The Couple CARE for Parents Program: Enhancing Couple Relationships across the Transition to Parenthood

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Abstract

Most couples eagerly anticipate the birth of their first child. However, the transition to parenthood is also associated with significant lifestyle changes and approximately 50% of couples report a moderate to severe decline in relationship satisfaction and quality. Low relationship satisfaction is associated with increased couple conflict, individual psychological distress, negative parent-child relationships and poor child outcomes. Despite our increasing knowledge of the factors that predict enhanced couple adjustment, few evidence-based programs are available to assist couples’ adjustment to parenthood. In this first randomized controlled trial evaluating the effectiveness of a flexible delivery psycho-education program, entitled ‘Couple CARE for Parents’, 71 pregnant couples were assessed on self-report and observational measures of couple relationship and individual functioning and then randomized into either the Couple CARE for Parents program (n = 35) or a comparison program (n = 36). Couple CARE for Parents was a six unit program, comprising of an antenatal workshop, two home visits and three telephone support calls, and included skill-training in key relationship processes that are predictive of couple relationship quality, with the addition of parenting and baby care information. Among intervention couples the typical decline in female relationship satisfaction was prevented, with only 13% of intervention females reporting a decline in relationship satisfaction from pregnancy to 5 months postpartum, compared to 42% of females in the comparison program. Observed couple communication also improved as a result of the intervention, with Couple CARE for Parents couples showing reliably lower rates of negative speaker and listener skills at post-intervention relative to comparison couples. Couples were highly engaged in Couple CARE for Parents and there was a low drop out rate across the 7 month intervention period. These findings are
promising and add to the early intervention studies showing positive effects of couple-focused psycho-education during the transition to parenthood by demonstrating that flexible delivery programs are feasible and attractive to couples. Providing cost-effective couple relationship education to expectant and new parent couples opens another window of opportunity for health professionals and governments to minimize the rates of relationship distress and divorce and their associated negative effects on individual, couple and family functioning.
Declaration of Originality

This work has not previously been submitted for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

______________________________

Jemima F. Petch
June 2006
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CHAPTER 1
The Significance of the Transition to Parenthood

Rebecca: “We always knew that we would have a family after getting married. But, I wasn’t prepared for how hard it was once our son, Jack came home from the hospital. There was so much to learn and I was so tired all the time from the night-time breastfeeding. When my husband, Scott had to go back to work after 1 week at home with us, I felt we started losing touch with each other’s worlds. I stayed at home and did the baby care and housework and he went to work. He could go out of the house... talk and work with other adults. He was still productive and earning good money.”

Scott: “Rebecca and I started arguing more a few weeks after I went back to work. I think she felt I wasn’t doing enough to help out with Jack and the housework – especially the housework! I try to help out but I’m knackered after work because I’ve been putting in extra hours at the office to make up for us not having Rebecca’s income. I’m also disappointed because Rebecca seems pre-occupied with Jack and we haven’t had any couple time in 3 months. I know Rebecca and I need to talk to each other more about these things – like we used to before Jack, but finding time is so hard.”

(A couple reflect on their transition to parenthood; Couple CARE for Parents study, 2003).
Most couples eagerly anticipate the birth of their first child. Given the positive feelings that are usually associated with the decision to have a child, it can be confusing and distressing for new parents to experience the strains associated with the extensive responsibilities of parenthood. Couples face numerous challenges across the transition to parenthood period, such as; 24 hour a day care of a dependent infant, sleep deprivation, gender role changes and lack of time for their individual interests and couple relationship needs. For some couples these changes are challenging and lead to relationship and individual distress and poor parent-child relationships. Yet very few programs exist to assist couples making the transition to parenthood. In this thesis I developed and evaluated a couple-focused psycho-education program for couples making the transition to parenthood.

The thesis is divided into six chapters. This first chapter describes the significance of the transition to parenthood, with a focus on the common demands placed on parents and the effects this transition has on the individual and couple adjustment. Chapter 2 examines the predictors of couple adjustment to parenthood and summarizes both the risk and protective factors that are potential targets for intervention. The focus of Chapter 3 is on reviewing psycho-education programs available to parents across the transition to parenthood. Chapter 4 describes the development and pilot evaluation of a couple-focused psycho-education program for couples making the transition to parenthood, entitled ‘Couple CARE for Parents’. The last chapter, Chapter 5, reports the findings of a randomized controlled trial of the Couple CARE for Parents program, integrates these
empirical findings with previous research, and presents the final conclusions.

