completed to satisfaction” (p.p. 453: Frost et al., 1990). The second maladaptive element of perfectionism is PEPC, which measures “the tendency to believe that one's parents set very high goals and are overly critical” (p.p. 453: Frost et al., 1990) comprises nine items.
Participants rate the extent to which each of the 24 items applies to them on a five-point Likert scale, ranging from (1) “strongly disagree”, to (5) “strongly agree”. No items are reverse scored. Total possible scores range from: 13 to 65 for CMDA; 9 to 45 for PEPC. Higher scores indicate higher levels of perfectionism. Scores may also be summed to achieve overall scores for maladaptive perfectionism, ranging from 22-100. The FMPS has demonstrated good validity, and has been shown to be correlated with other measures of perfectionism, depression, and anxiety (e.g., Khawaja & Armstrong, 2005; Harvey, Pallant, & Harvey, 2004).

The Adult Self-Perception Profile (ASPP; Messer & Harter, 1986). The ASPP is a multidimensional measure of self-concept; it contains twelve subscales which assess various dimensions of self-concept, including one subscale that assesses global self-worth. For the present study, only the domain of global self-worth was of interest, however, the morality domain was also included in the questionnaire, although not used in analysis. The Global Self-Worth scale encapsulates “One’s global perceptions of worth, independent of any particular domain of competence/adequacy. It is tapped by items such as liking the way one is leading one’s life, being pleased with oneself, and liking the kind of person one is” (p. 5; Messer & Harter, 1986).

The ASPP also provides importance ratings for each of the specific domains, but not for global self-worth. These ratings show how important competence in each domain is to the individual, and may then be used to determine discrepancies between high importance ratings and low competency ratings (referred to as sensitive self-domains). The format in which items are presented in the various competency and global self-worth subscales lessens the impact of issues such as social desirability, by providing a choice between two statements for each of the items in the form of “some adults… But other adults…”. The authors suggest that this format implies that both responses are normative and socially acceptable. However, the format of importance ratings is much more direct, e.g., “How important is it to you to care for others?”, and only one item is used per self-aspect. Thus it was decided in the present study to adapt the importance ratings for the morality self-aspect from the Self-Perception Profile for College Students (SPPCS; Neeman & Harter, 1986), which uses the same question format as the ASPP does for the
competency ratings, and which assesses each importance subscale using two items instead of one.

Thus, participants were administered the four items from the morality subscale and the six items from the global self-worth scale of Messer and Harter’s ASPP (1986), and the two morality items from the SPPCS importance rating subscale. Each item contains two statements which describe adults (for the two SPPCS items the word “students” was replaced by the word “adults”). Participants choose the statement which best describes them, and decide whether this chosen statement is “sort of true” for them or “really true” for them. Each item is rated from one to four, and half of the items for each scale begin with a reverse-scored statement. Total possible scores range from 4 to 16 for the morality subscale and from 6 to 24 for the global self-worth scale. Higher scores indicate higher competency/self-worth perceptions in that area. Importance ratings for the morality self-concept were adapted from the SPPCS (Neeman & Harter, 1986) by changing the word “students” to “adults” in the two items. These ratings follow the same question format as the competency ratings for adults, resulting in possible importance scores of between two and eight, and higher scores indicate greater importance. A discrepancy between importance and competency ratings, i.e. a sensitivity in that domain, may be determined by subtracting the average of the competency ratings from the average of the importance ratings for individuals who score seven or above on importance.

The ASPP was originally developed and validated in two adult samples; a group of 141 parents, and 215 mothers with young children, and showed adequate to good internal consistency reliability for the global self-worth and morality subscales, and showed a clearly-defined factor structure (Messer & Harter, 1986).

The Parenting Self-Perception Scale (PSPS). The PSPS was specifically developed for the current study. It comprises both an efficacy and an importance subscale and is designed to be embedded within the ASPP (Messer & Harter, 1986) for administration. The inclusion of both importance and efficacy ratings allows for the identification of individuals who have a sensitive self-perception in terms of parenting.

There are four items that reflect parenting efficacy and two which assess the importance of parenting. Each item requires the participant to choose between two
conflicting statements, for example (from the importance ratings) “some parents feel that life would be empty without children BUT other parents would not be bothered if they hadn’t had children”. Once participants choose the statement that best describes them, they select whether this statement is “really true” for them or “sort of true” for them. Items are counterbalanced so that half of the items begin with a positive statement, and the remaining half being with a negative statement. Responses are scored from one to four, with total possible scores for efficacy ranging from 4 to 16, and between 2 and 8 for importance. Higher scores indicate higher levels of efficacy and higher valuing (importance) of the parenting role. An individual may be considered “sensitive” in their parenting self-concept if they rate the importance of seven or eight, and score six or below on their perceptions of self-efficacy.

5.2.3 Procedure

For the main study, data were obtained in the form of online questionnaires, and participants were recruited via pregnancy and parenting forums. To obtain a comparison group of individuals who had not had children and who were not (or whose partner was not) currently pregnant, participants were asked to provide the study details and internet links to an appropriate friend or relative. Details of the measures used are contained in the measures section.

Participants were recruited via “posts” placed on internet parenting forums (see appendix 4 for the “post” placed on these forums). Prospective participants clicked a web-link at the bottom of the post that re-directed them to a web-page containing the three questionnaire types; male and female antenatal, male and female postpartum, and male and female without children/not pregnant. With the technological advances of the past two decades, and the increasing everyday use of the internet, online recruitment of participants is being utilised by increasing numbers of researchers (e.g., Barry, 2001; Fleitas, 1998; Hardey, 2002; Mendelson, 2007). The comparison group was primarily recruited through the targets groups, with the “post” requesting that participants forward the study webpage details to a friend or relative of the same sex and similar age who did not have children and who were not currently expecting their first child. Female participants were also asked to forward the web links to their male partners as greater female recruitment was anticipated.
As with the pilot study, participants were provided with a plain language statement which provided them with further information about what participation entailed, enabling them to make an informed decision regarding participation. Participants were also provided with phone numbers for telephone counselling and support services, and there was no incentive or compensation for participation offered.
6.1 Overview

This chapter is broadly divided into two sections which present the statistical analyses of the PSPS using data from the main study, followed by the testing of the proposed model of distress. An overview of these sections is provided here. Section 6.2 addresses the analyses of the PSPS, and descriptive statistics of this measure with main study participants are presented, followed by a confirmatory factor analysis and psychometric properties of the PSPS. Section 6.3 of this chapter focuses on the hypothesis testing with data from the main study, beginning with preliminary data analysis to determine the psychometric properties of the measures used. Next, descriptive statistics for all independent and dependent variables are presented, and comparison to normative samples is made. The final section involves an investigation of parenting self-efficacy and parenting self-concept sensitivity, followed by testing of the proposed model of childbearing distress and associated hypotheses presented at the conclusion of chapter three. All data were analysed using SPSS version 15.00 for Windows.

6.2 Statistical Analyses of the Parenting Self-Perception Scale

A confirmatory factor analysis was performed on the PSPS using the data from pregnant women and new mothers who participated in the main study. Table 6.1, below, shows the item means and standard deviations for pregnant women and new mothers from the main study samples.
Table 6.1

*Means and Standard Deviations for the Self-Efficacy for Parenting and Importance of Parenting Ratings in the Main Study for Pregnant Women and New Mothers Combined*

<table>
<thead>
<tr>
<th>Item</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Efficacy ratings</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Some parents feel competent in their role as a parent, BUT other parents are not sure if they are doing a good job.</td>
<td>3.00</td>
<td>0.86</td>
</tr>
<tr>
<td>2. Some parents think that they haven’t learnt how to care for their child quickly enough, BUT other parents think that they have caught on quickly to being a parent.</td>
<td>2.96</td>
<td>0.77</td>
</tr>
<tr>
<td>3. Some parents have difficulty interpreting their child’s cries, BUT other parents believe that if anyone can tell what is troubling their child, they are the one.</td>
<td>2.73</td>
<td>0.87</td>
</tr>
<tr>
<td>4. Some parents believe that they have all the skills needed to be a good parent, BUT other parents feel unprepared for being a parent</td>
<td>2.99</td>
<td>0.77</td>
</tr>
<tr>
<td><strong>Importance ratings</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Some parents feel that life would be empty without children, BUT other parents would not be bothered if they hadn’t had children</td>
<td>3.50</td>
<td>0.56</td>
</tr>
<tr>
<td>2. Some parents feel that there are many other things in life besides parenthood, BUT other parents feel that being a parent is a key part of who they are</td>
<td>2.95</td>
<td>0.93</td>
</tr>
</tbody>
</table>

N = 131

A PCA with Varimax rotation and two factors extracted was performed on the four efficacy items and the two importance ratings. This component matrix is presented in table 6.2 below.
Table 6.2
*Item Loadings from the Rotated Component Matrix of the Principal Components Analysis Using the Main Study Data for the PSPS*

<table>
<thead>
<tr>
<th>Item</th>
<th>Component 1</th>
<th>Component 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficacy 6</td>
<td>.85</td>
<td>-.03</td>
</tr>
<tr>
<td>Efficacy 8</td>
<td>.82</td>
<td>.09</td>
</tr>
<tr>
<td>Efficacy 4</td>
<td>.77</td>
<td>.15</td>
</tr>
<tr>
<td>Efficacy 7</td>
<td>.68</td>
<td>.13</td>
</tr>
<tr>
<td>Importance 4</td>
<td>.07</td>
<td>.88</td>
</tr>
<tr>
<td>Importance 3</td>
<td>.12</td>
<td>.88</td>
</tr>
</tbody>
</table>

N = 131

There were two factors with eigenvalues over 1 extracted and the scree plot showed a clear decrease after the second factor. The first factor explained 44% of the variance and the second explained 24% of the variance. Inspection of the component matrix showed that the four efficacy items loaded on the first component, and the two importance items loaded on the second component. There were no cross-loadings above .20.

Reliability analysis showed that the efficacy items had a Cronbach alpha coefficient of .79 and mean inter-item correlation of .49. The importance ratings achieved a Cronbach alpha of .67, however, the inter-item correlation was .56 which indicates good internal consistency.

### 6.3 Main study hypothesis testing

#### 6.3.1 Initial data screening and descriptives

The data were analysed using SPSS version 15.00 for Windows. A total of 316 participants started the questionnaire, across three groups: 161 who had no children, 69 who were expecting their first child, and 86 new parents. Of these, 66 completed only the demographics page. These cases were removed from the data set when it was found that there was no difference between those who had attempted more and those who had not (age: $F(1, 312) = 1.12, p>.05$; education: $F(1,312) = 0.34, p>.05$; relationship status:
\(F(1,312) = 0.92, p>.05\), resulting in 250 cases available for further analysis. Missing values analysis revealed that a total of 28 cases were missing 30% or more of their data for a given scale, and these cases were also excluded from subsequent analysis, as was one participant who had not indicated his or her gender. Inspection of the data set showed that the majority of these were due to not completing the questionnaire. Missing values analysis for the remaining 221 cases indicated that the data were missing completely at random (Little’s MCAR test, Chi Square \((13567) = 13491.02, p=.677\), and consequently missing values were replaced with the respective variable mean (item-mean substitution; Holmes-Smith, Coote, and Cunningham, 2004). Three multivariate outliers exceeded the critical value for Malahanobis distance and these cases were also excluded from the analysis.

Extreme univariate outliers were detected for both male and female participants for three of the scales: DASS depression, DASS anxiety, and the OCI-R. Due to the limited sample size of this study, extreme outliers were recoded to one point above the highest score for that variable which was not an extreme outlier (Tabachnick & Fidell, 2007). For DASS depression, two men and six women were recoded. For DASS anxiety, two males and one female were recoded, and for the OCI-R, one male and six women were recoded.

The final sample size used in the analysis was 218 men and women. Numbers of males and females are presented below in table 6.3 by group.

Table 6.3

<table>
<thead>
<tr>
<th>Group</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>No children</td>
<td>34</td>
<td>77</td>
</tr>
<tr>
<td>Expecting first child</td>
<td>6</td>
<td>43</td>
</tr>
<tr>
<td>New parent</td>
<td>6</td>
<td>52</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>174</td>
</tr>
</tbody>
</table>

Normality testing using Kolmogorov-Smirnov statistics showed violations of normality for males, on the EPDS \((p<.05)\), DASS Depression \((p<.001)\), DASS Anxiety \((p<.001)\), and OCI-R \((p<.05)\). For females, ECR Anxiety \((p<.001)\), ECR Avoidance \((p<.001)\), EPDS \((p<.001)\), DASS Depression \((p<.001)\), DASS Anxiety \((p<.001)\), OCI-R
Global Self Worth \( (p < .01) \), Parent Efficacy \( (p < .01) \), and Parenting Importance \( (p < .001) \) also violated normality. Inspection of histograms for each of these variables showed that each variable was positively skewed. Due to the nature of the variables used in the present study, it is not unexpected that these measures would demonstrate violations of normality in a non-clinical population such as that obtained for this study. That is, it can be expected in a community sample that measures of mental health will be positively skewed (Pallant, 2001). Due to these violations, it was necessary to consider whether to transform variables using mathematical equations. However, as noted by Tabachnick and Fidell (2007), transformation of theoretically important variables can lead to problems in interpretation and are therefore is only recommended for violations of normality that would degrade the statistical procedures. As these violations were not unexpected, the analysis thus proceeded without transformations.

### 6.3.1.1 Childbearing status group differences

To investigate differences between each of the three groups on each of the independent and dependent variables, a between groups Multivariate Analysis of Variance (MANOVA) was performed on the data. The independent variable was group and the data was split by gender. A total of eight independent variables were used: attachment anxiety, attachment avoidance, maladaptive perfectionism, global self-worth, depression (both EPDS and DASS depression scales), anxiety, and obsessive beliefs. Preliminary analysis screened for outliers, multivariate normality, linearity, homogeneity of variance, multicollinearity, singularity, and homogeneity of variance-covariance matrices, and showed that the assumptions of MANOVA were largely met. As discussed previously, there were several violations of normality, and for women the assumption of homogeneity of variance was violated. This assumption was not able to be tested for men due to the small sample sizes in two of the groups. Considering this, Pillai’s Trace statistic was used as it is more robust to violations of assumptions (Tabachnick & Fidell, 1996, p.401). Results are shown in tables 6.4a and 6.4b, below, for men and women, respectively.
Table 6.4a

Descriptive Statistics and Psychometric Data for each of the Independent and Dependent Variables for Men

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Number of items</th>
<th>Possible range</th>
<th>Actual range</th>
<th>Cronbach alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPDS</td>
<td>46</td>
<td>7.38</td>
<td>4.46</td>
<td>10</td>
<td>0-30</td>
<td>0-17.16</td>
<td>.84</td>
</tr>
<tr>
<td>DASS Depression</td>
<td>46</td>
<td>2.87</td>
<td>3.32</td>
<td>7</td>
<td>0-21</td>
<td>0-11</td>
<td>.91</td>
</tr>
<tr>
<td>DASS Anxiety</td>
<td>46</td>
<td>1.54</td>
<td>1.64</td>
<td>7</td>
<td>0-21</td>
<td>0-6.24</td>
<td>.84</td>
</tr>
<tr>
<td>OCI-R</td>
<td>46</td>
<td>9.13</td>
<td>8.43</td>
<td>18</td>
<td>0-72</td>
<td>0-34</td>
<td>.90</td>
</tr>
<tr>
<td>ECR-R Anxiety</td>
<td>46</td>
<td>2.66</td>
<td>1.67</td>
<td>18</td>
<td>1-7</td>
<td>1-5.11</td>
<td>.89</td>
</tr>
<tr>
<td>ECR-R Avoidance</td>
<td>46</td>
<td>2.47</td>
<td>0.94</td>
<td>18</td>
<td>1-7</td>
<td>1-4.44</td>
<td>.91</td>
</tr>
<tr>
<td>Mal. Perfectionism</td>
<td>46</td>
<td>49.18</td>
<td>15.21</td>
<td>22</td>
<td>22-100</td>
<td>28-85</td>
<td>.92</td>
</tr>
<tr>
<td>Global Self-worth</td>
<td>46</td>
<td>18.35</td>
<td>3.46</td>
<td>6</td>
<td>6-24</td>
<td>8-24</td>
<td>.83</td>
</tr>
</tbody>
</table>

Note: EPDS = Edinburgh Postnatal Depression Scale; DASS = Depression Anxiety and Stress Scales; OCI-R = Obsessive-Compulsive Inventory - Revised; ECR-R = Experiences in Close Relationships – Revised; Mal. Perfectionism = Frost Multidimensional Perfectionism Scale – 24 item; Global Self-worth = Global self-worth scale of The Adult Self-Perception Profile.
### Table 6.4b

*Descriptive Statistics and Psychometric Data for Each of the Independent and Dependent Variables for Women*

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Number of items</th>
<th>Possible range</th>
<th>Actual range</th>
<th>Cronbach alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPDS</td>
<td>172</td>
<td>8.44</td>
<td>4.86</td>
<td>10</td>
<td>0-30</td>
<td>0-23</td>
<td>.87</td>
</tr>
<tr>
<td>DASS Depression</td>
<td>172</td>
<td>3.00</td>
<td>3.52</td>
<td>7</td>
<td>0-21</td>
<td>0-14</td>
<td>.89</td>
</tr>
<tr>
<td>DASS Anxiety</td>
<td>172</td>
<td>2.52</td>
<td>3.40</td>
<td>7</td>
<td>0-21</td>
<td>0-15.32</td>
<td>.84</td>
</tr>
<tr>
<td>OCI-R</td>
<td>172</td>
<td>8.46</td>
<td>8.61</td>
<td>18</td>
<td>0-72</td>
<td>0-36</td>
<td>.90</td>
</tr>
<tr>
<td>ECR-R Anxiety</td>
<td>172</td>
<td>2.60</td>
<td>1.22</td>
<td>18</td>
<td>1-7</td>
<td>1-6.28</td>
<td>.93</td>
</tr>
<tr>
<td>ECR-R Avoidance</td>
<td>172</td>
<td>2.37</td>
<td>1.04</td>
<td>18</td>
<td>1-7</td>
<td>1-5.89</td>
<td>.91</td>
</tr>
<tr>
<td>Mal. Perfectionism</td>
<td>172</td>
<td>52.30</td>
<td>16.39</td>
<td>22</td>
<td>22-100</td>
<td>22-100</td>
<td>.93</td>
</tr>
<tr>
<td>Global Self-worth</td>
<td>172</td>
<td>15.59</td>
<td>3.58</td>
<td>6</td>
<td>6-24</td>
<td>9-24</td>
<td>.88</td>
</tr>
<tr>
<td>Parenting efficacy*</td>
<td>95</td>
<td>11.69</td>
<td>2.56</td>
<td>4</td>
<td>4-16</td>
<td>4-16</td>
<td>.79</td>
</tr>
<tr>
<td>PSCS*</td>
<td>95</td>
<td>0.62</td>
<td>1.64</td>
<td>1</td>
<td>-3-3</td>
<td>-2-2.5</td>
<td>#</td>
</tr>
</tbody>
</table>

Note: EPDS = Edinburgh Postnatal Depression Scale; DASS = Depression Anxiety and Stress Scales; OCI-R = Obsessive-Compulsive Inventory - Revised; ECR-R = Experiences in Close Relationships – Revised; Mal. Perfectionism = Frost Multidimensional Perfectionism Scale – 24 item; Global Self-worth = Global self-worth scale of The Adult Self-Perception Profile; PSCS = Parenting Self-Concept Sensitivity

*Only for new mothers and pregnant women

#Score comprised of one item only. Reliability not able to be calculated.