**Australian Couples in the 21st Century**

Since the 1950's Australia, like the USA and much of Western Europe, has seen major structural and cultural changes in the nature of marriage and family arrangements (Weeks & Quinn, 2000). The most striking changes include higher rates of cohabitation before marriage (e.g., 15% in 1975 compared to 72% in 2004), both marriage and childbearing occurring later in life (current mean child-bearing age is 30 years for men and 28 years for women), a decrease in the average number of children per couple (e.g., 3 per couple in 1960 compared to 1.7 per couple in 2004), and higher rates of divorce (de Vaus, 2004). In the United States 50% of marriages, and a slightly lower proportion of UK and Australian marriages, end in divorce (Australian Institute of Family Studies, AIFS, 1993; National Statistics, 2005; United States Census Bureau, 2005). About 20% of Australian marriages end in divorce within the first 10 years of marriage (Australian Institute of Family Studies, 1993; Australian Institute of Family Studies, 2001).

Despite these societal and cultural trends, over 85% of Australian and over 90% of US couples choose to marry at some point in their lives, and the minority of the population who choose not to marry are involved in a committed couple relationship at some stage in their life (McDonald, 1995; United States Census Bureau, 2005). Approximately 90% of Australian and USA married couples also decide to have children.
The rate of childbearing among cohabiting couples is increasing. For example, 10% of Australian cohabiting couples became parents in 1998 (Rodriguez, 1998) and almost 30% of cohabiting couples in the USA became parents in 2001 (Rector, Johnson, Fagan, & Noyes, 2003). The decision to have children is therefore one of the most universal transitions couples experience (Glade, Bean, & Vira, 2005; Halford, 1999).

**The Association between Couple Relationship Functioning, Parenting and Child Outcome**

Relative to distressed couples, adults who are in a mutually satisfying, long-term couple relationship report higher self-ratings of health and well-being (Diener, Suh, Lucas, & Smith, 1999; Waite & Gallagher, 2000), greater resilience to the negative effects of life stresses (Coie, Watt, West, Hawkins, Asarnow, & Markman et al., 1993; Halford, Kelly, & Markman, 1997), lower rates of diagnosed psychological disorder (Gotlib & Beach, 1995; Halford, Bouma, Kelly, & Young, 1999), greater life expectancy (Friedman, Tucker, Schwartz, & Tomlinson, 1995; Waite & Gallagher, 2000), fewer diagnosed health problems (Burman & Margolin, 1992; Larson, Sawyers, & Larson, 1995; Waite & Gallagher, 2000), better coping with major illness (Schmaling & Sher, 2000), reduced absenteeism from work (Forthofer, Markman, Cox, Stanley, & Kessler, 1996), and greater personal wealth (Waite & Gallagher, 2000).

The benefits of a strong, mutually satisfying couple relationship are not limited to the individual adult partners. The couple relationship is often
regarded as the key determinant of family unity and the quality of family life (Erel & Burman, 1995). Data from a nationally representative, cross-sectional sample of over 1000 parents showed that parenting satisfaction is significantly higher for married parents with high marital satisfaction (Rogers & White, 1998). Using structural equation modeling, Rogers and White (1998) showed that the association between parenting satisfaction and marital quality is reciprocal, and operates similarly for mothers and fathers. Meta-analytic studies of the couple dyad and parent-child dyad indicate that there is a consistent interrelationship between couple relationship functioning and parent-child interactions, with average effect sizes ranging from $d = .46$ to $.62$ (Erel & Burman, 1995; Krishnakmuar & Buehler, 2000). The intercorrelation between the couple dyad and parent-child dyad has sometimes been referred to as the ‘spill-over’ effect. Spill-over refers to the direct transfer of mood and affect from one setting to another (Repetti, 1987).