The analysis revealed that neither men nor women differed significantly between childbearing group on the combined dependent variables (men: $F(18, 72) = 1.00, p <.05$, Pilai’s Trace =0.40, partial eta squared = 0.20; women: $F(18, 328) = 1.23, p <.05$, Pilai’s Trace =0.13, partial eta squared = 0.06). The data for men was subsequently pooled for all further analysis thus accommodating the small sample sizes for two of the subgroups. It was decided however, that although women did not differ significantly on any of the variables, for theoretical reasons, subsequent analyses were conducted separately for each
of the three childbearing status groups. Therefore, whilst means are presented for the sample split only by gender, correlations and subsequent analyses are conducted according to theoretical grounds.

6.3.1.2 Prevalence of psychological distress in the current study

To investigate the prevalence of distress in the present study means and standard deviations for the three measures of distress were compared to normative data (see table 6.5 below).

Table 6.5
Comparison of Normative Data for Depression, Anxiety, and Obsessive Compulsive Symptoms by Gender

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Present Study</td>
<td>Normative Data</td>
</tr>
<tr>
<td></td>
<td>N = 46</td>
<td>N = 172</td>
</tr>
<tr>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>DASS Depression</td>
<td>3.28</td>
<td>4.29</td>
</tr>
<tr>
<td>DASS Anxiety</td>
<td>2.19</td>
<td>3.24</td>
</tr>
<tr>
<td>OCI-R</td>
<td>9.13</td>
<td>8.43</td>
</tr>
</tbody>
</table>

Note: DASS = Depression Anxiety and Stress Scales; OCI-R = Obsessive-Compulsive Inventory – Revised.

* Normative data for the OCI-R is available only for men and women combined.

It seems that men and women who participated in this study experienced on average lower levels of depression, less anxiety, and less obsessive compulsive symptoms than did the control groups used in the respective validation and normative studies of the measures.

For all measures of distress cut-off scores were available to differentiate between normative levels and caseness. A total of 93.5% of men showed normal levels of both anxiety and depression, and the remaining 6.5% all experienced at least mild levels of depression. All men scored within the normal range for anxiety. In contrast, 86% of women
showed no distress, 3.5% showed at least mild levels of depression only, 5.8% at least mild levels of anxiety only, and 4.7% at least mild levels of depression and anxiety. In terms of caseness for obsessive-compulsive symptoms, participants with scores over 21 were classified as experiencing significant obsessive-compulsive symptoms (Foa et al., 2002). Using this classification, four men (8.7%), and 16 women (9.3%) scored above the cut-off for differentiating between OCD patients and non anxious controls.

For women, prevalence of depression and anxiety caseness was further broken down according to childbearing group (see figure 6.1, below).
Figure 6.1. Depression, Anxiety, and Obsessive Compulsive Caseness by Group
As can be seen above, the majority of participants in all groups experienced no significant levels of distress. Due to the low numbers of participants in each group who did experience distress, it is difficult to identify any patterns of distress, although it is noteworthy that men did not experience significant levels of anxiety. There does seem to be some indication that pregnant women and new mothers experiencing distress may tend to experience obsessive compulsive symptoms.

6.3.1.3 Relationships between the variables

To investigate the relationships between variables used in the current study, correlations were performed between all independent and dependent variables for each of the four study groups. These are presented in Table 6.7a for men, and women without children, and in Table 6.7b for pregnant women and new mothers.
Table 6.6a

Correlations between all Independent and Dependent Variables for Male Participants (Above the Diagonal), and Female Participants Without Children (Below the Diagonal)

<table>
<thead>
<tr>
<th></th>
<th>Depression</th>
<th>Anxiety</th>
<th>OCI-R</th>
<th>ECR-R Anxiety</th>
<th>ECR-R Avoidance</th>
<th>Mal. Perfectionism</th>
<th>Global Self-worth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>.70***</td>
<td>.24***</td>
<td>.53***</td>
<td>.21</td>
<td>.30*</td>
<td>-.38**</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>.68***</td>
<td></td>
<td>.39***</td>
<td>.60***</td>
<td>.12</td>
<td>.13</td>
<td>-.11</td>
</tr>
<tr>
<td>OCI-R</td>
<td>.25*</td>
<td>.39***</td>
<td></td>
<td>.25*</td>
<td>.20</td>
<td>.24*</td>
<td>-.18</td>
</tr>
<tr>
<td>ECR-R Anxiety</td>
<td>.45***</td>
<td>.43***</td>
<td>.25*</td>
<td></td>
<td>.59***</td>
<td>.30*</td>
<td>-.37*</td>
</tr>
<tr>
<td>ECR-R Avoidance</td>
<td>.30**</td>
<td>.26*</td>
<td>.20</td>
<td>.68***</td>
<td>.24</td>
<td></td>
<td>-.51***</td>
</tr>
<tr>
<td>Mal. Perfectionism</td>
<td>.33**</td>
<td>.35**</td>
<td>.24*</td>
<td>.53***</td>
<td>.36**</td>
<td></td>
<td>-.57***</td>
</tr>
<tr>
<td>Global Self-Worth</td>
<td>-.53***</td>
<td>-.38**</td>
<td>-.18</td>
<td>-.62***</td>
<td>-.41***</td>
<td>-.54***</td>
<td></td>
</tr>
</tbody>
</table>

Note: n= 46 males, 77 females without children. * p<.05, ** p<.01, *** p<.001

OCI-R = obsessive compulsive symptoms; ECR-R Anxiety = attachment anxiety; ECR-R Avoidance = attachment avoidance; Mal. Perfectionism = maladaptive perfectionism
Table 6.6b

Correlations between all Independent and Dependent Variables for Pregnant Women (Above the Diagonal), and New Mothers (Below the Diagonal).

<table>
<thead>
<tr>
<th></th>
<th>Depression</th>
<th>Anxiety</th>
<th>OCI-R</th>
<th>ECR-R Anx.</th>
<th>ECR-R Avoid.</th>
<th>Mal. Perfect.</th>
<th>GSW</th>
<th>Self-efficacy</th>
<th>PSCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>.75***</td>
<td>.11</td>
<td>.28</td>
<td>-.04</td>
<td>.03</td>
<td>-.20</td>
<td>-.28</td>
<td>.31*</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>.58***</td>
<td></td>
<td></td>
<td>.19</td>
<td>.04</td>
<td>.40**</td>
<td>-.49**</td>
<td>-.18</td>
<td>.22</td>
</tr>
<tr>
<td>OCI-R</td>
<td>.67***</td>
<td>.66***</td>
<td></td>
<td>.24</td>
<td>.16</td>
<td>-.05</td>
<td>&lt;.01</td>
<td>-.14</td>
<td>-.11</td>
</tr>
<tr>
<td>ECR-R Anx.</td>
<td>.56***</td>
<td>.48***</td>
<td>.56***</td>
<td></td>
<td>.69***</td>
<td>.27</td>
<td>-.64***</td>
<td>-.47**</td>
<td>.35*</td>
</tr>
<tr>
<td>ECR-R Avoid.</td>
<td>.46**</td>
<td>.35*</td>
<td>.44**</td>
<td>.79***</td>
<td></td>
<td>.04</td>
<td>-.39*</td>
<td>-.31*</td>
<td>.18</td>
</tr>
<tr>
<td>Mal. Perfect.</td>
<td>.41**</td>
<td>.40**</td>
<td>.39**</td>
<td>.56***</td>
<td>.39**</td>
<td></td>
<td>-.44**</td>
<td>-.22</td>
<td>.30</td>
</tr>
<tr>
<td>GSW</td>
<td>-.52***</td>
<td>-.18</td>
<td>-.27</td>
<td>-.53***</td>
<td>-.41**</td>
<td>-.47***</td>
<td>.61***</td>
<td>-.36*</td>
<td></td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>-.46**</td>
<td>-.20</td>
<td>-.28*</td>
<td>-.32***</td>
<td>-.20</td>
<td>-.20</td>
<td>.52***</td>
<td>-.56***</td>
<td></td>
</tr>
<tr>
<td>PSCS</td>
<td>.37**</td>
<td>.11</td>
<td>.27</td>
<td>.30*</td>
<td>.18</td>
<td>.10</td>
<td>-.44**</td>
<td>-.63***</td>
<td></td>
</tr>
</tbody>
</table>

Note: n = 43 pregnant women, 52 new mothers. * p<.05, ** p<.01, *** p<.001

OCI-R = obsessive compulsive symptoms; ECR-R Anx. = attachment anxiety; ECR-R Avoid. = attachment avoidance; Mal. Perfect. = maladaptive perfectionism; GSW = global self-worth; Self-efficacy = parenting self-efficacy; PSCS = parenting self-concept sensitivity.
There were several significant correlations of interest for the male participants; higher anxious attachment was associated with higher scores for all three measures of distress, in addition to higher maladaptive perfectionism, and lower global self-worth. There were no significant relationships between avoidant attachment and any of the measures of distress, however, greater avoidant attachment was associated with lower global self-worth. Higher levels of maladaptive perfectionism were related to more depression and obsessive compulsive symptoms, but were not significantly associated with anxiety symptoms. Lower global self-worth was associated with higher levels of depression, but not with any other measure of distress.

For women, correlations between variables appeared to differ between groups. For women without children, greater anxious attachment was associated with higher levels of all three measures of distress, greater maladaptive perfectionism, and lower global self-worth. Avoidant attachment showed significant positive correlations with depression, anxiety, and maladaptive perfectionism, as well as a significant inverse association with global self-worth. Higher levels of maladaptive perfectionism were also significantly associated with higher levels of all three measures of distress, and low global self-worth was associated with greater depression and anxiety symptoms.

The correlations for pregnant women showed that there was no relationship between either anxious nor avoidant attachment with any of the three measures of distress, although higher anxious attachment was associated with lower global self-worth, lower parenting self-efficacy, and a more sensitive parenting self-concept. Greater avoidant attachment was also associated with lower global self-worth and lower parenting self-efficacy. Maladaptive perfectionism showed a positive relationship with obsessive compulsive symptoms, and global self-worth a negative association with obsessive compulsive symptoms. Parenting self-concept sensitivity was positively associated with depression levels.

For new mothers, both higher levels of anxious attachment and great avoidant attachment were associated with higher levels of distress on all three measures, greater maladaptive perfectionism, and lower global self-worth. Higher anxious attachment was also associated with lower parenting self-efficacy and greater parenting self-concept sensitivity. Greater maladaptive perfectionism was associated with all three measures of
distress, and lower global self-worth was associated with higher levels of depression. Parenting self-efficacy showed an inverse relationship with both depression and obsessive compulsive symptoms and parenting self-concept sensitivity was positively associated with depression.

These differences in the patterns of correlations between groups in women add further support to the decision that despite no differences in means between any of the independent or dependent variables, hypotheses testing should be conducted independently for each of the groups. Furthermore, the patterns of correlations support the testing of the proposed model to varying degrees with each of the four groups of participants. These implications are discussed in greater detail below.

6.3.2 Testing the proposed model of distress

To test the proposed model of distress and associated hypotheses, a series of multiple regressions were conducted for each of the four groups: men, women without children, pregnant women, and new mothers. A number of relationships have already been established through the correlations reported in the previous section, however, further analyses was required to test both the mediation and moderation aspects of the model.

According to Baron and Kenny (1986), to establish a mediation effect, a significant direct relationship between the independent and dependent variables must be first established (i.e. through the use of multiple regression). Without such a relationship there is no need to test for mediation. Secondly, the independent variables must be shown to be associated with the mediator. Therefore, two multiple regressions were conducted to establish whether attachment security dimensions were associated with each of the hypothesised mediators (global self-worth and maladaptive perfectionism). Thirdly, when the dependent variable is regressed on both the independent variable and the mediator, the direct effect initially found must be reduced, and the mediator must be a significant predictor, thus it is necessary to establish the initial relationship between the independent variable and the dependent variable using the same procedure that will be used to test the mediation, in this case, multiple regression. The final step to establish mediation also included the interaction term used to test the moderation hypothesis.
To test the moderation hypotheses, three hierarchical multiple regressions were performed: one for each of the measures of distress with data split by group. The variables of attachment anxiety, attachment avoidance, global self-worth, and maladaptive perfectionism were entered into the first stage of the regression. According to Baron and Kenny (1986), to establish moderation, one needs to show that the combined interaction term of the moderator and the predictor explain a significant proportion of the variance in the dependent variable once the individual main effects are controlled. Thus, an interaction variable was entered into the second stage to test the moderation hypothesis. This was computed by first creating group centroid variables for global self-worth and maladaptive perfectionism. The creation of these variables involved subtracting the mean from each individuals’ score (Cohen & Cohen, 1983). The two interaction variables were then obtained by multiplying the centroid variables for global self-worth and maladaptive perfectionism together (Cohen & Cohen, 1983).

These statistical procedures are divided into three steps, reported in the following sections.

6.3.2.1 Step 1 in testing the mediation hypothesis: Attachment and measures of distress

Depression. A multiple regression was conducted to determine whether there was a direct effect of attachment security dimensions (attachment anxiety and attachment avoidance) on depression scores, as measured by the DASS. Following results of the correlation analyses, for men, the multiple regression was performed only for anxious attachment, and was not performed for pregnant women for either of the attachment security dimensions. Results of this regression are presented by group in Table 6.7, below.
Table 6.7
Results of the Multiple Regression for Men, Women Without Children, and New Mothers, for Attachment Anxiety and Attachment Avoidance with DASS Depression as the Dependent Variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>Men</th>
<th></th>
<th>Women</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>B</td>
<td>SE B</td>
<td>B</td>
<td>SE B</td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>1.94</td>
<td>0.47</td>
<td>0.53***</td>
<td>1.54</td>
<td>0.48</td>
<td>0.46**</td>
</tr>
<tr>
<td>Attachment Avoidance</td>
<td>-0.04</td>
<td>0.55</td>
<td>-0.01</td>
<td>.01</td>
<td>0.57</td>
<td>0.04</td>
</tr>
</tbody>
</table>

R² = .28***  R² = .20***  R² = .31***

n = 46 men; 77 women without children; 52 new mothers.
Note: * p<.05, ** p<.01, *** p<.001

The regression analysis revealed that for all of the included groups, attachment security dimensions explained a significant proportion of the variance in depression scores: men, F(1,44) = 16.92, p<.001; women without children, F(2,74) = 10.33, p<.001; new mothers, F(2,49) = 14.30, p<.001. Examination of the regression coefficients for women without children and new mothers showed that the only significant predictor was attachment anxiety 12% (sr = .34), and 10% (sr = .32), of the variance in depression scores, respectively. Thus, for men, women without children, and new mothers, individuals with higher levels of attachment anxiety also had higher levels of depression, thus establishing a direct effect.

Anxiety. Following the same procedures described above for depression, a multiple regression was conducted to determine whether there was a direct effect of attachment security dimensions (attachment anxiety and attachment avoidance) on anxiety scores, as assessed by the DASS. Again, considering the findings from the correlation analyses, the regression was not conducted for avoidant attachment for men, or with either dimension for
pregnant women. Results of this regression are presented for each of the four groups in Table 6.8, below.

Table 6.8
Results of the Multiple Regression for Men, Women Without Children, and New Mothers, for Attachment Anxiety and Attachment Avoidance with DASS Anxiety as the Dependent Variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>Men</th>
<th>Women</th>
<th>No Children</th>
<th>New Mothers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>B</td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>1.67</td>
<td>0.34</td>
<td>0.60***</td>
<td>1.46</td>
</tr>
<tr>
<td>Attachment Avoidance</td>
<td>-0.21</td>
<td>0.51</td>
<td>-0.06</td>
<td>-0.20</td>
</tr>
<tr>
<td>R²</td>
<td>.36***</td>
<td></td>
<td>.19***</td>
<td></td>
</tr>
</tbody>
</table>

n = 46 men; 77 women without children; 52 new mothers.

Note: * p<.05, ** p<.01, *** p<.001

Results of the multiple regression showed that attachment security dimensions significantly predicted anxiety scores for men (F(1,44) = 24.73, p<.001), women without children (F(2,74) = 8.55, p<.001), and new mothers (F(2,49) = 7.33, p<.01). Inspection of the regression coefficients for both women without children and new mothers showed that only attachment anxiety significantly predicted anxiety, uniquely explaining 12% of the variance for women without children (sr = .35), and 11% of the variance for new mothers (sr = .33). therefore, men, women without children and new mothers who have greater attachment anxiety tended to also experience more anxiety symptoms. Thus, a direct effect between attachment anxiety and anxiety was established for men, women without children, and new mothers.