The spill-over effect indicates that satisfied and positive couple relationships co-vary with satisfying and positive parent-child relationships, while negative couple relationships co-vary with negative parent-child relationships (Cox, Paley, Payne, & Burchinal, 1999a; Erel & Burman, 1995). Parents in satisfied couple relationships are more likely to engage in optimal parenting practices, such as providing their child with acceptance, support, sensitive parenting and consistent and appropriate discipline (Erel & Burman, 1995; Krishnakmuar & Buehler, 2000). In contrast couple conflict, particularly if aggressive and hostile, affects three key parenting
behaviors: (a) parental involvement and support (e.g., lack of acceptance of
the child), (b) parental disciplinary practices (especially if harsh), and (c)
parental consistency (e.g., inconsistent, unstructured, indifferent and
ineffective monitoring of child activities; Krishnakmuar & Buehler, 2000).
Other couple factors may influence parent-child interactions, including
mutual support, couple affection, caring, communication and general couple
stress (Erel & Burman, 1995; Pauli-Pott, Mertesacker, Bade, Bauer, &
Beckman, 2000). The positive spill-over effect of couple relationship
functioning to parent-child interactions remains stable and global even after
accounting for the effects of potential moderators. Potential moderators that
were examined by Erel and Burman (1995) included parent and child
gender, timing of measurement and definition of relationship quality.

Positive parenting practices correlate with positive child outcomes,
including mental, physical, educational, and peer-related adjustment (Coie
et al., 1993; Emery, 1982; Fincham, 1998; Sanders, Nicholson, & Floyd,
1997). Conversely, negative couple relationship functioning such as low
mutual support, relationship distress, couple conflict, separation and
divorce, are risk factors for child depression, withdrawal, conduct disorder,
insecure attachment, poor social competence and peer relationships, health
problems, and academic under-achievement (Amato, 1996; Cowan &
Cowan, 1990; Cumming & Davies, 1994; Easterbrooks, 1988;
Hetherington, 1988). Thus, supportive, mutually satisfying, and low conflict
couple relationships enhance the well-being of the entire family system.
The Historical Development of the Transition to Parenthood Literature

The transition to parenthood has attracted research interest for over 50 years. Initially, the birth of a couple’s first child was termed a marital and family life crisis (Dyer, 1963; Hill, 1949; LeMasters, 1957). These early studies relied on cross-sectional data, often collecting retrospective accounts of the transition to parenthood and using clinical populations with elevated rates of distress.

From the 1960’s researchers began to use longitudinal designs, examining the period from the third trimester of pregnancy to several years postpartum. By studying couples before, during, and after the transition to parenthood, researchers have obtained a sense of the changes couples experience as they negotiate from a two-person dyad to a three-person triad (Cox, Paley, Burchinal, & Payne, 1999b). The trajectory of individual and couple relationship adjustment across the transition to parenthood has now been examined using diverse measurement tools (e.g., interview data, self-report and observation of couple and infant interactions), to gain a wide and comprehensive account of the changes couples experience and report across this transition period.

Relationship satisfaction is the most frequently studied index of adjustment to parenthood. Other measures assess relationship quality, intimacy, frequency and severity of couple conflict, leisure behavior, division of labor, social and mutual support, stress and psychological disorders, parent-infant attachment, infant temperament, and parenting competence. One of the most robust findings of longitudinal studies tracking
couple adjustment from pregnancy to the postpartum period is a significant decline in mean relationship satisfaction after the birth of the first child (Belsky & Kelly, 1994; Belsky, Lang, & Rovine, 1985; Cowan & Cowan, 2000; Crohan, 1996; Feeney, Hohaus, Noller, & Alexander, 2001; Ruble, Fleming, Hackle, & Stangor, 1988; Shapiro, Gottman, & Carrere, 2000; Wallace & Gotlieb, 1990). However, mean relationship satisfaction also declines in childless couples with increasing duration of marriage (Crawford & Huston 1993; Hortacsu, 1999; Huston, McHale, & Crouter, 1986; Markman, Clements, & Wright, 1991; McDermaid, Huston, & McHale, 1990; McHale & Huston, 1985).

A recent meta-analysis of 97 studies with over 47,000 respondents, where approximately half of the studies sampled people with children and half sampled people without children, showed that parents reported lower marital satisfaction compared to non-parents (Twenge, Campbell, & Foster, 2003). This difference was most pronounced among mothers of infants. Only 38% of mothers with infants reported high marital satisfaction compared to 62% of childless couples (Twenge et al., 2003). Given that couples who have children are self-selecting, it is difficult to establish how much of the decline in mean relationship satisfaction is attributable to becoming a parent. None-the-less, mean relationship satisfaction does decline in new parents, especially mothers of infants, and shows greater variability than among childless couples.