Obsessive compulsive symptoms. Consistent with procedures used to test the first model with the other measures of distress, a multiple regression was conducted to
determine whether there was a direct effect of attachment security dimensions (attachment anxiety and attachment avoidance) on obsessive compulsive symptoms, measured using the OCI-R. Drawing from the pattern of correlations, the multiple regression was not conducted for pregnant women due to no significant relationship between either attachment security dimension and obsessive compulsive symptoms. Again, for men, the analysis was conducted with only anxious attachment, as avoidant attachment showed no relationship with obsessive compulsive symptoms, and this was also the case women without children. This analysis is presented in table 6.9, below.

Table 6.9
Results of the Multiple Regression for Men, Women Without Children, and New Mothers, for Attachment Anxiety and Attachment Avoidance with Obsessive Compulsive Symptoms as the Dependent Variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>Men</th>
<th>Women No Children</th>
<th>Women New Mothers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment Anxiety</td>
<td>3.67</td>
<td>0.94</td>
<td>0.51***</td>
</tr>
<tr>
<td>Attachment Avoidance</td>
<td>-0.14</td>
<td>1.58</td>
<td>0.02</td>
</tr>
</tbody>
</table>

R² = .26***
R² = .06*
R² = .32***

n = 46 men; 77 women without children; 52 new mothers.
Note: * p<.05, ** p<.01, *** p<.001

The multiple regression indicated that attachment security dimensions accounted for a significant amount of variance in obsessive compulsive symptoms for men \(F(1,44) = 15.29, p<.001\); women without children \(F(1,75) = 5.11, p<.05\), and new mothers: \(F(2,49) = 11.33, p<.001\). Inspection of the regression coefficients for new mothers showed that attachment anxiety was the only significant predictor of obsessive compulsive symptoms, uniquely explaining 13% of the variance \(s^2 = .36\). Therefore, a direct effect was established for men and new mothers, which fulfilled the first criteria for mediation.
6.3.2.2 Step 2 in testing the mediation hypothesis: Attachment and proposed mediators

To establish a relationship between the independent variables of attachment anxiety for men, women without children, and new mothers, and the proposed mediating variables of maladaptive perfectionism, and global self-worth, two multiple regressions were performed, with each of these hypothesized mediating variables as the dependent variables. Results of these analyses are presented in tables 6.10 and 6.11 below. For new mothers, a third multiple regression was conducted with the proposed mediator of parenting self-concept sensitivity as the dependent variable, and is presented in table 6.12 below.

Table 6.10
Results of the Multiple Regression for Men, Women Without Children, and New Mothers, for Attachment Anxiety with Global Self-Worth as the Dependent Variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>Men</th>
<th>Women No Children</th>
<th>Women New Mothers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>B</td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>-1.09</td>
<td>0.42</td>
<td>-0.37*</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.14*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

n = 46 men; 77 women without children; 52 new mothers.
Note: * p<.05, ** p<.01, *** p<.001

Results of the multiple regression for global self-worth showed that attachment anxiety significantly predicted global self-worth for men ($F(1,44) = 6.87, p<.01$), women without children ($F(1,75) = 45.64, p<.001$), and new mothers ($F(1,51) = 19.12, p<.001$). For these three groups, individuals with greater attachment anxiety also tend to experience lower global self-worth.
Table 6.11

Results of the Multiple Regression for Men, Women Without Children, and New Mothers, for Attachment Anxiety with Maladaptive Perfectionism as the Dependent Variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>Men</th>
<th>Women No Children</th>
<th>Women New Mothers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>B</td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>3.94</td>
<td>1.87</td>
<td>0.30*</td>
</tr>
<tr>
<td>R² = .09*</td>
<td></td>
<td></td>
<td>R² = .27***</td>
</tr>
<tr>
<td>n = 46 men; 77 women without children; 52 new mothers.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: * p<.05, ** p<.01, *** p<.001

Results of the multiple regression for maladaptive perfectionism indicated that attachment anxiety significantly predicted maladaptive perfectionism for men (F(1,44) = 4.42, p<.05), women without children (F(1,75) = 28.76, p<.001), and new mothers (F(1,50) = 23.12, p<.001). For men, women without children, and new mothers, individuals with higher levels of attachment anxiety tended to also have greater levels of maladaptive perfectionism.

As part of the proposed model of distress for pregnant women and new mothers it was hypothesized that parenting self-efficacy and parenting self-concept sensitivity would act as mediators of attachment. For pregnant women, however, as there was no direct relationship between either attachment security dimension and any measures of distress revealed through the correlations, this regression analysis was not performed. For new mothers, there was no association found between avoidant attachment and any measures of distress through the regression analyses presented above, thus, for parenting variables, a regression analyses was conducted for the effect of anxious attachment on parenting self-efficacy and parenting self-concept sensitivity, presented in Table 6.12 below.
Table 6.12

Results of the Multiple Regressions for New Mothers for Attachment Anxiety with Parenting Self-Efficacy and Parenting Self-Concept Sensitivity as the Dependent Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Parenting Self-efficacy</th>
<th>Parenting self-concept sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment Anxiety</td>
<td>-0.68</td>
<td>-0.32*</td>
</tr>
<tr>
<td>B</td>
<td>0.29</td>
<td>0.22</td>
</tr>
<tr>
<td>SE</td>
<td></td>
<td>0.10</td>
</tr>
<tr>
<td>ß</td>
<td></td>
<td>0.30*</td>
</tr>
<tr>
<td>R²</td>
<td>= .10*</td>
<td>= .09*</td>
</tr>
</tbody>
</table>

n = 52 new mothers.

Note: * p<.05, ** p<.01, *** p<.001

The results of the regression analyses with parenting self-efficacy as the dependent variable for new mothers indicated that anxious attachment significantly predicted parenting self-efficacy, $F(1,50) = 5.59$, $p<.05$. For parenting self-concept sensitivity the regression also showed that parenting self-concept sensitivity was significantly predicted by anxious attachment, $F(1,50) = 5.10$, $p<.05$. New mothers with greater attachment anxiety also tended to have lower parenting self-efficacy, and a more sensitive parenting self-concept.

**6.3.2.3 Summary of steps 1 and 2 in testing the mediation hypothesis**

The results of the regression analyses thus far for men, women without children, and new mothers indicated that attachment anxiety significantly predicted DASS depression, DASS anxiety, and obsessive compulsive symptoms assessed with the OCI-R. Participants from these groups with high levels of attachment anxiety tended to report more depression, anxiety, and obsessive compulsive symptoms. Higher anxious attachment also significantly predicted greater maladaptive perfectionism and lower global self-worth for these three groups. Thus, the steps one and two of testing the mediation hypotheses were fulfilled for men, women without children, and new mothers.
For new mothers, anxious attachment also significantly predicted both parenting self-efficacy and parenting self-concept sensitivity: new mothers with greater attachment anxiety tended to report lower parenting self-efficacy and greater parenting self-concept sensitivity.

The possible role of avoidant attachment was investigated in several of the regressions, however, there were no significant findings relating to predictions of distress, and its association with the potential mediators was therefore not tested.

No regression analyses were performed for pregnant women to test the mediation hypothesis as earlier regression analysis failed to reveal significant relationships between attachment security dimensions and any of the measures of distress.

The following section reports on the final step of the mediation hypothesis and the test of the moderation hypothesis.

6.3.2.4 Step 3 in testing the mediation hypothesis, and test of the moderation effect

Depression. To establish the final step in the test of the mediation hypothesis and to test the moderation hypothesis, a hierarchical multiple regression was conducted on the data separated by group. The dependent variable was depression as measured by the DASS, and the independent variables entered into the first stage of the regression were attachment anxiety, global self-worth, and maladaptive perfectionism. The interaction term was entered in stage two of the regression. Results of the regression are presented in Table 6.13a for men, and women without children, and in Table 6.13b for pregnant women and new mothers.
Table 6.13a

Results of the Hierarchical Multiple Regression for Attachment, Global Self-Worth, Maladaptive Perfectionism, and the Interaction Term, with DASS Depression as the Dependent Variable for Men, and Women Without Children

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
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<th>B</th>
<th>B</th>
<th>SE</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Women without children</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>1.62</td>
<td>0.51</td>
<td>0.44**</td>
<td>0.68</td>
<td>0.44</td>
<td>0.20</td>
</tr>
<tr>
<td>Global Self-worth</td>
<td>-0.23</td>
<td>0.20</td>
<td>-0.19</td>
<td>-0.46</td>
<td>0.15</td>
<td>-0.40**</td>
</tr>
<tr>
<td>Maladaptive Perfectionism</td>
<td>0.02</td>
<td>0.04</td>
<td>0.06</td>
<td>0.00</td>
<td>0.03</td>
<td>0.01</td>
</tr>
<tr>
<td>Stage 2</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>1.74</td>
<td>0.50</td>
<td>0.47**</td>
<td>0.63</td>
<td>0.42</td>
<td>0.19</td>
</tr>
<tr>
<td>Global Self-worth</td>
<td>-0.30</td>
<td>0.20</td>
<td>-0.24</td>
<td>-0.42</td>
<td>0.14</td>
<td>-0.37**</td>
</tr>
<tr>
<td>Maladaptive Perfectionism</td>
<td>0.01</td>
<td>0.04</td>
<td>0.02</td>
<td>0.00</td>
<td>0.03</td>
<td>0.00</td>
</tr>
<tr>
<td>Self-worth X Mal. Perfectionism</td>
<td>-0.02</td>
<td>0.01</td>
<td>-0.24</td>
<td>-0.02</td>
<td>0.01</td>
<td>-0.25*</td>
</tr>
</tbody>
</table>

Stage 1 $R^2 = .32^{**}$
Stage 2 $R^2 = .31^{***}$
Stage 2 $R^2$ change = .05
Stage 2 $R^2$ change = .06*

$n = 46$ men; 77 women without children

Note: * $p < .05$, ** $p < .01$, *** $p < .001$
Table 6.13b

Results of the Hierarchical Multiple Regression for Attachment, Global Self-Worth, Maladaptive Perfectionism, Parenting Self-Concept Sensitivity, and the Interaction Term, with DASS Depression as the Dependent Variable for Pregnant Women and New Mothers

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pregnant Women</th>
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<th>New Mothers</th>
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</thead>
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<td></td>
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<td>SE</td>
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<td><strong>Stage 1</strong></td>
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</tr>
<tr>
<td>Attachment Anxiety</td>
<td>0.86</td>
<td>0.38</td>
<td>0.33*</td>
<td>0.87</td>
<td>0.39</td>
</tr>
<tr>
<td>Global Self-worth</td>
<td>-0.22</td>
<td>0.26</td>
<td>-0.15</td>
<td>-0.20</td>
<td>0.13</td>
</tr>
<tr>
<td>Maladaptive Perfectionism</td>
<td>-0.03</td>
<td>0.04</td>
<td>-0.13</td>
<td>0.02</td>
<td>0.03</td>
</tr>
<tr>
<td>Parenting Self-concept Sensitivity</td>
<td>1.95</td>
<td>1.09</td>
<td>0.29</td>
<td>0.53</td>
<td>0.45</td>
</tr>
<tr>
<td><strong>Stage 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>0.87</td>
<td>0.39</td>
<td>0.33*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global Self-worth</td>
<td>-0.22</td>
<td>0.26</td>
<td>-0.15</td>
<td>-0.20</td>
<td>0.13</td>
</tr>
<tr>
<td>Maladaptive Perfectionism</td>
<td>-0.03</td>
<td>0.05</td>
<td>-0.13</td>
<td>0.02</td>
<td>0.03</td>
</tr>
<tr>
<td>Parenting Self-concept Sensitivity</td>
<td>1.95</td>
<td>1.11</td>
<td>0.29</td>
<td>0.59</td>
<td>0.47</td>
</tr>
<tr>
<td>Self-worth X Mal. Perfectionism</td>
<td>0.00</td>
<td>0.01</td>
<td>0.01</td>
<td>0.00</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Stage 1 $R^2 = .12$  
Stage 2 $R^2$ change = .00

Stage 1 $R^2 = .41^{***}$  
Stage 2 $R^2$ change = .00

$n = 43$ pregnant women; 52 new mothers.

Note: * $p<.05$, ** $p<.01$, *** $p<.001$

Men. The results of the hierarchical regression for men revealed that the combined independent variables entered at stage one accounted for 32% of the variance in depression scores, as measured by the DASS, $F(3,42) = 6.63$, $p<.01$. An examination of the regression coefficients showed that anxious attachment was the only significant predictor, uniquely explaining 17% of the variance in depression levels ($r = .41$). Therefore, the direct effect of anxious attachment on depression was not mediated by either global self-worth or maladaptive perfectionism. The addition of the interaction term entered in stage two did not significantly explain an additional portion of the variance depression scores, $F (1, 41) =$.
3.47, $p > .05$.

*Women without children.* For women without children, the hierarchical multiple regression indicated that the combined independent variables entered at stage one accounted for 31% of the variance in depression scores, $F(3, 73) = 10.66$, $p < .001$. Inspection of the regression coefficients showed that the only significant predictor was global self-worth. Thus, as attachment anxiety was no longer significant, and the association between attachment anxiety and global self-worth was previously established, it can be said that the effect of attachment anxiety was fully mediated by the inclusion of global self-worth. Maladaptive Perfectionism was a not a significant predictor, and therefore is not indicated as a mediator. The addition of the interaction term in stage two accounted for an additional 6% of the variance in depression scores, $F(1, 72) = 6.92$, $p < .05$. Global self-worth remained a significant inverse predictor of depression, which uniquely accounted for 6% ($sr = -.28$) of the variance in depression. The interaction between global self-worth and maladaptive perfectionism was also a significant predictor, uniquely accounting for 6% of the variance ($sr = -.25$). To determine the nature of the interaction between maladaptive perfectionism and global self-worth on depression, this interaction was plotted (see figure 6.1, below) according to the procedures detailed in Aiken and West (1991).
Figure 6.2. Moderating effect of global self-worth on the influence of perfectionism on depression for women without children.
Figure 6.2 shows levels of depression for women without children who were low, average, or high in global self-worth (the moderator) at low, average, and high levels of maladaptive perfectionism. At low levels of perfectionism, levels of depression are very similar regardless of level of self-worth. For individuals with low global self-worth, as expected, levels of depression increase as the level of maladaptive perfectionism increases. Thus, an individual low in global self-worth who has low levels of perfectionism, will experience levels of depression similar to those with average or high global self-worth. Levels of depression for individuals with average global self-worth remain relatively constant regardless of their level of maladaptive perfectionism. However, for individuals with high self-worth, also having high levels of maladaptive perfectionism seems to lower the level of depression experienced. Average global self-worth buffers the effects of maladaptive perfectionism on depression, and high levels of global self-worth actually make maladaptive perfectionism have a beneficial effect on depression levels.

**Pregnant Women.** The hierarchical multiple regression showed that the combined independent variables entered at stage one accounted for 12% of the variation in depression scores, however, this was not significant, $F(3,39) = 1.71, p>.05$. The addition of the interaction term at stage two did not account for any additional variance in depression scores, $F(1,38) = 0.00, p>.05$.

**New mothers.** For new mothers, the hierarchical multiple regression indicated that the combined independent variables entered at stage one accounted for 41% of the variance in depression scores, $F(4,47) = 8.05, p<.001$. Regression coefficients showed that only attachment anxiety was a significant predictor of depression. Attachment anxiety uniquely explained 6% of the variance in depression ($sr = .25$). The addition of the interaction between maladaptive perfectionism and global self-worth at stage two did not account for any additional variance in depression scores, $F(1,46) = 0.25, p>.05$.

**Summary of model one with depression as the measure of distress.** For men, greater attachment anxiety was associated with greater levels of depression. For women without children global self-worth fully mediated the effect of attachment anxiety on depression, and global self-worth significantly moderated the effect of maladaptive perfectionism on depression: for women without children, the effect of greater attachment anxiety leading to more depressive symptoms was fully explained by greater attachment anxiety leading to
lower global self-worth, which in turn leads to more depression. Having higher levels of global self-worth was also able to buffer against the effects of maladaptive perfectionism on depression. Thus, the model was partially supported for women without children with depression as the measure of distress. For pregnant women, there were no significant predictors of depression. For new mothers, greater anxious attachment was associated with higher depression symptoms.

**Anxiety.** A hierarchical multiple regression was conducted to test the third criterion for mediation and to test the moderation hypothesis for anxiety. Independent variables of attachment anxiety, maladaptive perfectionism, and global self worth were entered in stage one for all groups except pregnant women, for whom attachment anxiety was excluded due to no direct effect with anxiety having been established. Stage two of the regression added the interaction between global self-worth and maladaptive perfectionism. Results of the regression analysis by group are presented in table 6.14a for men, and women without children, and in table 6.14b for pregnant women and new mothers.
Table 6.14a

Results of the Hierarchical Multiple Regression for Attachment, Global Self-Worth, Maladaptive Perfectionism, and the Interaction Term, with DASS Anxiety as the Dependent Variable for Men, and Women Without Children

<table>
<thead>
<tr>
<th>Variable</th>
<th>Men</th>
<th>Women Without Children</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
</tr>
<tr>
<td>Stage 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>1.79</td>
<td>0.37</td>
</tr>
<tr>
<td>Global Self-worth</td>
<td>0.12</td>
<td>0.14</td>
</tr>
<tr>
<td>Maladaptive Perfectionism</td>
<td>0.00</td>
<td>0.03</td>
</tr>
<tr>
<td>Stage 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>1.81</td>
<td>0.37</td>
</tr>
<tr>
<td>Global Self-worth</td>
<td>0.11</td>
<td>0.15</td>
</tr>
<tr>
<td>Maladaptive Perfectionism</td>
<td>0.00</td>
<td>0.03</td>
</tr>
<tr>
<td>Self-worth X Mal. Perfectionism</td>
<td>0.00</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Stage 1 R² = .37***  Stage 1 R² = .22***
Stage 2 R² change = .00  Stage 2 R² change = .03

n = 46 men; 77 women without children. Note: * p<.05, ** p<.01, *** p<.001
Table 6.14b

Results of the Hierarchical Multiple Regression for Attachment, Global Self-Worth, Maladaptive Perfectionism, Parenting Self-Concept Sensitivity and the Interaction Term, with DASS Anxiety as the Dependent Variable for Pregnant Women and New Mothers

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pregnant Women</th>
<th>New Mothers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
</tr>
<tr>
<td>Stage 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>1.18</td>
<td>0.44</td>
</tr>
<tr>
<td>Global Self-worth</td>
<td>-0.19</td>
<td>0.19</td>
</tr>
<tr>
<td>Maladaptive Perfectionism</td>
<td>-0.02</td>
<td>0.03</td>
</tr>
<tr>
<td>Stage 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>1.17</td>
<td>0.45</td>
</tr>
<tr>
<td>Global Self-worth</td>
<td>-0.18</td>
<td>0.20</td>
</tr>
<tr>
<td>Maladaptive Perfectionism</td>
<td>-0.02</td>
<td>0.04</td>
</tr>
<tr>
<td>Self-worth X Mal. Perfectionism</td>
<td>0.00</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Stage 1 R² = .02  Stage 2 R² change = .00

Stage 1 R² = .27**  Stage 2 R² change = .00

n = 43 pregnant women; 52 new mothers.

Note: * p<.05, ** p<.01, *** p<.001

Men. The results of the hierarchical regression showed that for men, the combined stage one independent variables accounted for 37% of the variance in anxiety scores, as measured by the DASS, $F(3,42) = 8.33, p<.001$. An examination of the regression coefficients showed that only attachment anxiety was a significant predictor of anxiety, with attachment anxiety the stronger of the two, uniquely accounting for 36% of the variance in DASS anxiety scores ($\beta = .60$). The addition of the interaction term entered in the second stage did not significantly explain any additional variance in anxiety scores, $F(1, 41) = 0.11, p>.05$. Men with greater anxious attachment tended to experience more anxiety.

Women without children. For women without children, the hierarchical multiple regression indicated that a total of 22% of the variance in anxiety scores was explained by
the combined independent variables entered at stage one, $F(3, 73) = 6.70$, $p<.001$. Regression coefficients showed that the only significant predictor was anxious attachment, which uniquely explained 4% of the variance in DASS anxiety scores ($sr = .21$). Thus, although the beta value decreased this is likely to have been a result of the inclusion of the additional variables, and the lack of a significant association between either of the proposed mediators and anxiety indicated that they did not mediate it’s effect. The addition of the interaction term in stage two of the regression explained only 3% additional variance and this was not significant, $F(1,72) = 2.67$, $p>.05$.

**Pregnant women.** For pregnant women, the hierarchical regression showed that the combined independent variables entered at stage one accounted for only 2% of the variance in anxiety scores, and this was not significant, $F(2,40) = 0.48$, $p>.05$. The addition of the interaction term in stage two of the regression did not significantly increase the amount of variance explained, $F(1,39) = 0.15$, $p>.05$. Neither global self-worth nor maladaptive perfectionism significantly explained any of the variance in anxiety scores, and including the interaction between the two also did not.

**New mothers.** Results of the hierarchical multiple regression for new mothers showed that the combined independent variables entered in stage one of the regression accounted for 27% of the variance in anxiety scores, $F(3,48) = 5.83$, $p<.01$. Regression coefficients indicated only one significant predictor, attachment anxiety, which uniquely explained 11% of the variance ($sr = .33$). Comparison of the beta values indicated that the beta value had declined, but neither of the proposed mediators was significantly associated with the dependent variables, which indicates that the value declined due to more variables sharing the variance or the presence of another unmeasured variable. The addition of the interaction term at stage two did not significantly account for additional variance in anxiety scores, $F(1,47) = 0.13$, $p>.05$.

**Summary of model with anxiety as the measure of distress.** Results showed that for men, women without children, and new mothers, greater anxious attachment was associated with greater anxiety symptoms, however, no other variables, including the interaction term, were significant. The regression analysis did not explain a significant proportion of the variance in anxiety levels for pregnant women.
Obsessive compulsive symptoms. A hierarchical multiple regression was conducted to test the third criterion for the mediation hypothesis and to test the moderation hypothesis with obsessive compulsive symptoms as the measure of distress. Results are presented for men, and women without children in table 6.15a, and for pregnant women and new mothers in table 6.15b.

Table 6.15a

Results of the Hierarchical Multiple Regression for Attachment, Global Self-Worth, Maladaptive Perfectionism, and the Interaction Term, with Obsessive Compulsive Symptoms as the Dependent Variable for Men, and Women Without Children

<table>
<thead>
<tr>
<th>Variable</th>
<th>Men</th>
<th></th>
<th>Women Without Children</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
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<td>B</td>
<td>SE</td>
</tr>
<tr>
<td>Stage 1</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>3.37</td>
<td>1.03</td>
<td>0.47**</td>
<td>1.18</td>
</tr>
<tr>
<td>Global Self-worth</td>
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<td>0.03</td>
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<tr>
<td>Maladaptive Perfectionism</td>
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<td>0.09</td>
<td>0.04</td>
<td>0.09</td>
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<tr>
<td>Stage 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>3.35</td>
<td>1.06</td>
<td>0.46**</td>
<td>1.23</td>
</tr>
<tr>
<td>Global Self-worth</td>
<td>-0.20</td>
<td>0.42</td>
<td>-0.08</td>
<td>-0.01</td>
</tr>
<tr>
<td>Maladaptive Perfectionism</td>
<td>0.02</td>
<td>0.09</td>
<td>0.04</td>
<td>0.09</td>
</tr>
<tr>
<td>Self-worth X Mal. Perfectionism</td>
<td>0.00</td>
<td>0.03</td>
<td>0.02</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Stage 1 $R^2 = .27^{**}$  Stage 1 $R^2 = .08$
Stage 2 $R^2$ change = .00  Stage 2 $R^2$ change = .02

$n = 46$ men; 77 women without children. Note: * $p<.05$, ** $p<.01$, *** $p<.001$
Table 6.15b

**Results of the Hierarchical Multiple Regression for Attachment, Global Self-Worth, Maladaptive Perfectionism, and the Interaction Term, with Obsessive Compulsive Symptoms as the Dependent Variable for Pregnant Women and New Mothers**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pregnant Women</th>
<th>New Mothers</th>
</tr>
</thead>
<tbody>
<tr>
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<td>SE B</td>
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<tr>
<td><strong>Stage 1</strong></td>
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<tr>
<td>Attachment Anxiety</td>
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<td>1.11</td>
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<tr>
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<td>0.07</td>
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<tr>
<td>Parenting Self-concept Sensitivity</td>
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</tr>
<tr>
<td><strong>Stage 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>3.61</td>
<td>1.12</td>
</tr>
<tr>
<td>Global Self-worth</td>
<td>-1.06</td>
<td>0.43</td>
</tr>
<tr>
<td>Maladaptive Perfectionism</td>
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<td>0.08</td>
</tr>
<tr>
<td>Parenting Self-concept Sensitivity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-worth X Mal. Perfectionism</td>
<td>-0.02</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Stage 1 R² = .28**  
Stage 1 R² change = .02  
Stage 2 R² change = .00

*n = 43 pregnant women; 52 new mothers.  
Note: * p < .05, ** p < .01, *** p < .001.

*Men.* Results of the hierarchical regression for male participants showed that the combined stage one independent variables accounted for 27% of the variance in obsessive compulsive symptoms, $F(3,42) = 5.13$, $p < .01$. Inspection of the regression coefficients showed that the only significant predictor was attachment anxiety, which uniquely accounted for 18% of the variance ($r^2 = .43$). The addition of the interaction term in the second stage of the regression did not significantly account for any further variance in obsessive compulsive symptoms, $(F(1,41) = 0.02, p > .05)$. Men with high levels attachment anxiety were more likely to experience greater obsessive compulsive symptoms, and this relationship was not mediated by either global self-worth or maladaptive perfectionism.
Women without children. Results of the hierarchical multiple regression for women without children indicated that the combined independent variables entered at stage one did not account for a significant portion of the variance in obsessive compulsive symptoms, $F(3, 73) = 2.15, p>.05$. The addition of the interaction term in stage two of the regression did not account for any additional variance in obsessive compulsive symptoms, $F(1,72) = 1.50, p>.05$.

Pregnant women. For pregnant women, the hierarchical multiple regression indicated that the combined stage one independent variables accounted for 28% of the variance in obsessive compulsive symptoms, $F(2,40) = 7.87, p<.01$. Inspection of the regression coefficients revealed that global self-worth was the only significant predictor of obsessive compulsive symptoms, which uniquely explained 12% of the variance ($r = -.35$). The addition of the interaction term into stage two of the regression did not explain any additional variance, $F(1,39) = 0.81, p>.05$.

New mothers. For new mothers, the hierarchical multiple regression indicated that the combined stage one independent variables accounted for 35% of the variance in obsessive compulsive symptoms, $F(4,47) = 6.24, p<.001$. Inspection of the regression coefficients showed that attachment anxiety was the only significant predictor at stage one, indicating that maladaptive perfectionism and global self-worth had not mediated its effect on obsessive compulsive symptoms. Attachment anxiety uniquely explained 14% of the variance in obsessive compulsive symptoms ($r = .38$). The inclusion of the interaction term in stage two of the regression did not explain any additional variance, $F(1,46) = 0.14, p>.05$. New mothers with greater attachment anxiety tended to experience more obsessive compulsive symptoms.

Summary of model with obsessive compulsive symptoms as the measure of distress. The regression analyses showed that predictors of obsessive compulsive symptoms differed across groups. For men and new mothers, although both maladaptive perfectionism and global self-worth had the potential to mediate the effect of anxious attachment on obsessive compulsive symptoms, neither of these were significant predictors, nor was their interaction. Thus, of the variables measured in this study, only anxious attachment predicted obsessive compulsive symptoms for these two groups. For women without children, none of the hypothesized variables predicted obsessive compulsive symptoms.
For pregnant women, only global self-worth significantly predicted obsessive compulsive symptoms. Neither the mediation or moderation hypotheses were supported for any of the groups with obsessive compulsive symptoms as the measure of distress, however, global self-worth did show an inverse effect on obsessive compulsive symptoms for pregnant women.
CHAPTER 7
DISCUSSION

7.1 Overview of the Discussion Chapter

This chapter provides a discussion of the findings of the current study in light of prior research and the hypotheses outlined at the conclusion of chapter three. This chapter begins with a brief overview of the aims of the present study, and a statement about whether hypotheses were supported, followed by a discussion of the sample characteristics. The second section discusses the development of the new measure, its reliability and factor structure. Finally, the third section deals with discussing results of the hypotheses which stemmed from the proposed model of psychological distress.

7.1.1 Aims of this thesis

There were several main aims of the current study, however, the primary aim was to provide a greater understanding of psychological distress experienced in childbearing adults. More specifically, although this research topic has received vast attention over the past several decades, there were a number of areas which seem not to have been adequately addressed to date. Firstly, there is relatively little research attention that has focused on childbearing distress in men. Many studies have also tended to focus only on pregnant women or new mothers, but not both, and few have compared childbearing women to women without children. The conceptualisation of childbearing distress has largely focused on the experience of depression, although research suggests that anxiety disorders are at least as common, and obsessive compulsive symptoms have also been found to be commonly experienced by new parents.

To address these issues, the proposed model of distress was tested in men and women of different childbearing status (e.g., without children, expecting their first child, new parents). Furthermore, measures of distress went beyond only measuring depression and also included anxiety and obsessive compulsive symptoms. However, it proved difficult to recruit sufficient numbers of men who were new fathers or who were expecting
their first child to complete the study, and as a result men were combined into one group after no differences were found between groups. A fuller discussion of this issue is provided in chapter 8, which outlines the limitations of this study. Thus, the study compared all men, to women without children, pregnant women, and new mothers. A secondary aim was to develop a measure of parenting self-concept sensitivity, which was achieved through the pilot study.

7.1.2 Overview of findings

Drawing from the proposed model of psychological distress, several hypotheses were made. Firstly, it was predicted that greater anxious attachment would predict higher levels of depression, anxiety, and obsessive compulsive symptoms. It was further hypothesised that the affect of high attachment anxiety on measures of distress would be mediated by low global self-worth, high parenting sensitivity, and high maladaptive perfectionism, and therefore that these proposed mediators would be predicted by anxious attachment and show direct relationships with the measures of distress. Anxious attachment was found to significantly predict all measures of distress for men, women without children, and new mothers. This relationship was not tested for pregnant women as correlations had revealed no association between either of the two attachment dimensions and any measures of distress. The affect of avoidant attachment was also investigated for women without children and new mothers as correlations showed a positive relationship between avoidant attachment and all measure of distress for new mothers, and with depression and anxiety for women without children. However, regression analyses revealed that avoidant attachment had no significant predictive effect on any of the measures of distress tested for either of the groups tested.

As there had been no direct effect of anxious attachment on measures of distress for pregnant women, considering the need for parsimony, it was unnecessary to test whether anxious attachment predicted the proposed mediators. For all other groups, higher anxious attachment predicted greater maladaptive perfectionism and lower self-worth. Greater anxious attachment predicted both parenting self-efficacy and parenting self-concept sensitivity for new mothers.
In terms of the mediation hypothesis, the only hypothesis supported was for women without children with depression as the measure of distress, for whom the direct effect of attachment anxiety was fully mediated by global self-worth. None of the other proposed mediation hypotheses were supported for any of the groups. Global self-worth was found to predict depression for women without children and obsessive compulsive symptoms for pregnant women. Maladaptive perfectionism did not predict distress for any of the groups. Parenting self-concept sensitivity was shown to be associated only with depression for both pregnant women and new mothers, and also obsessive compulsive symptoms for new mothers, but when this was included in the regression analyses with the other variables it was no longer significant. As part of the proposed model it was anticipated that there would be a positive relationship between maladaptive perfectionism and parenting self-concept sensitivity and a negative relationship between parenting self-concept sensitivity and global self-worth. Correlation analyses showed that for both pregnant women and new mothers parenting self-concept sensitivity had a significant inverse relationship with global self-worth; however, the relationship between parenting sensitivity and maladaptive perfectionism was not significant.

It was further predicted that global self-worth would moderate the effect of maladaptive perfectionism on psychological distress, such that higher global self-worth would buffer the negative affects of maladaptive perfectionism. This hypothesis was supported for women without children, with depression as the measure of distress, but for no other groups.

7.1.3 Levels of psychological distress in the current study

Overall, the participants of this study experienced less psychological distress than is generally reported in the literature. Furthermore, there were no differences between childbearing groups for either men or women. This suggests that pregnancy and the postpartum are not necessarily periods of increased risk for psychological distress. Comparing the levels of distress to normative data for each measure showed that for depression and anxiety, both men and women overall experienced less distress than the validation sample of the DASS. Although the DASS is not intended to provide a clinical
diagnosis, it does aim to differentiate between normal and mild, moderate, and severe levels of depression. For men in the current study, 6.5% experienced symptoms indicative of depression, and all were within the mild range. This is somewhat higher than rates reported in the 2000 Australian National Mental Health Study (Henderson et al. 2000), which found a 12 month prevalence rate of 4.2%. However, as the DASS does not provide diagnosis this should be interpreted with caution. For women, 86% of the sample showed no distress, 3.5% showed at least mild levels of depression only, 5.8% at least mild levels of anxiety only, and 4.7% at least mild levels of depression and anxiety. Thus, of women, 8.2% experienced symptoms of depression of at least mild severity and 10.5% showed anxiety symptoms of at least mild severity. The 12-month prevalence rate for women in Australia for depression has been reported at 7.4% (Henderson et al. 2000), while in postpartum samples, and an incidence of approximately 13% is generally accepted (O’Hara & Swain, 1996). In terms of comparison to reported levels of anxiety, all men in the current study reported symptom levels within the normal range. For women, the research for pregnant and postpartum samples has been fairly inconsistent, ranging from 7.4% (Robinson & Young, 1982, women experiencing anxiety without depression) to 16.2% (Matthey et al., 2003). A recent review by Ross and McLean reported the prevalence of generalised anxiety in postnatal women to be between 4.4 and 8.2%. In an Australian general population study the 12 month prevalence rate has been reported at 9.7% (Henderson et al. 2000). Rates of anxiety for women in this study are fairly consistent with general population levels.

Comparing the mean scores for men and women on the OCI-R to normative data showed that the overall level of obsessive compulsive symptoms in the current study was lower. Using a cut-off of 21 to indicate significant levels of obsessive compulsive symptoms, 7.5% of men, 6.5% of women without children, 11.6% of pregnant women, and 11.5% of new mothers were identified as experiencing significant obsessive compulsive symptoms. However, due to the small sample size it is difficult to interpret this trend. Further, as this measure does not allow a clinical diagnosis further research is needed to determine incidence of OCD in antenatal and postnatal samples.
7.2 Development of the PSCS

The aim of the pilot study was to develop a brief measure of parenting self-concept sensitivity in the same vein as Harter’s self-perception measures (e.g., Messer & Harter, 1986; Neeman & Harter, 1986). Thus, items were presented in a manner which made endorsement or rejection of the items by the participants normative. It seemed particularly necessary to do this for the importance ratings. It was thought that if parents were asked directly about how important the parenting role is to them, they might feel pressure to respond in a socially acceptable manner (i.e. that parenting was either very important or somewhat important to them in contrast to being somewhat unimportant or very unimportant). Thus, importance ratings were developed following the format of Harter’s Self-Perception Profile for College Students. This is in contrast to the Adult Self Perception Profile which explicitly asks respondents to rate how important each domain is to them.