The first researchers to examine the variability in couple relationship satisfaction across the transition to parenthood in detail were Belsky and
colleagues. For example, Belsky and Rovine (1990) studied 128 expecting couples, from the third trimester of pregnancy through to when the first child was 3 years of age, and noted that relationship satisfaction varied substantially across the sample. Approximately 30% of couples showed no change in relationship satisfaction, 19% showed an improvement, 38% showed a moderate decline and 13% of all new parents showed a severe decline in relationship satisfaction. Although there is some variability in the percentage of couples that show improvement, stabilization and decline in relationship satisfaction, approximately 50% of all couples making the transition to parenthood report declining relationship satisfaction (See Table 1.1).

The change in relationship satisfaction across parenthood may be immediate and short-term, steady and linear, or delayed (Huston & Vangelisti, 1995). For example, Belsky, Spanier and Rovine (1983) found a steady and linear decline in relationship satisfaction across the first 6 months of parenthood. Other researchers have found that the trajectory of relationship satisfaction varies between genders. Shapiro et al. (2000) noted that declining relationship satisfaction among women across the transition to parenthood was delayed until 3 months postpartum, with some women not reporting the first drop in relationship satisfaction until 2 years postpartum. Feeney et al. (2001) found women’s satisfaction with affective communication (a subscale of their relationship satisfaction measure) declined immediately after birth, while men did not report a drop on the same measure until 6 months postpartum. In general, studies often note that
women report a greater decline in relationship satisfaction, and a decline sooner after becoming a parent, than men (Belsky et al., 1983; Cowan & Cowan, 1992; Feeney et al. 2001; Kurdek, 1999; Shapiro et al., 2000; Waldron & Routh, 1981). Long-term follow-up studies suggest that decline in relationship satisfaction continues beyond the first year postpartum, but further research is needed to clarify this issue (Belsky et al., 1983; Cowan & Cowan, 2000).

Table 1.1

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<td>Feldman (1971)</td>
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Note. F = Female, M = Male. † Authors combined score on two (affective communication and time spent together) of four subscales of their relationship satisfaction measure.

Despite the declines in relationship satisfaction observed among half of all new parent couples, the divorce and separation rate of couples with children is lower when compared to childless couples (Fan, 2001; Morgan
& Rindfuss, 1985; White, 1990). The increase in marital stability associated with parenthood seems particularly evident for parents with young children (Fan, 2001), but appears to diminish as the child enters the preschool years (Waite & Lillard, 1991). Children thus appear to have the paradoxical effect of reducing relationship satisfaction and quality but increasing relationship stability (Fergusson, Horwood, & Lloyd, 1990; White, 1990). The difference in divorce rates may be a reflection of different reactions that couples with and without children have in response to declines in relationship satisfaction. Declining relationship satisfaction among couples who have children may prompt such couples to work harder on their relationship in order to stay together and raise their child (Cowan & Cowan, 2000). What is it about the birth and caretaking of a child that challenges the couple relationship? The following discussion examines the changes couples face as they negotiate the transition to parenthood.

The Demands of the Transition to Parenthood

Couples report that the birth of first child is usually associated with feelings of joy and pleasure (Gottman & Notarius, 2000). Parenting brings many rewards including: (a) fulfilment of strong biological needs to reproduce; (b) fulfilment of social expectations; (c) a sense of achievement; (d) carrying on of the family name; (e) fun, affection and companionship, and, (f) is often seen as a symbol of love and stability in the relationship (Feeney et al., 2001). On the other hand, parenthood brings numerous challenges and couples must negotiate these challenges in order to successfully grow and develop from a couple dyad into a family triad.
Infant Care

Many first-time parents are surprised by the reality of caring for a newborn infant who requires constant, 24-hour care, and is totally dependent upon them for food, shelter and clothing (Vanzetti & Duck, 1996). Almost every parent experiences some difficulty adjusting to and managing infant crying, sleeping and feeding, particularly first-time parents (Sollie & Miller, 1980; Vanzetti & Duck, 1996).

According to surveys of paediatricians, questions about infant sleeping patterns are the most frequently posed questions by new parents (Wolfson, Lacks, & Futterman, 1992). Newborn infants typically sleep in haphazard patterns for 16 to 20 hours per day, but some infants sleep as little as 10 hours a day for the first few days after birth (Sadeh, 1996). The longest continuous sleep period is generally about 4 hours and doubles to 8 hours by 8 months of age (Sadeh, 1996). During the first few months of life almost all (95%) infants cry when awakened, requiring a parental response and usually feeding before returning to sleep (Anders, Halpern, & Hua, 1992). For most new parents the night-time awakenings of normal, healthy infants are major disruptions in their own sleep patterns. Parental fatigue and exhaustion are therefore typically high among parents of young infants (Killien, 1998; Newman, 2000), and may continue being problematic for the parents beyond the first year of parenthood (Troy, 1999).