Items were piloted on a sample of 131 women with at least one child under three years of age, and no children older than this age. So that the scale would be consistent in length to Harter’s other items, it was planned that four items for efficacy were to be selected and two items for importance ratings, which would be selected from a pool of eight items for efficacy, and four items for importance ratings, following initial factor analysis and piloting of the items.

The results for the final selection of items showed that two clear scales emerged in the pilot sample data, one reflecting self-efficacy for parenting, and the other reflecting importance of the parenting role. The scale showed good internal consistency and a clear component structure which followed theoretical expectations using the appropriate extraction and rotation methods. A confirmatory principal components analysis was also conducted with the data pooled from the main study participants. However, once again, due to the limited numbers of men with completed data for this measure (12), it was decided that they would not be included in the analysis; therefore it remains only tested on women. Further, due to the sample sizes, data from pregnant women and new mothers who completed the PSPS as part of the main study were combined so that a confirmatory PCA could be performed. The same component structure and similar excellent reliability and
internal consistency were also found when the same procedures were applied to data from the main study participants.

There was a significant skewness and kurtosis to the scores for both pilot study and main study data, and limited variance. This is likely to be a product of how the sample was recruited: through online parenting forums, therefore it is unlikely that this sample is representative of the normal population and it is not appropriate for norms to be generated using this data sample. This thesis has validated the PSPS with mothers of young children, new mothers, and pregnant women. It therefore is important that the scale be further validated by testing it on a more representative sample of women and with men.

7.3 Hypothesis Testing
7.3.1 Attachment and distress

Anxious attachment. It was hypothesised that anxious attachment would predict psychological distress for each group. This hypothesis was supported for all groups with all measures of distress except for pregnant women, for whom there were no significant relationships. The results of this hypothesis are largely consistent with attachment theory (Bowlby, 1969; 1973; 1980) that proposes that high levels of anxious attachment lead to the experience of psychological distress in later life, especially depression and anxiety. It may be that the main effect of anxious attachment is exerted when there is a threat to the attachment system. Mikulincer and Shaver (2007) suggested that attachment insecurity can serve as a catalyst for psychological distress during major life transitions, such as becoming a parent. Bowlby (1973) also suggested that attachment security becomes highly important during periods of change and uncertainty. In terms of the lack of a relationship between anxious attachment and distress for pregnant women, it may be that individuals with high attachment anxiety who are pregnant might feel less anxious about romantic attachments because they have a new attachment that has been created with their unborn infant, thus romantic attachment would not be associated with distress. It may also be that having a baby with one’s partner leads to more positive interaction and positive thoughts about the relationship, and is a period of excitement and positive expectation. However, actually having the baby in due course might lead to some disillusionment about the ideals that are
hoped for during the pregnancy, both relating to the unborn infant, and also to the romantic relationship, which would additionally explain the significant findings for new mothers, for whom anxious attachment was found to be an important predictor of all measures of distress.

This explanation is also consistent with prior research, such as that by Scharfe (2007), who found that anxious attachment during pregnancy was associated with postnatal depression levels. Thus, it may be that anxious attachment does not lead to psychological distress during pregnancy itself, but its effects may be seen later, when the child has been born and the reality of the situation is realised. Given that these first time expectant new mothers were also attaching to their unborn infants, generally pregnancies are wanted and planned, it maybe protective because they are yet to encounter the reality of an intimate relationship with a newborn, with all its stress and joy.

Although cognitive theories are most popular for explaining OCD, more recently the possible role of attachment in the development of OCD has become more of a focus. It is thought that anxious attachment exerts its effect on obsessive compulsive symptom development through the creation of internal working models of the self. Even from a cognitive theory perspective, beliefs about perfectionism, intolerance for uncertainty, and an overestimation of threat (all relevant to individuals with an anxious attachment style) have been identified by the Obsessive Compulsive Working Group (1997) as key beliefs in OCD. The findings of the current study provide support for the role of anxious attachment in the experience of obsessive compulsive symptoms. It has been suggested elsewhere that in OCD there is an overestimation of threat, and a belief that outcomes are potentially controllable. The link to anxious attachment has clear implications for the overestimation of threat – anxiously attached individuals have difficulty with the down-regulation of emotions, which can be activated by both actual and perceived threats and they can be external or internal. Again, the null findings for pregnant women highlight that pregnancy may be a period of transition where the effects of attachment anxiety are lessened; however, this requires further research to provide clarification.

Avoidant attachment. The correlations relating to avoidant attachment and psychological distress showed that of all groups, with all measures of distress, the only
significant relationships were for women without children for depression and anxiety, and for new mothers with all measures of distress. The direction of all these relationships was positive. However, once avoidant attachment was entered into regression analyses along with anxious attachment to predict distress, there were no significant relationships. It may be that the initial relationships shown by the correlations are due to the effect of anxious attachment in individuals with both high attachment anxiety and attachment avoidance (i.e. disorganised type). However, as this was not specifically tested in the analyses it is speculative only, and further research may enlighten this finding.

The lack of significant findings for pregnant women contradicts others which have suggested that for women high in avoidant attachment, pregnancy may actually be a more vulnerable period of time than new motherhood, due to the close physical proximity of the baby during pregnancy (Besser et al., 2002). However, avoidant individuals may tend to “bottle up” their emotions in an unprocessed and unresolved manner, despite outwardly appearing as if they are coping by appearing strong and competent. It is difficult then to find a relationship between avoidant attachment and psychological distress that is based on self-report if mechanisms for denial and self-protection are too strong.

Mikulincer and Florian (1998) reported that both anxious and avoidant attachment was associated with increased levels of anxiety relating to the women’s own health and the health of their unborn children during the first and second trimesters in their first study. Their second study looked at psychological distress and they found that for women with insecure attachment, women who were new mothers had higher levels of distress compared with women without children with comparable levels of attachment insecurity. No differences, however, were found between securely attached controls and new mothers, so the relationship between the postpartum experience and increased psychological distress seems to emerge when the individuals have an insecure attachment style. The current study did not sub-type individuals according to their attachment style, and conversely assessed degree of attachment style.

Interestingly too, results from this study are not wholly consistent with a multi-centre international study by Bifulco and colleagues (2004) who found that during pregnancy, although insecure attachment was associated with depression, this was not the case for anxious attachment. They also found that for new cases of onset postpartum, and
after controlling for pregnancy levels of depression, new onset of depression was associated with anxious attachment, but not avoidant attachment, which is consistent with the current study. Thus, pregnant women in this study seem to be responding differently compared to the other study groups, and compared to previous research findings.

If the attachment system is triggered in situations that are viewed as threats to the attachment system, pregnancy may be protective of this due to the high hopes and expectations, the couples experience pregnancy as bringing them closer together, and the buffering effect of the new attachment forming with the baby. It is widely acknowledged in the broader research literature that the relationship between avoidant attachment and distress is more complicated, and this may have been better elucidated if the disorganized subtype was specifically investigated too. Attachment sub typing however, is difficult as it is generally thought that attachment security exists along dimensions and not categories, and for reasonable conclusions to be drawn about sub-typing, larger samples sizes are required.

7.3.2 Attachment and global self-worth

As part of the proposed mediation model, it was expected that anxious attachment would significantly predict lower levels of self-worth. As there were no direct effects between attachment and any measures of distress for pregnant women this hypothesis was not tested for that group. Results showed that anxious attachment significantly predicted global self-worth for all three groups tested, such that individuals with greater levels of anxious attachment tended to have lower levels of self-worth, regardless of their child bearing status. The initial correlations also showed that for pregnant women greater anxious attachment was associated with lower global self-worth. The hypothesis was largely supported and it is consistent with attachment theory that we begin to treat ourselves the way we were treated by others through the development of internal working models. The findings relating to anxious attachment are concordant with research which consistently finds anxiously attached individuals have lower global self worth (e.g., Davila et al., 1996; Roberts et al., 1996; McCarthy & Taylor, 1999; Treboux et al., 2004). This may have important implications especially for new mothers, as it seems that behind low self-esteem
there is likely to be underlying anxious romantic attachment, and it may be of more benefit to focus on the underlying attachment difficulties in therapy rather than attempting to foster self-worth in itself.

7.3.3 Attachment and maladaptive perfectionism

It was predicted that high anxious attachment would predict greater maladaptive perfectionism. For men, women without children, and new mothers, this hypothesis was supported. For pregnant women, although the correlations showed a significant positive relationship between the two variables, it was not included in regression analyses due to the lack of direct effect between anxious attachment and measures of distress. It is thought that for anxiously attached individuals it becomes highly important for them to prove to themselves, and others, that they are competent, which leads to the development of maladaptive perfectionism. Attachment (particularly anxious attachment) has been well linked to the maladaptive perfectionism (Andersson & Perris, 2000; Gamble & Roberts, 2005; Rice & Lopez, 2004, Rice et al., 2005; Rice & Mirzadeh, 2000; Wei et al. 2006).

The findings of the current study suggest that behind maladaptive perfectionist tendencies there is likely to be an underlying anxious attachment. This is important to acknowledge as therapists can try to facilitate change in unrealistic expectations of new mothers, which regardless of whether they lead to depression, anxiety, OCD, or any other type of mental health issue are unhelpful both to the women, her relationships, and to her infant and expectations she may place on them. However, if the underlying anxious attachment remains then there is little hope for change without due attention being paid to this. Whilst insight is not sufficient in itself for change, it is generally accepted that it is necessary.

7.3.4 Attachment and parenting sensitivity

As predicted, attachment anxiety predicted self-efficacy and parenting self-concept sensitivity for new mothers; however, for pregnant women there were no significant relationships between anxious attachment and either parenting variables revealed through
correlations, precluding the use of regression analyses. As stated previously, due to low participant numbers for men in the groups of new and expecting parents, hypotheses relating to parenting self-concept sensitivity were unable to be tested. This issue is discussed in the limitations section more fully.

From a theoretical perspective, regardless of what sort of efficacy is being assessed, the literature consistently shows a clear pattern of higher anxious attachment associated with lower levels of efficacy (e.g., Bringle & Bagby, 1992; Cash et al., 2004); however, for avoidant attachment, research suggests that the association is dependent upon the type of efficacy. Although avoidant individuals generally rate themselves more highly for self-efficacy (Mikulincer & Shaver, 2007), for self-efficacy that is socially related, they tend to view themselves more negatively (e.g., Corcoran & Mallinckrodt, 2000). The potential influence of attachment avoidance was investigated in the current study because the interactive and emotional nature of caring for an infant may also be conceptualised as a “social” domain. For new mothers this contention was supported for attachment anxiety but not for attachment avoidance. The null finding for attachment avoidance may suggest that caring for an infant is not best conceptualised as a “social” domain.

For pregnant women, there was no relationship between either attachment dimension and parenting self-efficacy or parenting sensitivity. Why this relationship was not found for pregnant women requires further clarification. However, it may be that a sense of hope is present in pregnant women who may hold beliefs that parenting will come naturally to them, and they may see having a child as an opportunity where they will be innately competent.

There seems to be no research to date which has looked at parenting sensitivity in childbearing samples, although research with other populations has been reported. Bylsma et al. (1997) measured attachment and self-perceived competency for social domains such as social competency, romantic competency, and physical attractiveness and compared participants with an anxious or disorganised attachment style. They recruited a large sample of psychology undergraduate students, and aimed to examine how attachment and self-esteem overlapped. They hypothesised that this occurs through domain-specific competencies (e.g., attachment influences perceptions of the self, which in turn influences global self-worth). Although they tested a mediational model, they did find that attachment
predicted specific social perceived competencies, which is consistent with the findings of this study. More recent research by Bilgin and Akkapulu (2007) with Turkish high school students found that their social self-efficacy was associated with both peer and parent attachment. Regardless of whether adult attachment is measured by type or dimension, a clear association between high anxious attachment and low self-efficacy in social domains has emerged (e.g., Allen et al., 1998; Allen et al., 2002; Cooper, Shaver, & Collins, 1998; Moreira et al. 1998; Pietromonaco & Carnelley, 1990).

Several studies using attachment dimensions have also found that higher avoidant attachment is associated with lower social self-efficacy (e.g., Collins & Read, 1990; Corcoran & Mallinckrodt, 2000; Mallinckrodt & Wei, 2005; Wei, Russel, & Zakalik, 2005). Taubman Ben Ari, Findler, and Mikulincer (2002) conducted two studies where this association was tested with student populations. Of the two studies, they found support for the relationship in only one of the studies. It seems that anxious attachment was related to lower self-efficacy for the ability to solve conflicts, whereas avoidant attachment was related to lower self-efficacy for providing support and disclosing personal information. Applying these conclusions to the current findings, it may be that in the case of parenting self-efficacy, a relationship with the construct of avoidant attachment may emerge when the child becomes older and there is greater explicit need for emotional support and self-disclosure.

Correlation analyses also supported the hypothesis that there would be an inverse relationship between parenting sensitivity and global self-worth for both pregnant women and new mothers; however, contrary to expectations, there was no significant relationship between parenting self-concept sensitivity and maladaptive perfectionism for either group. Being sensitive in the parenting domain is more linked to a low overall view of one’s worth than the need for perfection, and again anxious attachment plays an important role.

7.3.5 Global self-worth and distress

It was hypothesised that low levels of global self-worth would significantly predict high levels of distress. This hypothesis was supported in two instances only: for women without children when depression was the measure of distress, and for pregnant women
when obsessive compulsive symptoms was the measure of distress. Low levels of global self-worth, and low levels of self-esteem have been well linked to psychological distress across a variety of populations. McVeigh and Smith (2000) suggest that new mothers with higher self-esteem are better able to adjust to the challenges of new motherhood. Jomeen (2004) postulates that people with high self-esteem cope better with stressful experiences because they deal with them for what they are, instead of converting them into negative self-evaluations.

Self-worth has only recently emerged as a predictor of depression in childbearing samples. In her 2001 meta analysis, Beck found it to be the strongest predictor of depression, despite it not having emerged at all as a possible predictor in her 1996 meta analysis. Terry et al. (1996) conducted prospective research with an Australian sample of pregnant women followed through to the postpartum and found a small but significant predictive effect of self-esteem on depression. Logsdon and Usui (2001) found that regardless of socioeconomic status, race, or length of gestation, self-esteem was significantly associated with depression postpartum. Fontaine and Jones (1997) reported one of the few studies to also state whether associations were significant during pregnancy too, rather than solely looking at pregnancy self-esteem and later depression. They found that just prior to childbirth, and at two time points early in the postpartum, low self-esteem was significantly associated with depression at all times. Nieland and Roger (1997) reported an increased impact of low self-esteem on depression for postpartum women compared to a control group of women without children less than two years of age.

The current study is not consistent with prior research with childbearing samples. In considering depression, the only group for which global self-worth was a significant predictor was for women without children; however, global self-worth was a significant predictor of obsessive compulsive symptoms for pregnant women. Thus, perhaps, again, the relationship between global self-worth and distress is more accounted for by attachment, except for pregnant women, who did show that low global self-worth was associated with obsessive compulsive symptoms independently of attachment.
7.3.6 Maladaptive perfectionism and distress

It was expected that maladaptive perfectionism would directly predict psychological distress. For all groups, maladaptive perfectionism showed no predictive relationship with any of the measures of psychological distress. There was however, a number of significant correlations found: higher maladaptive perfectionism was associated with greater distress on all measures for women without children and new mothers, with depression and obsessive compulsive symptoms for men, and with obsessive compulsive symptoms for pregnant women. The relationship between maladaptive perfectionism and obsessive compulsive symptoms has been well researched, although little attention has focused on how this is manifest in childbearing samples. The results of the current study are not consistent with findings of Mazzeo and colleagues (2006) who found that perfectionism was associated with depression in a childbearing sample. Although their focus was primarily on women with eating disorders, they also compared them to women without eating disorders. They found that specific aspects of maladaptive perfectionism were related to depression – concern over mistakes and doubt over actions. However, the sample was not actually recruited postnatally; instead reports were made retrospectively, which limits the conclusions which can be drawn. In a sample of both primiparous and multiparous postnatal women, Vliegen et al. (2006) found that self-critical perfectionism was related to both depression and anxiety, although the stronger relationship was with anxiety, which would suggest that perfectionism may lead more to anxious worry than to depressed mood.

It has been argued that perfectionism may act as catalyst to psychological distress in the face of life stressors (e.g., Frost & DiBartolo, 2002). This is thought to occur due to an overly critical self view, that then influences coping mechanisms, and is therefore a diathesis stress model: perfectionistic individuals encounter life events and perceive them as stressful because these events suggest to them that they are not perfect, which leads to the experience of stress and anxiety. Another mechanism for the effect of perfectionism on distress is the endorsement of imperative statements, or beliefs that they should perform better, even on daily tasks. Frost and DiBartolo (2002) believe that perfectionism stems from a need for control, which has been highly supported by research into the origins of
obsessive compulsive disorder. Considering the findings of the current study however, it seems that pregnancy is not such a life stress as other events. The majority of respondents indicated that their pregnancies were planned, and thus it is at the very least generally not as unexpected as other major life stressors, such as being involved in a car accident or losing a loved one to sudden illness. Furthermore, the transition to parenthood is a normative occurrence for the vast majority of adults.

It may also be that it is the specific components of maladaptive perfectionism (e.g., concern over mistakes and doubt over actions versus parental expectations and parental criticism) that are important in determining the effect of maladaptive perfectionism on distress. It is also possible, as argued above for global self-worth, that it is attachment that is actually the important variable, and when this is controlled for, maladaptive perfectionism in itself is no longer important when measuring these symptoms in normal populations. However, due to the low levels of distress reported in the current study it is necessary that this research be replicated with samples that are experiencing distress, as maladaptive perfectionism may become more important when symptoms reach disordered levels.

7.3.7 Parenting sensitivity and distress

It was expected that both parenting self-efficacy and parenting self-concept sensitivity would be significantly associated with psychological distress in pregnant women and in new mothers. It was further hypothesised that parenting sensitivity would mediate the relationship between anxious attachment and psychological distress. Although theoretically it may have been useful to determine whether efficacy or sensitivity was the better of the two predictors, the need to lower type 1 error meant that the model was not run for both. As the parenting sensitivity measure was partially derived from the efficacy measure it was inappropriate for both measures to be included in the same regression due to levels of shared variance. Thus results relating to parenting self-efficacy relate only to correlation analyses. Although the correlation showed a positive relationship between parenting sensitivity and depression for pregnant women, and between parenting sensitivity
and depression and self-efficacy and both depression and obsessive compulsive symptoms, when these were included in the regression analyses they were not significantly predictive.

There have been numerous studies which have investigated self-efficacy in postpartum samples, but none which have simultaneously assessed the importance as well. It is noteworthy that scores of parenting importance tended to be on the higher side which is likely to have been influenced by the recruitment method (use of internet based parenting forums). It seems likely that these sites will be used more by people who see parenting as an important part of who they are, which may have reduced the variance that was present in this sample compared to the general population.

There has however, been some limited research relating to whether sensitive self-domains lead to psychological distress. For instance, Doron et al. (2007a) found that the sensitive self-domain of morality led to increased symptoms of OCD. Theoretically, having lower self-efficacy should lead to distress, but only if it was highly important to the individual – i.e. there was an interaction between importance and efficacy. The findings of this study do not support this assertion. Again, it may be that all participants tended to view parenting as important, or that they provided inflated ratings of the importance of parenting due to both implicit and explicit effects of social desirability, both of which may have lead to there being little variability in the sample.

Prior research with child bearing women has shown mixed results for parenting self-efficacy, with some studies reporting no relationship with depression (e.g., Vliegen et al., 2006), whereas other studies have indicated an association with depression (e.g., Cutrona & Troutman, 1986; Gross & Rocissano, 1998; Haslam et al. 2006; Howell et al. 2006). No studies to date have reported on the experience of anxiety and whether this is predicted by parenting self-efficacy, and the current study also found no relationship. Drawing from the correlation relationships, believing you are not efficacious at caring for an infant might lead more to depressed mood or obsessiveness, rather than anxious worry. Again, due to the low levels of overall distress, and the recruitment method of the study participants, results need to be interpreted with caution, parenting self-efficacy and parenting sensitivity may become important in understanding psychological distress only at the more disordered level.
7.3.8 The mediation hypotheses

It was further hypothesised that that the effect of attachment anxiety would be mediated by maladaptive perfectionism and global self-worth. The results for the hypotheses relating to the direct effects of attachment on measures of distress and the potential mediators, meant that potentially for men, women without children, and new mothers, anxious attachment could be mediated by both global self-worth and maladaptive perfectionism, and by parenting self-concept sensitivity for new mothers.

For men, pregnant women, and new mothers, none of the mediation hypotheses were supported. For women without children, the effects of anxious attachment on depression were fully mediated by global self-worth. Thus, looking at each measure of distress by group, for men, anxious attachment directly contributed to depression, anxiety, and obsessive compulsive symptoms. For women without children, in the case of depression, higher anxious attachment leads to lower global self-worth, which in turn leads to depression. In contrast, for anxiety, anxious attachment retains its unique relationship, even after its effects on global self-worth are considered, and for obsessive compulsive symptoms, although it was no longer significant when the proposed mediators were included in the model, these variables showed no significant effect. Thus, another unmeasured variable may be present. For pregnant women, there was no initial direct effect for which to be mediated for any of the measures of distress. For new mothers, anxious attachment retained a unique effect on all measures of distress even after including the proposed mediators into the analyses.

Findings about depression for women without children are consistent with Rice et al. (1998) who found that self-esteem was a significant partial mediator between maladaptive perfectionism and depression. Crockenberg and Leerkes (2003) also reported that self-esteem mediated the relationship between recalled parental acceptance and rejection (which links to attachment theory and may suggest the development of an insecure attachment style) and depression. The authors suggest that this occurs through the internal working models which go on to influence emotional reactions and regulation in adulthood, resulting in a reinforcing cycle.
Roberts et al. (1996) conducted three studies with college student samples to investigate the links between adult attachment style and depression, and the roles of dysfunctional attitudes and self-esteem in this relationship. They reported that the effect of attachment insecurity was almost entirely mediated by dysfunctional attitudes and self-worth, even after controlling for initial levels of depression. Their dysfunctional attitudes were basically measuring what they refer to as “self-worth contingencies”, or how the participants believed they could achieve self worth, and what self-worth was based on. Reinecke and Rogers (2001) extended this finding with a sample of participants with clinical levels of depression. Kenny and Sirin (2006) also investigated the effects of parental attachment and global self-worth on depression with 81 “emerging adults” aged between 22 and 28. They reported that global self-worth fully mediated the relationship between current parental attachment and depression. Parental attachment influences how one feels about one’s self, that is, how worthy one is, and this in turn becomes more important factor in predicting depression, rather than the attachment security itself. Whether adult romantic attachment plays a similar role or not cannot be determined or assumed from their study, however, the current research findings support this assertion for women without children.

The non-significant findings of this study for the role of maladaptive perfectionism in the relationship between attachment and depression do not support a number of prior studies. For instance, Enns et al. (2000) found that perfectionism mediated the effect of parental care on depression, and Enns, Cox, and Clara (2002) found that the effect of harsh parenting on depression was mediated by maladaptive perfectionism. Wei et al. (2004) also found that maladaptive perfectionism both mediated and moderated the effect of attachment on depression. In a longitudinal study of college students Wei et al. (2006) found that maladaptive perfectionism mediated the influence of attachment on depression in a sample of college students.

Theoretically, anxious attachment and global self-worth, and anxious attachment and maladaptive perfectionism have been well linked (see chapter 2, this thesis). In general, the results of this study suggest that individuals with anxious attachment are more likely to experience low global self-worth and to develop maladaptive perfectionism tendencies. For women without children, these low levels of global self-worth in turn make them more
likely to develop depression. For other participants, it seems that although anxious attachment also leads to lower global self-worth and more maladaptive perfectionism tendency and to a more sensitive parenting self-concept for new mothers, it is not these that are important in determining distress, but instead that they are a product of the underlying anxious attachment which causes psychological distress itself. This suggests that prior research which has linked self-concept and maladaptive perfectionism to distress without including attachment may be limited, and future research of these concepts should aim to also include attachment anxiety.

7.3.9 Global self-worth as a buffer on maladaptive perfectionism’s effect on distress

It was predicted that maladaptive perfectionism and global self-worth would interact to predict psychological distress. That is, that global self-worth would act as a buffer against the effects of maladaptive perfectionism on psychological distress. This hypothesis was supported for women without children with depression as the measure of psychological distress. No other significant interactions for any of the groups were found.

For women without children, plotting the interaction between maladaptive perfectionism and global self-worth on depression showed that whilst at low levels of maladaptive perfectionism individuals with low, average and high self-esteem had relatively similar levels of depression, at high levels of maladaptive perfectionism the results were not entirely as expected. Consistent with the hypotheses, individuals high in maladaptive perfectionism and with low global self-worth had the highest levels of depression, and individuals with average global self-worth stayed relatively constant in their reporting of depression symptoms regardless of their level of perfectionism. Surprisingly however, at high levels of maladaptive perfectionism, individuals with high global self-worth actually had the lowest levels of depression, which showed that for individuals high in global self-worth, those with high levels of maladaptive perfectionism had lower levels of depression than those with average or low levels of maladaptive perfectionism. Although this difference was very small, this finding is on first consideration counterintuitive, however, perhaps participants who were high on maladaptive perfectionism were also high on more adaptive forms of perfectionism, such as having high
personal standards and high need for organisation, and perhaps if adaptive perfectionism
was controlled for the relationship between maladaptive perfectionism and distress may
have been clearer.

To date, it seems that there are no available studies which have tested for an
interactive effect of maladaptive perfectionism and self-worth on psychological distress.
However, there have been several mediational studies which have investigated these
variables. For instance, Ashby, Rice, and Martin (2006) found that maladaptive
perfectionism was associated with both low self-esteem and increased levels of depression,
and of particular interest was the finding that the influence of maladaptive perfectionism
was partially mediated by self-esteem. Whilst one interpretation of their findings is that
maladaptive perfectionism leads to low self-esteem which in turn leads to higher levels of
depression, it is also possible that they may interact, which may also explain the partial
mediation. Either way, the findings of Ashby et al. (2006) clearly support a link between
maladaptive perfectionism and self-worth, and their effect on depression does not seem to
be independent. Preusser, Rice, and Ashby (1994) also found moderate support for a model
in which self-esteem mediated the effect of maladaptive perfectionism on depression using
Hewitt and Flett’s (1989) measure. Whilst this model was confirmed for women for self-
orientated and socially-prescribed perfectionism, for men it was only found for socially
prescribed perfectionism. Di Bartolo, Li, & Frost (2008) looked at maladaptive
perfectionism, specifically maladaptive evaluative concerns and found that they were
significantly associated with psychological distress, but also found that this was at least
partially mediated by contingent self-worth. This study again suggests a link between self-
esteeem and perfectionism’s effect on depression, and again it focuses on mediation not
moderation. Rice and Lopez (2004) also indicated that there may be an interactive effect
between adults’ attachment and maladaptive perfectionism on self-esteem and depression,
supporting the link between these two variables.

Women without children were the exception in the mediation and moderation
model, for them, it was global self-worth that explained the effect of anxious attachment on
distress, to the point where it was also able to buffer the effect of maladaptive
perfectionism. This should provide useful information for therapists – for women without
children, increasing feelings of self-worth through means other than attachment focused
work could be beneficial in lowering these women’s psychological distress. However, for men, and for new mothers, it seems that this would not suffice. It is difficult to know for men how much the inclusion of new and expecting fathers with men without children (who were the majority of men) affects this relationship. This again highlights the need for more research in this area with men, which this thesis has shown is difficult to achieve.
8.1 Overview of the Current Study

Despite an ever-increasing amount of research which has investigated the occurrence of depression in pregnant and postnatal women, there has been much less research attention paid to men who are also experiencing the transition to parenthood. The transition to parenthood is widely regarded as a time when women are required to adapt to many significant changes, not only physically, but also emotionally and socially. Men may also experience many of the changes associated with the transition to parenthood, such as lack of sleep, fatigue, and changes to social and romantic relationships, amongst others. Typically, men also have the added pressure of maintaining their performance at work, as well as being a primary support for their partner. It is not surprising then that research has focused on whether there is heightened experience of mental health issues (particularly depression), across these time periods. Although there is considerable debate regarding whether there is, or is not, an increased risk, the experience of mental health problems at these times has greater implications beyond the immediate experience of the women and men in question. The effects of psychological distress during pregnancy and the postnatal periods on infants have been well documented for women, and include infant sleep and development problems (Fielf et al., 1990; Righetti-Veltema et al., 2002; Whiffen & Gotlieb, 1989), which may have long-lasting effects (Halligan et al., 2006; Sinclair & Murray, 1998). Although there has been less research conducted with men, the studies published to date suggest a similar impact as that found for women (Ramchandani et al., 2005).

The majority of literature in the area remains focused on depression, despite findings that anxiety disorders are at least as common as depression in gestational and postpartum samples, if not more so (Brockington et al., 2006). Evidence indicates that the experience of depression during the postpartum is not qualitatively different to that experienced at any other time of life. In contrast, anxiety disorders may be more focused on infant-related fears (Brockington et al., 2006). Indeed, it seems that infant-related intrusive
thoughts are common in new parents (Abramowitz et al., 2003). Research which simultaneously investigates these three types of distress in needed to understand whether the underlying processes in their development differ. Thus, the present study was therefore interested not only in depression in these samples, but also in the experience of generalised anxiety and obsessive-compulsive symptoms.

A further issue that was considered was that there has been little research which has simultaneously compared men and women making the transition to parenthood with adults who do not have children and who are not making this transition. It was hoped that by making such a comparison, this would elucidate whether theoretical models of distress are unique to those making this transition to first-time parenthood, or whether they were replications of patterns that were persistent in the wider community.

Research findings had suggested that the transition to parenthood may be a time when early parenting experiences become more salient. Drawing from the work of Bowlby and others, an attachment theory framework was drawn upon to develop a model of psychological distress across the transition to parenthood which also incorporated global self-worth and perfectionism. Promising literature suggests that both attachment style (Simpson et al., 2003) and the personality trait of perfectionism (Mazzeo et al. 2006) may be important. Indeed, both attachment styles and perfectionism have been linked to negative mental health outcomes in normal populations (e.g., Rice & Lopez, 2004). In addition, it has been suggested that insecure attachment and maladaptive perfectionism stem from the same kinds of parenting behaviour (Frost & DiBartolo, 2002). Another process which may be important to psychological distress is the development of sensitive domains of self-concept. That is, when an individual considers a domain of self-aspect (such as parenting) to be important to them, yet they perceive themselves as less than competent (Doron et al., 2007a). Harter (1982) suggested that domains which are perceived as highly important to the individual are the most at risk for a negative impact on an individual’s global self-worth and on psychological distress. Although global self-worth and self-efficacy for the parenting role have been investigated in the research, to date self-concept sensitivity for this role has not, and there was no available measure to assess both importance of the parenting role and efficacy for the parenting role. Furthermore, attachment styles have a large impact on self-concept, and self-concept and perfectionism
have also been well linked, both theoretically and empirically. It was therefore proposed that these three theories could be combined into a model of childbearing distress.

Thus, the broad aim of this thesis was to improve the understanding of antenatal and postnatal psychological distress. It was hoped that this would be achieved in a number of ways. First, this thesis aimed to include women and men across three groups: those expecting their first child, those who had had their first child within the last 12 months, and those who did not have children (and were not expecting their first). Second, this thesis aimed to broaden the definition of psychological distress and include measures not only of depression, but also of anxiety and obsessive-compulsive symptoms. Third, as research has suggested that self-efficacy domains of high importance to an individual will have the most effect on their global self-worth and psychological distress, but no measure existed that could assess this for parenting self-concept, this thesis aimed to develop a new measure of parenting self-concept sensitivity, that was consistent with Harter’s self perceptions scales (e.g., Messer & Harter, 1986; Neeman & Harter, 1986). Fourth, considering that attachment security, low self-worth, and maladaptive perfectionism have all been linked to poorer psychological functioning in general populations, but that the transition to parenthood may make these constructs particularly salient, these concepts were synthesised into the proposed model of psychological distress.

Specifically, it was hypothesised that the direct effects of anxious attachment on psychological distress would be mediated by global self-worth, maladaptive perfectionism, and parenting sensitivity. It was further hypothesised that the effect of maladaptive perfectionism on psychological distress would be moderated by global self-worth. Additionally, it was expected that parenting sensitivity would be related to both maladaptive perfectionism and global self-worth.

Overall, there was partial support for the hypotheses of this study. However, due to low male participant numbers, the three childbearing status groups had to be combined for men in order to conduct the statistical analyses. Thus, this thesis was unable to test the above hypotheses with new and expecting fathers, and therefore a main aim of this study was not fulfilled.

For the hypotheses relating to the proposed model of psychological distress, there was partial support, which differed according to childbearing group and measure of distress.
Anxious attachment emerged as a significant predictor of psychological distress for all measures across all groups, except for pregnant women, for whom no initial associations were found for any measures. Overall, once the effects of anxious attachment were considered, there was no effect of avoidant attachment on distress for any of the groups. These results for pregnant women were unexpected, however, it maybe that there are several ways that pregnancy may lessen the effects of anxious attachment on distress. The expectant mother is forming a new attachment with her unborn infant, and is also able to rely on professionals (i.e. doctors) for support. As a generally planned event it may not be experienced as stressful as other life events, and instead there may tend to be much more positive emotions and expectations. This may also be a time when a woman feels closer to her partner. However, once the infant is born these expectations may not be fulfilled and an anxious romantic attachment tendency may again be more likely to lead to distress.

Despite anxious attachment also being significantly predictive of global self-worth and maladaptive perfectionism, and both of these concepts being well linked theoretically and empirically to psychological distress, when the effects of anxious attachment were considered neither of these variables, nor parenting sensitivity predicted distress. The exception to this was for women without children when depression was the measure of distress, for which global self-worth fully mediated anxious attachment and also buffered the effect of maladaptive perfectionism on depression. The reason for this difference between groups is unclear and requires further research; however, it maybe that the transition to parenthood activates the attachment system such that it influences distress in a way that is independent of global self worth. Global self-worth was also found to predict obsessive compulsive symptoms for pregnant women only.

In contrast to expectations, parenting self-concept sensitivity did not significantly predict any of the measures of psychological distress for either new mothers or pregnant women using regression analyses.

Thus, results of this study suggest that there may be different processes which influence the development of psychological distress in antenatal women compared to other groups. Principally, the main finding from this study was that it seems to be anxious attachment that is important in determining levels of distress. However, this was not the case for pregnant women, for whom there were no associations between anxious attachment and
any measures of distress. As discussed above, it may be that pregnancy protects against the effects of anxious attachment due to the new relationship that is being formed, feeling close to and supported by their partners, and having positive expectations about the transition. In contrast, once the infant is born there may some disillusionment in terms of these positive expectations. Furthermore, when the infant is very young and not always clearly responsive or yet interactive, this newly formed attachment is no longer enough to protect against anxious romantic attachment. It may be then that psychological distress in pregnant women may be related to having less positive expectations about the pregnancy, receiving less support from their partner, having more complicated pregnancies, and feeling less attachment to the foetus. Therefore, future research should consider assessing these concepts in addition to anxious attachment so that the apparent lack of association between anxious attachment and distress can be better understood.

8.2 Limitations of the Current Study and Directions for Future Research

There are several limitations to the current study which need to be held in mind when considering the research findings and developing future research projects. Firstly, and most obviously, was that one of the main aims of the study could not be fulfilled due to low participant numbers of new and expecting fathers. This is likely to have been influenced by the recruitment method, which involved placing ‘posts’ on Australian internet parenting forums. The vast majority of members on these forums are women. Although participants were encouraged to forward the research to others, particularly men, it is not known how many did so. It can also not be known whether men were made aware of the study, or whether they were not willing to participate. Further, this may reflect men’s views on the importance of the parenting role in their self-concept, or it might reflect the personal sense that women may have that they are the one’s largely responsible for early child and baby care.