Serious parental sleep deprivation can result when an infant has a clinically recognized sleep disturbance. Sleep disturbances affect between 13 and 35% of infants and toddlers (Kuhn & Weidinger, 2000; Salzarulo &
Rigoard, 1987). Factors that may contribute to infant sleep disturbances include low birth weight, problematic delivery, anoxia, prolonged labour, a slow or delayed maturation of the sleep-wake cycle, difficult temperament (e.g., distractible, irritable, low sensory threshold), colic, teething problems, negative patterns of parent-infant bedtime interactions (e.g., parental over-responsiveness, inconsistent handling), insecure attachment, maternal psychopathology (e.g., anxiety, depression), couple conflict and family stress (Anders, Goodlin-Jones, & Sadeh, 2000; Benhamou, 2000; Kuhn & Weidinger, 2000; Wolfson et al., 1992; Zuckerman, Stevenson, & Bailey, 1987).

Along with the challenge of disrupted sleep patterns parents must cope with infant crying. Up until the age of 3 months infants cry approximately 2 hours a day, with crying duration peaking to 3 hours a day at 6 weeks of age (Brazelton, 1962). Infants may also fuss for several hours a day. Infant fussing is defined as being irritable and unsettled but not crying or vocalising continuously (Cole & Cole, 2001). Normal infant crying and irritability is associated with increased parental reports of negative emotions (e.g., stress, anxiety, anger), couple relationship distress and feelings of low parenting self-efficacy (Ahlborg & Strandmark, 2001; Lupton, 2000; Papousek & von Hofacker, 1998; Wilkes & Ames, 1986).

Infant crying is even more difficult for parents to manage in the case of colic which effects up to 20% of infants (Lindberg, Bohlin, & Hagekull, 1991). Colic encompasses a range of symptoms including extreme fussiness, sustained periods of crying (usually in the evening) and abdominal
discomfort. Symptom onset is typically 2 to 3 weeks postpartum and lessens by the time the infant is 3 to 4 months of age. Most new parents find colic crying an unpleasant experience, rating it as a major stressor leading to feelings of helplessness, guilt, incompetence and frustration (Wandersman, 1980). Although infants with colic typically thrive physically and are responsive, alert and active infants, persistent crying may negatively affect infant sleep-wake cycles, be associated with greater rates of neuro-motor immaturity and more difficult temperament (Martin & Colbert, 1997). Disturbed parent-infant relationships and dysregulatory patterns of face-to-face parent-infant interactions are also greater among infants with colic (Papousek & von Hofacker, 1998).

A third challenge of parenthood is infant feeding. Breastfeeding is promoted internationally as the preferred method of infant feeding (American Academy of Paediatrics, 2006; National Health and Medical Research Council, NHMRC, 2003; World Health Organization, WHO, 2001). There is now overwhelming evidence that breastfeeding protects against infant gastro-intestinal and respiratory infection, results in a reduced risk of sudden infant death syndrome (SIDS) and atopic disease, accelerates neuro-cognitive development and offers children long-term protection against obesity, Type I diabetes mellitus and lymphoma (NHMRC, 2003). The health benefits of breastfeeding also extend to the mother and include protective effects on rates of breast-cancer, ovarian cancer and osteoporosis (Kramer & Kakuma, 2001). Exclusive breastfeeding until the infant is 6
months of age is recommended in order to obtain these health benefits (WHO, 2001).

Up until 6 weeks of age infants typically demand a breastfeed every 2 to 3 hours, and experts recommend at least eight breastfeeds, spread over day and night, in every 24 hour period (Australian Breastfeeding Association, 2006; Cox, 2004). Breastfeeds can last anywhere between 5 minutes and 1 hour per feed, with four to six short feeds over 1 hour being normal in the first week (Cantrill, 2003). While more than 85% of women can successfully breastfeed, the demands of breastfeeding for the mother are quite high (Fairbank, O’Meara, Renfrew, Woolridge, Sowden, & Lister-Sharp, 2000) and the actual rate of breastfeeding in Western women is much lower than 85% (e.g., 60 to 70% at birth and 21to 39% by 6 months; Australian Breastfeeding Association, 2001; Blyth, Creedy, Dennis, Moyle, Pratt, & De Vries, 2002; Philipp, Merewood, Miller, Chawla, Murphy-Smith, Gomes, Cimo, & Cook, 2001; Ryan, 1997).

New breastfeeding mothers frequently describe feelings of failure and disillusionment about breastfeeding, reporting that the reality of breastfeeding contrasts sharply with the expectations portrayed by media and peers (Mozingo, Davis, Droppelman, & Merideth, 2000). Breastfeeding mothers may feel embarrassment about breastfeeding in public, worry about insufficient breast-milk supply, and experience painful breasts (e.g., mastitis, cracked nipples, or engorgement; Jain, 1996). Discontinuation of breastfeeding often occurs in response to these concerns. Other reasons for discontinuation of breastfeeding include a woman’s desire to return to the
workforce, the commercial availability of breast-milk substitutes (e.g., artificial breast-milk, formula, baby cereals), the perceived convenience of formula, or because partners and support people hold negative views and attitudes about breastfeeding (Scott & Binns, 1999). The provision of more postnatal information and support on successful breastfeeding is requested by many new breastfeeding mothers (Baghurst, 1988; Raisler, 2000). Desired information includes how to incorporate breastfeeding into daily routines, how to manage ambivalence about the physical bond of breastfeeding, and how to juggle breastfeeding and personal modesty (Raisler, 2000).

Infant feeding difficulties add to the challenges of breastfeeding. Transient feeding problems are very common in infants. More chronic feeding problems such as feeding disorder, failure to thrive and obesity affect more than 25% of normal developing infants and 35% of disabled infants (Manikam & Perman, 2000). The definition of feeding disorder remains unclear, and is often referred to as an inability or unwillingness to eat certain foods (Benoit, Green, & Arts-Rhodas, 1997). Failure to thrive generally refers to some type of severe or prolonged (e.g., over 1 month) weight loss, whereas obesity is considered on the basis of body fat to lean tissue or on body mass index. The symptoms and aetiology of feeding disorder, failure to thrive and obesity are complex and hindered by the lack of validated and universal diagnostic criteria. As these feeding problems are not the focus of this paper, suffice to say that all three are associated with poor infant health, growth, emotional, behavioral and developmental
outcomes, I recommend interested readers to Benoit, Manikam and Perman (2000). Along with infant sleep, crying and feeding, parents must negotiate the changes in physical, emotional and financial demands of parenthood.

*Individual Adjustment to Parenthood*

In the days and weeks after childbirth new parents experience a variety of emotional reactions to the experience of labor, parenthood and the responsibility of ensuring their infant’s health, safety and well-being (Feeney et al., 2001). The rapidly changing demands of parenthood require adults to reorganize their priorities (Hock, Schirtzinger, Lutz, & Widaman, 1995; Newman, 2000) and parents who struggle to adapt to these changes may feel incompetent, confused, overloaded and isolated (Newman, 2000). Over time such feelings are likely to increase stress, decrease feelings of parenthood as manageable and lead to the onset of depression and anxiety (Wilkes & Ames, 1986).

In general, women tend to be more profoundly affected by having a child than men (Pancer, Pratt, Hunsberger, & Gallant, 2000), and are more sensitive to the stresses and strains of parenthood (Cowan, Cowan, Heming, Garrett, Coysh, Curtis-Boles, & Boles, 1985; McHale & Huston, 1985; Thompson & Walker, 1989). The salience of parenthood is likely to be higher among women than men partly because pregnancy, birth and breastfeeding place major physical demands on women’s bodies (Cowan & Cowan, 2000; Lewis, 1989). In addition, women are more likely than men to be the primary care-giver of their infant (Pancer et al., 2000), and often
feel that the task of protecting the fetus, infant, and growing child are primarily their responsibility (Stern, 1998).

The accumulation of hormonal, physical and psychological changes experienced by women across the transition to parenthood probably cause the mild depression, frequently termed the ‘baby blues’, experienced by 80% of mothers in the 2 weeks after birth (Halbreich & Kornstein, 2004; Hoffbrand, Howard, & Crawley, 2001). Symptoms of the baby blues vary but include emotional lability, irritability, confusion and anxiety (Born, Zinga, & Steiner, 2004). Due to the transient nature of the baby blues relatively little research has investigated this common postpartum experience and both the causes and consequences of the baby blues are unclear.