Regarding the applicability of the research findings to the general population there are several issues. First, participants tended to be highly educated. Second, there was relatively little distress experienced by participants compared to general population norms. Third, not all parents in psychological distress are first-time parents, and future research
should compare primiparous to multiparous parents, and it would also be beneficial to recruit participants during their pregnancies and follow them through to the postpartum. The sample is also likely to have been biased towards parents for whom parenting was an important part of their self-concept as they were recruited via parenting forums. Although this limitation was anticipated, and participants were asked to forward the study details to others they knew, it is not known how many participants were recruited via the actual forums, versus how many people completed it after it was forwarded by a friend or relative or partner. It is also unknown how many of the men who participated were actually partners of female participants, which is worth considering in future research such that partner’s level of distress can be controlled for.

These results can also not be generalised to adoptive parents, and it is unknown whether there were differences between participants who had required assisted reproductive technologies versus those with unassisted conceptions. Sexual orientation was also not considered, and it is unknown whether results also apply to parents in same-sex relationships.

In regard to the measures used in this study, it is important to note that they were not diagnostic measures. The PSPS would benefit from further validation, particularly comparing it to other existing measures of efficacy and items which measure importance of the parenting role, however, it was found to be a reliable and valid measure with two different samples. Violations of normality also occurred for all groups for most of the measures. Although violations were always in the expected directions, and thus were not transformed, they can potentially affect the reliability of the statistical procedures, and thus some caution when interpreting these results is warranted.

8.3 Final Comments

This study has provided a useful starting point for the investigation of the roles of attachment, self-concept, and maladaptive perfectionism in new and expecting parents. It has also shown that the DASS-21 may be a useful tool for the screening of psychological distress in new and expecting parents. Furthermore, the PSPS was found to be a reliable measure of self-concept sensitivity and is the first scale to assess both parenting self-
efficacy and importance of the parenting role. Although it was not significantly predictive of distress using regression analyses, these relationships warrant further research attention especially with samples in which there is more distress present, as the low levels of distress in the current study may have contributed to the null findings, and with samples that may not hold parenting as a highly important self domain. It seems that the most significant contribution of this thesis is to reinforce the role of attachment theory, and attachment anxiety in particular, in the experience of psychological distress. Fostering corrective experiences, encouraging clients to explore and perhaps adjust expectations of support they can receive from others, or at least from whom they might be able to receive it from, fostering success in their interpersonal interactions rather than engaging in repeated problematic interactions that renew old hurts and reinforce the over-activation of the attachment system may be particularly important for men and women, regardless of their childbearing status. This thesis also highlights the need for appropriate postnatal follow-up, regardless of the woman’s presentation during pregnancy, as this appears to be a period in which the experience of distress generally is not predicted by variables which are predictors at other times, and this may cause women to be over looked. Research does suggest that pregnancy can be a period of distress for some women, and it is important to determine what factors are important for these women. This research also needs to be replicated with clinical samples, as it is possible that some predictive relationships may emerge only at higher levels of distress.

Treating therapists should acknowledge the importance of women’s attachment styles and consider women’s expectations of their partners, and help negotiate mutually satisfying strategies to live more happily in their family formation.
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APPENDIX 1
PILOT STUDY QUESTIONNAIRE
CONSENT INFORMATION STATEMENT

Title: The development of the Parenting Self-Perception Scale

Investigators: Celeste Benetti (Doctorate in Clinical Psychology Candidate, Swinburne University)  
Assoc. Professor Roger Cook (Principal Research Supervisor, Swinburne University)  
Professor Michael Kyrios (Research Supervisor, Swinburne University)

Thank you for your interest in this research project. I (Celeste Benetti) am conducting this research as a requirement of my Professional Doctorate in Clinical Psychology, under the supervision of Associate Professor Roger Cook and Professor Michael Kyrios. The aim of this research is to investigate the way that parents perceive themselves and what they feel is important to them. It is hoped that findings from this research will provide a greater understanding of these areas in mothers and fathers of young children.

The study requires that you are between 18 and 45 years of age and are the parent of at least one child, and that your oldest child is not more than 36 months of age. If you choose to take part in this research you are asked to complete the following questionnaire (this should only take approximately 10 minutes), however, participation is entirely voluntary and you are free to withdraw at any time, for any reason. All responses will be anonymous, and you will not be asked to provide any identifying information. Results of this study will be presented as a Doctoral Thesis, and may be published in a scientific journal or presented at an academic conference. However, results will only be presented in terms of general trends, and individuals will not be identifiable. Your responses will be entirely confidential.

The questionnaire includes a series of questions relating to general demographic information. There are several questions relating to how different people perceive themselves, for example, “Some people like the kind of person they are”. Other questions inquire about how important different aspects of life are to you, for example, “It is important to some parents to feel that they are an effective parent”.

Participation in this project will provide you with some insight into how psychological research can be conducted. It is not expected that participation will cause distress, however, if any of the issues or questions put to you do cause you any concern, please contact one of the following services:

Lifeline: 13 11 14 (24hours, 7 days) Nationally.
Parentline: 02 6287 3833 (ACT), 13 20 55 (NSW), 1300 30 13 00 (QLD&NT), 13 22 89 (VIC), 1300 36 41 00 (SA), 1300 80 81 78 (TAS), 1800 65 44 32 (WA)
Your consent to participate in this research is implied by completing the questionnaire. However, your participation in this research is entirely voluntary. You are free to withdraw your participation at any time, and for any reason.

If you would like further information or clarification of this project, please contact the senior investigator:

Associate Professor Roger Cook, H18
Swinburne University of Technology, P O Box 218, HAWTHORN, Vic 3122
Telephone no.: 039 214 8358.
Email: rcook@swin.edu.au

This project has been approved by or on behalf of Swinburne’s Human Research Ethics Committee (SUHREC) in line with the National Statement on Ethical Conduct in Research Involving Humans. If you have any concerns or complaints about the conduct of this project, you can contact:

Research Ethics Officer, Swinburne Research (H68),
Swinburne University of Technology, P O Box 218, HAWTHORN, Vic 3122
Tel (03) 9214 5218 or +61 3 9214 5218 or resethics@swin.edu.au

Many Thanks,

Celeste Benetti
Assoc. Prof. Roger Cook
Prof. Michael Kyrios

PLEASE PRINT AND RETAIN FOR YOUR RECORDS
Please select the most appropriate responses

GENDER
Please select: Female Male

AGE
Please select:
1. 18-22
2. 23-27
3. 28-32
4. 33-37
5. 38-42
6. 43+

HIGHEST LEVEL OF EDUCATION
Please select:
1. Started but did not complete Secondary School
2. Completed Secondary School
3. Started/Completed Tertiary education other than University (e.g., trade school or TAFE)
4. Started/Completed an undergraduate University degree
5. Started/Completed a postgraduate University degree

MARITAL STATUS
Are you currently:
1. Single, never married
2. Single, divorced
3. In a committed relationship but not cohabitating
4. In a de facto or marriage-like relationship
5. Married

How many children do you have?

How old are each of your children?

First ........ weeks, or 
........ months, or 
........ years

Second ........ weeks, or 
........ months, or 
........ years

Third ........ weeks, or 
........ months, or 
........ years

Fourth ........ weeks, or 
........ months, or 
........ years

IF YOUR OLDEST CHILD IS MORE THAN 36 MONTHS OF AGE PLEASE DO NOT COMPLETE THIS STUDY
WHAT I AM LIKE

Below are statements which allow people to describe themselves. There are no right or wrong answers since people differ markedly. Please read the entire sentence across. First decide which one of the two parts of the statement best describes you; then go to that side of the statement and check whether that is just sort of true for you or really true for you. You will just check ONE of the four boxes for each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Really True for Me</th>
<th>Sort of True for Me</th>
<th>BUT</th>
<th>Really True for Me</th>
<th>Sort of True for Me</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Some parents wonder if they really understand their child’s needs</td>
<td>✅</td>
<td>✅</td>
<td>BUT</td>
<td>Other parents believe that they know how to take care of their child better than anyone.</td>
<td>✅</td>
</tr>
<tr>
<td>2. Some people like the way they are leading their lives BUT Other people don’t like the way they are leading their lives.</td>
<td>✅</td>
<td>✅</td>
<td>BUT</td>
<td>Other parents feel they know how much attention is “just right”.</td>
<td>✅</td>
</tr>
<tr>
<td>3. Some parents are unsure how much attention to give to their child BUT Other parents feel they know how much attention is “just right”.</td>
<td>✅</td>
<td>✅</td>
<td>BUT</td>
<td>Other people would like to be different</td>
<td>✅</td>
</tr>
<tr>
<td>4. Some people are very happy being the way they are BUT Other people like the way they are BUT Other people feel that they are a worthwhile person.</td>
<td>✅</td>
<td>✅</td>
<td>BUT</td>
<td>Other people feel that they are a worthwhile person.</td>
<td>✅</td>
</tr>
<tr>
<td>5. Some parents believe that they can easily soothe their child BUT Other parents sometimes worry that they will not be able to stop their child crying.</td>
<td>✅</td>
<td>✅</td>
<td>BUT</td>
<td>Other parents are not sure if they are doing a good job.</td>
<td>✅</td>
</tr>
<tr>
<td>6. Some people sometimes question whether they are a worthwhile person BUT Other people feel that they are a worthwhile person.</td>
<td>✅</td>
<td>✅</td>
<td>BUT</td>
<td>Other people are quite pleased with themselves.</td>
<td>✅</td>
</tr>
<tr>
<td>7. Some parents feel competent in their role as a parent BUT Other parents feel that they are the ones being manipulated</td>
<td>✅</td>
<td>✅</td>
<td>BUT</td>
<td>Other people are dissatisfied with themselves.</td>
<td>✅</td>
</tr>
<tr>
<td>8. Some people are disappointed with themselves BUT Other people are satisfied with themselves.</td>
<td>✅</td>
<td>✅</td>
<td>BUT</td>
<td>Other people feel that they have caught on quickly to being a parent.</td>
<td>✅</td>
</tr>
<tr>
<td>9. Some parents have difficulty interpreting their child’s cries BUT Other parents believe that if anyone can tell what is troubling their child, they are the one.</td>
<td>✅</td>
<td>✅</td>
<td>BUT</td>
<td>Other people would like to be someone else.</td>
<td>✅</td>
</tr>
</tbody>
</table>
14. □ □ □ Some people feel that they are often too serious about their life BUT Other people are able to find humour in their life. □ □

15. □ □ □ Some parents believe that they have all the skills needed to be a good parent BUT Other parents feel unprepared for being a parent. □ □

When you answer these questions, think about how important these things are to how you feel about yourself as a person. These questions do not concern whether these things should be important, or whether it is a value one tries to live up to, or whether one appreciates these qualities in another person, or whether it is important to society. We want you to think whether they are items really are important to you personally, and whether you behave as though they are important.

<table>
<thead>
<tr>
<th>Really True for Me</th>
<th>Sort of True for Me</th>
<th>BUT</th>
<th>Really True for Me</th>
<th>Sort of True for Me</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>□</td>
<td>□</td>
<td>It is important to some parents to feel that they are an effective parent</td>
<td>BUT</td>
</tr>
<tr>
<td>2.</td>
<td>□</td>
<td>□</td>
<td>Some people do not think it is important to be able to laugh at stupid things they do</td>
<td>BUT</td>
</tr>
<tr>
<td>3.</td>
<td>□</td>
<td>□</td>
<td>Some parents would feel a loss if they were forced to give up being a parent.</td>
<td>BUT</td>
</tr>
<tr>
<td>4.</td>
<td>□</td>
<td>□</td>
<td>Some people think that being inventive or creative is important</td>
<td>BUT</td>
</tr>
<tr>
<td>5.</td>
<td>□</td>
<td>□</td>
<td>Some parents feel that life would be empty without children.</td>
<td>BUT</td>
</tr>
<tr>
<td>6.</td>
<td>□</td>
<td>□</td>
<td>Some people think that it is important to be able to laugh at certain things they do</td>
<td>BUT</td>
</tr>
<tr>
<td>7.</td>
<td>□</td>
<td>□</td>
<td>Some parents feel that there are many other things in life besides parenthood.</td>
<td>BUT</td>
</tr>
<tr>
<td>8.</td>
<td>□</td>
<td>□</td>
<td>Some people feel that behaving morally is important</td>
<td>BUT</td>
</tr>
</tbody>
</table>
APPENDIX 2
CONTROL GROUP QUESTIONNAIRE
CONSENT INFORMATION STATEMENT

Title: An investigation into attachment, perfectionism, self-concept and psychological functioning in new and expecting parents, and adults without children.

Investigators: Celeste Benetti (Doctorate in Clinical Psychology Candidate, Swinburne University)
Assoc. Professor Roger Cook (Principal Research Supervisor, Swinburne University)
Professor Michael Kyrios (Research Supervisor, Swinburne University)

Thank you for your interest in this research project. I (Celeste Benetti) am conducting this research as a requirement of my Professional Doctorate in Clinical Psychology, under the supervision of Associate Professor Roger Cook and Professor Michael Kyrios. The aim of this research is to clarify the influences of adult attachment and personality on psychological functioning during pregnancy and the first year after childbirth. A further aim is to compare these findings to those of people who have never had children. It is hoped that findings from this research will provide a greater understanding of factors which influence psychological functioning in new parents, and therefore lead to improved service delivery in the wider community.

The study requires that you are between 18 and 45 years of age and that you have not had children and are not currently pregnant. If you choose to take part in this research you are asked to complete the following questionnaire (this should only take approximately 20 minutes). However, participation is entirely voluntary and you are free to withdraw at any time, for any reason. All responses will be anonymous, and you will not be asked to provide any identifying information. Results of this study will be presented as a Doctoral Thesis, and may be published in a scientific journal or presented at an academic conference. Results will only be presented in terms of general trends, and individuals will not be identifiable. Your responses will be entirely confidential.

The questionnaire includes a series of questions relating to general demographic information. There are several questions relating to mental health issues, for example, "I felt I was close to panic?.. Other questions inquire about personality, such as "I set higher goals than most people?. There are also questions about how you generally relate to your partners in romantic relationships, e.g., "I turn to my partner for many things, including comfort and reassurance?.. Participation in this project will provide you with some insight into how psychological research can be conducted. It is not expected that participation will cause distress, however, if any of the issues or questions put to you do cause you any concern, please contact one of the following services:
Lifeline: 13 11 14 (24hours, 7 days) Nationally.
Mensline: 1300 79 98 78 (24hours, 7 days) Nationally.
Parentline: 02 6287 3833(ACT), 13 20 55 (NSW),
1300 30 13 00(QLD&NT), 13 22 89(VIC),
1300 36 41 00(SA), 1300 80 81 78(TAS),
1800 65 44 32 (WA)

Your consent to participate in this research is implied by completing the following
questionnaire. Your participation in this research is entirely voluntary. You are free to
withdraw your participation at any time, for any reason.

If you would like further information or clarification of this project, please contact the
senior investigator:

Associate Professor Roger Cook, H18
Swinburne University of Technology, P O Box 218, HAWTHORN, Vic 3122
Telephone no.: 039 214 8358.
Email: rcook@swin.edu.au

This project has been approved by Swinburne's Human Research Ethics Committee
(SUHREC) in line with the National Statement on Ethical Conduct in Research Involving
Humans. If you have any concerns or complaints about the conduct of this project, you can
contact:

Research Ethics Officer, Swinburne Research (H68),
Swinburne University of Technology, P O Box 218, HAWTHORN, Vic 3122
Tel (03) 9214 5218 or +61 3 9214 5218 or resethics@swin.edu.au

Many Thanks,

Celeste Benetti
Assoc. Prof. Roger Cook
Prof. Michael Kyrios

PLEASE PRINT AND RETAIN FOR YOUR RECORDS
Please select the most appropriate responses

**GENDER**
Please select: Female Male

**AGE**
Please select:
- 7. 18-22
- 8. 23-27
- 9. 28-32
- 10. 33-37
- 11. 38-42
- 12. 43+

**HIGHEST LEVEL OF EDUCATION**
Please select:
- 6. Started but did not complete Secondary School
- 7. Completed Secondary School
- 8. Started/Completed Tertiary education other than University (e.g., trade school or TAFE)
- 9. Started/Completed an undergraduate University degree
- 10. Started/Completed a postgraduate University degree

**MARITAL STATUS**
Are you currently:
- 1. Single, never married
- 2. Single, divorced
- 3. In a committed relationship but not cohabitating
- 4. In a defacto or marriage-like relationship
- 5. Married

**FOR CURRENTLY PREGNANT /PARTNER CURRENTLY PREGNANT PARTICIPANTS**

**PRENAGENCY DETAILS**
How many weeks pregnant are you/is your partner? ............

Is this your first child? (please select) Yes No
No (if no please do not complete the rest of this study)

Is this a single or multiple pregnancy? (please select) Single Multiple Unknown

Was this pregnancy planned? Yes No

**FOR PARTICIPANTS WITH CHILDREN**

How old is your child?
Please Write ......... weeks ......... months

Was this your first child? Yes No
No (if no please do not complete the rest of this study).