When considering the occurrence of more serious psychological disorders, women with young children have higher rates of depression, psychosis and post-traumatic stress disorder (PTSD) than at any other time in their life (Bright, 1994; Webster, Linnane, Dibley, & Pritchard, 2000). Postnatal depression (PND) is more disabling and persistent than the baby blues and is typically identified by the presence of unhappiness and depressed mood following childbirth, sleep and appetite disturbances, low energy, anxiety, suicidal ideation, feelings of guilt and inadequacy, difficulty with self-care and caretaking of infant, and disrupted mother-infant interaction (Born et al., 2004; Ray & Hodnett, 2001). The Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM-IV) applies the specifier ‘with Postpartum Onset’ to the current or most recent
episode of major depression if it has an onset within 4 weeks postpartum. However most studies examining the nature of postpartum depression do not use DSM-IV criteria, and instead use the Beck Depression Inventory, Edinburgh Postnatal Depression Scale, or some other scale to diagnose PND anywhere up to 6 months postpartum (Hoffbrand et al., 2001). As a result, the prevalence rates and risk factors associated with PND are derived from a larger range of symptoms and more variable time frames than those which are outlined in the DSM-IV.

Depending on the measure employed to assess the presence of PND, prevalence estimates vary from 8 to 27% for females (Matthey, Barnett, Ungere, & Waters, 2000). Although there is less research on male depression compared to female PND, males also show elevated rates of depression (e.g., 5 to 13%), and other psychological problems across the transition to parenthood (Matthey et al., 2000). Studies of the concordance of depression in couples show that higher rates of female depression are reported when fathers are depressed (22 to 50%), compared to rates of male depression when mothers are depressed (16 to 26%; Ballard, Davis, Cullen, & Mohan, 1994; Raskin, Richman, & Gaines, 1990). Moreover, each of these concordance rates is higher than that expected by chance associations. Predictors of PND include prenatal depressed mood, high neuroticism, interpersonal sensitivity, perceived poor social support, relationship distress, high emotional coping, high rates of daily hassles or stressors, history of sexual abuse, unplanned pregnancy, obstetric complication, neonatal stress, and family history of depression or other psychiatric disorders (Born et al.,
The short and long-term consequences of maternal PND impact on mother, partner, child and other family members. During the antenatal period, PND is associated with adverse maternal health behaviors such as smoking and alcohol consumption during pregnancy, pre-term delivery and lower birth weight (Steer, Lucas, & Sinclair, 1992; Zuckerman, Amaro, Bauchner, & Cabral, 1989). Children of mothers with PND are at high risk of developing low self-esteem, behavioral inhibition and psychopathology (Goodman, Adamson, Riniti, & Cole, 1994). Male partners of women with PND report elevated feelings of despair, anger, worry, guilt and helplessness as they attempt to support their depressed partners, care for the infant, maintain the household and provide financial stability (Born et al., 2004).

Postnatal depression is also associated cross-sectionally with relationship conflict and lack of spousal support (Gotlieb & Hooley, 1988; O’Hara, 1994), while prenatal relationship conflict and lack of spousal support both longitudinally predict the development of postnatal depression (Gotlieb, Whiffen, Wallace, & Mount, 1991).

Anxiety disorders are also present in the postpartum. Two to six percent of women meet the diagnostic criteria for Post-Traumatic Stress Disorder (PTSD) after childbirth (Creedy, Shochet, & Horsfall; 2000). Prolonged and difficult labor, forceps delivery, infant mortality or severe injury, poor pain relief, maternal feeling of ‘lacking control’, and depression, all predict increased rates of psychological trauma in new
mothers (Ballard, Stanley, & Bockington, 1995). Postpartum psychosis is a relatively rare (< 0.5% of women), but severe psychological disorder occurring after childbirth (Bright, 1994; Murray, Cooper, & Hipwell, 2003). Symptoms are variable and can include mania, psychotic depression, and schizophrenia. Suicidal ideation, obsessional thoughts regarding violence to the child, lack of concentration, psychomotor agitation, delusions and hallucinations to kill the infant may be present (Murray et al., 2003). Risk factors for postpartum psychosis overlap with those of postpartum depression and include unplanned or unwanted pregnancy, pregnancy-related hypertension, emergency caesarean section, early discharge from the hospital, low socioeconomic status, recent life event, negative self-image, little social support, past history of psychological disorder, family history of mental disorders, immigration in the last 5 years, feelings of loss of control during pregnancy and feeding problems with the child (Halbreich, 2005; Wewerinke, Honig, Heres, & Wennink, 2006).