Was your child full-term (born after 36 weeks)? Yes No
No, s/he was born at ....... weeks

Was this a single or multiple birth? (please select) Single Multiple

Was the pregnancy planned? Yes No
The following statements concern how you feel in **romantic relationships**. We are interested in how you generally experience relationships, not just in what is happening in your current relationship. Respond to each statement by indicating how much you agree or disagree with it. Select the number using the following scale:

<table>
<thead>
<tr>
<th>Disagree strongly</th>
<th>Neutral/mixed</th>
<th>Agree strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. I prefer not to show a partner how I feel deep down
2. I worry about being abandoned.
3. I am very comfortable being close to romantic partners.
4. I worry a lot about my relationships.
5. Just when my partner starts to get close to me I find myself pulling away.
6. I worry that romantic partners won’t care about me as much as I care about them.
7. I get uncomfortable when a romantic partner wants to be very close.
8. I worry a fair amount about losing my partner.
9. I don’t feel comfortable opening up to romantic partners.
10. I often wish that my partner’s feelings for me were as strong as my feelings for him/her.
11. I want to get close to my partner, but I keep pulling back.
12. I often want to merge completely with romantic partners, and this sometimes scares them away.
13. I am nervous when partners get too close to me.
15. I feel comfortable sharing my private thoughts and feelings with my partner.
16. My desire to be very close sometimes scares people away.
17. I try to avoid getting too close to my partner.
18. I need a lot of reassurance that I am loved by my partner.
19. I find it relatively easy to get close to my partner.
20. Sometimes I feel that I force my partners to show more feeling, more commitment.
21. I find it difficult to allow myself to depend on romantic partners.
22. I do not often worry about being abandoned.
23. I prefer not to be too close to romantic partners.
24. if I can’t get my partner to show interest in me, I get upset or angry.
25. I tell my partner just about everything.
26. I find that my partner(s) don’t want to get as close as I would like.
<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>27. I usually discuss my problems and concerns with my partner.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>28. When I’m not involved in a relationship, I feel somewhat anxious and insecure.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>29. I feel comfortable depending on romantic partners.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>30. I get frustrated when my partner is not around as much as I would like.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>31. I don’t mind asking romantic partners for comfort, advice, or help.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>32. I get frustrated if romantic partners are not available when I need them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>33. It helps to turn to my romantic partner in times of need.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>34. When romantic partners disapprove of me, I feel really bad about myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>35. I turn to my partner for many things, including comfort and reassurance.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>36. I resent it when my partner spends time away from me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

Below are a number of statements, please select the extent to which each statement generally applies to you according to the following scale:

1. Strongly disagree
2. Neutral
3. Strongly agree

<p>| | | | | |
|   |   |   |   |   |
|---|---|---|---|
| 1. My parents set high standards for me. | 1 | 2 | 3 | 4 | 5 |
| 2. Organisation is very important to me. | 1 | 2 | 3 | 4 | 5 |
| 3. As a child, I was punished for doing things less than perfect. | 1 | 2 | 3 | 4 | 5 |
| 4. If I don not set the highest standards for myself, I am likely to end up a second-rate person. | 1 | 2 | 3 | 4 | 5 |
| 5. My parents never tried to understand my mistakes. | 1 | 2 | 3 | 4 | 5 |
| 6. It is important to me that I am thoroughly competent in everything I do. | 1 | 2 | 3 | 4 | 5 |
| 7. I am a neat person. | 1 | 2 | 3 | 4 | 5 |
| 8. I try to be an organised person. | 1 | 2 | 3 | 4 | 5 |
| 9. If I fail at work/school, I am a failure as a person. | 1 | 2 | 3 | 4 | 5 |
| 10. I should be upset if I make a mistake. | 1 | 2 | 3 | 4 | 5 |
| 11. My parents wanted me to be the best at everything. | 1 | 2 | 3 | 4 | 5 |
| 12. I set higher goals than most people. | 1 | 2 | 3 | 4 | 5 |
| 13. If someone does a task at work/school better than I, then I feel like I failed the whole task. | 1 | 2 | 3 | 4 | 5 |
| 14. If I fail partly, it is as bad as being a complete failure. | 1 | 2 | 3 | 4 | 5 |
| 15. Only outstanding performance is good enough in my family. | 1 | 2 | 3 | 4 | 5 |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>16.</td>
<td>I am very good at focusing my efforts on attaining a goal.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17.</td>
<td>Even when I do something very carefully, I often feel that it is not quite right.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18.</td>
<td>I hate being less than the best at things.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19.</td>
<td>I have extremely high goals.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20.</td>
<td>My parents have expected excellence from me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>21.</td>
<td>People will probably think less of me if I make a mistake.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>22.</td>
<td>I never felt like I could meet my parents’ expectations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>23.</td>
<td>If I do not do as well as other people, it means I am an inferior human being.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>24.</td>
<td>Other people seem to accept lower standards from themselves than I do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>25.</td>
<td>If I do not do well all the time, people will not respect me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>26.</td>
<td>My parents have always had higher expectations for my future than I have.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>27.</td>
<td>I try to be a neat person.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>28.</td>
<td>I usually have doubts about the simple everyday things I do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>29.</td>
<td>Neatness is very important to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>30.</td>
<td>I expect higher performance in my daily tasks than most people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>31.</td>
<td>I am an organised person.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>32.</td>
<td>I tend to get behind in my work because I repeat things over and over.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>33.</td>
<td>It takes me a long time to do something “right”.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>34.</td>
<td>The fewer mistakes I make, the more people will like me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>35.</td>
<td>I never felt like I could meet my parents’ standards.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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</tbody>
</table>
Please read each statement and select the number, 0, 1, 2 or 3, which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0 Did not apply to me at all
1 Applied to me to some degree, or some of the time
2 Applied to me to a considerable degree, or a good part of time
3 Applied to me very much, or most of the time

<table>
<thead>
<tr>
<th>Statement</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 I found it hard to wind down</td>
<td></td>
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<tr>
<td>2 I was aware of dryness of my mouth</td>
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<tr>
<td>3 I couldn't seem to experience any positive feeling at all</td>
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<tr>
<td>4 I experienced breathing difficulty (eg, excessively rapid breathing,</td>
<td></td>
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<tr>
<td>breathlessness in the absence of physical exertion)</td>
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<tr>
<td>5 I found it difficult to work up the initiative to do things</td>
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<tr>
<td>6 I tended to over-react to situations</td>
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<td>7 I experienced trembling (eg, in the hands)</td>
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<tr>
<td>8 I felt that I was using a lot of nervous energy</td>
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<tr>
<td>9 I was worried about situations in which I might panic and make</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>a fool of myself</td>
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<tr>
<td>10 I felt that I had nothing to look forward to</td>
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<tr>
<td>11 I found myself getting agitated</td>
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<tr>
<td>12 I found it difficult to relax</td>
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<tr>
<td>13 I felt down-hearted and blue</td>
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<tr>
<td>14 I was intolerant of anything that kept me from getting on with</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>what I was doing</td>
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<tr>
<td>15 I felt I was close to panic</td>
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<tr>
<td>16 I was unable to become enthusiastic about anything</td>
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<tr>
<td>17 I felt I wasn't worth much as a person</td>
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<tr>
<td>18 I felt that I was rather touchy</td>
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<tr>
<td>19 I was aware of the action of my heart in the absence of physical</td>
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<tr>
<td>exertion (eg, sense of heart rate increase, heart missing a beat)</td>
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<tr>
<td>20 I felt scared without any good reason</td>
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<tr>
<td>21 I felt that life was meaningless</td>
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</tbody>
</table>
The following statements refer to experiences that many people have in their everyday lives. Select the number that best describes HOW MUCH that experience has DISTRESSED or BOTHERED you during the PAST MONTH. The numbers refer to the following verbal labels.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at all</td>
<td>A little</td>
<td>Moderately</td>
<td>A lot</td>
<td>Extremely</td>
</tr>
</tbody>
</table>

1. I have saved up so many things that they get in the way. 0 1 2 3 4
2. I check things more often than necessary. 0 1 2 3 4
3. I get upset if objects are not arranged properly. 0 1 2 3 4
4. I feel compelled to count while I am doing things. 0 1 2 3 4
5. I find it difficult to touch an object when I know it has been touched by strangers or certain people. 0 1 2 3 4
6. I find it difficult to control my own thoughts. 0 1 2 3 4
7. I collect things that I don’t need. 0 1 2 3 4
8. I repeatedly check doors, windows, drawers, etc. 0 1 2 3 4
9. I get upset if others change the way I have arranged things. 0 1 2 3 4
10. I feel I have to repeat certain numbers. 0 1 2 3 4
11. I sometimes have to wash or clean myself simply because I feel contaminated. 0 1 2 3 4
12. I am upset by unpleasant thoughts that come into my mind against my will. 0 1 2 3 4
13. I avoid throwing things away because I am afraid I might need them later. 0 1 2 3 4
14. I repeatedly check gas and water taps and light switches after turning them off. 0 1 2 3 4
15. I need things to be arranged in a particular order. 0 1 2 3 4
16. I feel that there are good and bad numbers. 0 1 2 3 4
17. I wash my hands more often and longer than necessary. 0 1 2 3 4
18. I frequently get nasty thoughts and have difficulty in getting rid of them. 0 1 2 3 4
WHAT I AM LIKE

Below are statements which allow people to describe themselves. There are no right or wrong answers since people differ markedly. Please read the entire sentence across. First decide which one of the two parts of the statement best describes you; then go to that side of the statement and check whether that is just sort of true for you or really true for you. You will just check ONE of the four boxes for each statement.

<table>
<thead>
<tr>
<th></th>
<th>Really True for Me</th>
<th>Sort of True for Me</th>
<th>BUT</th>
<th>Other adults don’t like the way they are leading their lives</th>
<th>Sort of True for Me</th>
<th>Really True for Me</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>☐</td>
<td>☐</td>
<td>BUT</td>
<td>Other adults don’t like the way they are leading their lives</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2.</td>
<td>☐</td>
<td>☐</td>
<td>BUT</td>
<td>Other adults have trouble living up to their moral standards</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3.</td>
<td>☐</td>
<td>☐</td>
<td>BUT</td>
<td>Other adults would like to be different</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>4.</td>
<td>☐</td>
<td>☐</td>
<td>BUT</td>
<td>Other adults think they are quite moral</td>
<td>☐</td>
<td>☐</td>
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**IMPORTANCE RATINGS**

When you answer these questions, think about how important these things are to how you feel about yourself as a person. These questions do not concern whether these things should be important, or whether it is a value one tries to live up to, or whether one appreciates these qualities in another person, or whether it is important to society. We want you to think whether they are items really are important to you personally, and whether you behave as though they are important.

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THANKYOU
APPENDIX 3
PSPS QUESTIONNAIRE FOR EXPECTANT PARENTS AND FOR NEW PARENTS
EXPECTANT PARENTS

WHAT I AM LIKE

Below are statements which allow people to describe themselves. There are no right or wrong answers since people differ markedly. Please read the entire sentence across. First decide which one of the two parts of the statement best describes you; then go to that side of the statement and check whether that is just sort of true for you or really true for you. You will just check ONE of the four boxes for each statement.

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11. Some adults are dissatisfied with themselves \hspace{1cm} \textbf{BUT} \hspace{1cm} Other adults are satisfied with themselves

12. Some adults often question the morality of their behaviour \hspace{1cm} \textbf{BUT} \hspace{1cm} Other adults feel that their behaviour is usually moral.

13. Some parents believe that they will have all the skills needed to be a good parent \hspace{1cm} \textbf{BUT} \hspace{1cm} Other parents feel unprepared for being a parent

14. Some adults like the kind of person they are \hspace{1cm} \textbf{BUT} \hspace{1cm} Other adults would like to be someone else
**IMPORTANCE RATINGS**

When you answer these questions, think about how important these things are to how you feel about yourself as a person. These questions do not concern whether these things should be important, or whether it is a value one tries to live up to, or whether one appreciates these qualities in another person, or whether it is important to society. We want you to think whether they are items really are important to you personally, and whether you behave as though they are important.

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**NEW PARENTS**

**WHAT I AM LIKE**

Below are statements which allow people to describe themselves. There are no right or wrong answers since people differ markedly. Please read the entire sentence across. *First* decide which one of the two parts of the statement *best describes you*; then go to that side of the statement and check whether that is just *sort of true* for you or *really true* for you. You will just check ONE of the four boxes for each statement.

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APPENDIX 4
FORUM RECRUITMENT “POSTS”
Pilot study

**Heading: Volunteers needed for research: The development of the Parenting Self-Perceptions Scale**

Hello everyone,

My name is Celeste, and I am currently completing a Doctorate in Clinical Psychology at Swinburne University in Melbourne. For part of my research thesis I am investigating how parents perceive themselves in different areas of their life. My study requires that you be between 18 and 45 years of age, and I am recruiting both males and females who have children, and whose oldest child is 36 months of age or younger.

This research aims to increase knowledge relating to self-perceptions and takes approximately 10 minutes to complete. If you are interested in completing this study, please click on the link below for more information and access to the questionnaire. If you think your partner or friend/s may be interested, please also forward the link to them too.

*Link for questionnaire*

Many thanks,
Celeste Benetti
DPsych (Clinical) Candidate
Swinburne University of Technology, Melbourne.
Main Study

**Heading:** Volunteers needed for research: Psychological functioning in new & expecting parents.

Hello everyone,
My name is Celeste, and I am currently completing a Doctorate in Clinical Psychology at Swinburne University in Melbourne. For my research thesis I am investigating psychological functioning in new and expecting first time parents. I am also seeking individuals who have never had children.

My study requires that you be between 18 and 45 years of age, and I am recruiting both males and females. I am investigating three groups:

- Expecting parents who are more than 12 weeks into their first pregnancy.
- New parents who have a child less than 12 months of age.
- Adults who have not had children.

This research aims to increase knowledge relating to types of symptoms experienced and factors which may influence these symptoms, and takes approximately 20 minutes to complete. If you are interested in completing this study, please click on the relevant link below for more information and access to the questionnaire. If you think your partner or friend/s may be interested, please also forward the link to them too.

*Link for expecting parents*
*Link for new parents*
*Link for people who have not had children*

Many thanks,
Celeste Benetti
DPsych (Clinical) Candidate
Swinburne University of Technology, Melbourne
APPENDIX 5

ETHICS APPROVAL
PILOT STUDY

To: Assoc Prof Roger Cook/Ms Celeste Benetti, FLSS

Dear Roger and Celeste

SUHREC Project 0708/148 The development of the Parenting Self-Perception Scale
Assoc Prof Roger Cook FLSS Ms Celeste Benetti
Approved Duration: 18/03/2008 To 01/10/2008

I refer to the ethical review of the above project protocols undertaken by Swinburne's Human Research Ethics Committee (SUHREC). Your responses to the review, as emailed on 6 March 2008 with attachments and further clarification by email on 7 March 2008, were put to a delegate of SUHREC for consideration.

I am pleased to advise that approval for the project to proceed has been given as submitted to date in line with standard on-going ethics clearance conditions here outlined.

- All human research activity undertaken under Swinburne auspices must conform to Swinburne and external regulatory standards, including the National Statement on Ethical Conduct in Human Research and with respect to secure data use, retention and disposal.

- The named Swinburne Chief Investigator/Supervisor remains responsible for any personnel appointed to or associated with the project being made aware of ethics clearance conditions, including research and consent procedures or instruments approved. Any change in chief investigator-supervisor requires timely notification and SUHREC endorsement.

- The above project has been approved as submitted for ethical review by or on behalf of SUHREC. Amendments to approved procedures or instruments ordinarily require prior ethical appraisal/clearance. SUHREC must be notified immediately or as soon as possible thereafter of (a) any serious or unexpected adverse effects on participants and any redress measures; (b) proposed changes in protocols; and (c) unforeseen events which might affect continued ethical acceptability of the project.

- At a minimum, an annual report on the progress of the
project is required as well as at the conclusion (or abandonment) of the project.

- A duly authorised external or internal audit of the project may be undertaken at any time.

Please contact me if you have any queries about on-going ethics clearance. The SUHREC project number should be quoted in communication.

Best wishes for the project.

Yours sincerely

Keith Wilkins
Secretary, SUHREC

***************************************************************************
Dear Roger and Celeste

SUHREC Project 0708/117 An investigation into attachment, perfectionism, self-concept and mental health in new and expecting parents
A/Prof R Cook FLSS Ms Celeste Beneti, Prof Michael Kyrios
Approved Duration: 31/01/2008 To 30/09/2009
[Modified/Extended May 2008]

I refer to your request to modify the above approved protocol and extend the project as per your email of 22 May 2008. The request was put to a SUHREC delegate for consideration and, I am pleased to advise, approved in line with standard on-going ethics clearance conditions previously communicated to you and reprinted below.

Please contact me if you have any queries about on-going ethics clearance. The SUHREC project number should be quoted in communication.

Best wishes for the modified project.

Yours sincerely

Keith Wilkins
Secretary, SUHREC

Assoc Prof Roger Cook/Ms Celeste Beneti, FLSS

Dear Roger and Celeste

SUHREC Project 0708/117 An investigation into attachment, perfectionism, self-concept and mental health in new and expecting parents
A/Prof R Cook FLSS Ms Celeste Beneti, Prof Michael Kyrios
Approved Duration: 31/01/2008 To 01/06/2008

I refer to the ethical review of the above project protocols undertaken by Swinburne’s Human Research Ethics Committee (SUHREC). Your responses to the review (as emailed on 25 January 2008 with attachments) were put to the Acting Chair of SUHREC for consideration.

I am pleased to advise that approval for the project to proceed has been given as submitted to date in line standard
on-going ethics clearance conditions here outlined.

- All human research activity undertaken under Swinburne auspices must conform to Swinburne and external regulatory standards, including the National Statement on Ethical Conduct in Human Research and with respect to secure data use, retention and disposal.

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- The above project has been approved as submitted for ethical review by or on behalf of SUHREC. Amendments to approved procedures or instruments ordinarily require prior ethical appraisal/ clearance. SUHREC must be notified immediately or as soon as possible thereafter of (a) any serious or unexpected adverse effects on participants and any redress measures; (b) proposed changes in protocols; and (c) unforeseen events which might affect continued ethical acceptability of the project.

- At a minimum, an annual report on the progress of the project is required as well as at the conclusion (or abandonment) of the project.

- A duly authorised external or internal audit of the project may be undertaken at any time.

Please contact me if you have any queries about on-going ethics clearance. The SUHREC project number should be quoted in communication.

Best wishes for the project.

Yours sincerely

Keith Wilkins
Secretary, SUHREC