Couple Adjustment to Parenthood

Across the transition to parenthood couples need to change their pattern of interactions to balance their relationship needs with the new needs of a family. Three major areas that parenthood typically affects are couple time, couple communication and gender roles. Relative to before the birth, couple time after the birth becomes characterized by less caring, affection and intimacy (Cowan & Cowan, 1992), less approval of partner, less disclosing of individual wants and concerns, and less talk about the relationship (Huston et al., 1986). Longitudinal studies find that
involvement in pleasurable activity decreases as couples increase their involvement in the instrumental activities associated with parenthood (e.g., food preparation, shopping, housework, and childcare; Belsky & Rovine, 1990; Huston et al., 1986). Social and recreational involvement (e.g., swimming, camping, weekend trips away) also decrease in the last trimester of pregnancy and after childbirth, probably because of parental fatigue, the demands of infant, and the inability to engage in some of these activities during pregnancy or with a young infant (Belsky et al., 1983; Vanzetti & Duck, 1996). Despite women having less leisure time than men (on account of carrying out more of the work of early parenting), they continue to rate their postnatal leisure activities as enjoyable. Men, however, report spending more of their postnatal time (compared to antenatally) engaged in leisure activities they do not enjoy (Crawford & Huston, 1993).

Many couples reduce or stop sexual activity in the third trimester of pregnancy, partly in response to reported fear of inducing a miscarriage or harm to the fetus (Cowan & Cowan, 1992). However, there is no evidence to suggest that sexual intercourse harms the mother or unborn child in a normal pregnancy. On average, couples resume sexual intercourse 7 weeks postpartum (Byrd, Hyde, DeLamater, & Plant, 1998). However, more than 50% of mothers report experiencing pain during their first intercourse after birth, up to 50% of women and 20% of men report reduced sexual responsiveness between 6 and 12 months postpartum, and for at least one third of couples sexual problems worsen and become pronounced 3 to 4 years after birth (von Sydow, 1999).
Physical discomfort, loss of interest, and feelings of decreased attractiveness all contribute to reduced sexual activity among new parent couples (Ahlborg, Dahlof, & Hallberg, 2005; Cowan & Cowan, 1992; Feeney et al., 2001). For example, low sexual interest and activity postpartum can be due to: (a) biological changes in the woman (e.g., decreased levels of oestrogen and testosterone and increased levels of prolactin in the female decrease sexual responsiveness and interest); (b) breastfeeding (which meets the woman's need for intimate touching and can stimulate orgasm in some women), and (c) fatigue and lack of sleep (especially for women who are breastfeeding; Byrd et al., 1998; Cowan & Cowan, 1992). The decrease in sexual intimacy can be distressing for male partners, who frequently have higher libidos than women and view sexuality as a key way to achieve relationship intimacy (Kohler-Reissman, 1990).

Parenthood is associated with changes in couple communication. Compared to childless couples and to pregnant couples expecting their first child, new parent couples have less time for shared conversation free from distraction, have less energy to spend on communicating with their partners (due to the increasing demands placed upon them by parenting a newborn and adjusting to role changes), and engage in less couple-focused discussion and more infant- and parenting-focused discussion (Belsky & Rovine, 1990; Gottman & Notarius, 2000; Huston et al., 1986). Moreover, after the birth of the baby, the frequency of couple conflict and disagreements increases among many couples (Belsky, Lang, & Huston, 1986; Belsky et al., 1985; Belsky & Pensky, 1988; Cowan & Cowan, 1992; Crohan, 1996). Topics of
conflict vary but commonly include the amount and purpose of couple and individual time, sex, finances, in-laws, parenting practices, communication and very commonly, the division of labor (Ahlborg et al., 2005; Belsky & Pensky, 1988; Cowan & Cowan, 1992). Couple conflict discussions in the first 6 months of parenthood typically involve less self-disclosure of feelings than during pregnancy, possibly due to time constraints which make discussions briefer and more outcome-focused (Cowan & Cowan, 1992). Some couples report that couple conflict declines across this same period, which may reflect avoidance of discussing difficult issues during such challenging times (Crohan, 1996).

The birth of the first child marks a time when gender roles typically become more traditional. Despite increased female participation in the paid work force in the last 30 years, and despite greater flexibility in the distribution of household and child care tasks, new mothers typically assume primary responsibility for infant care and household chores (Cowan & Cowan, 1992; Newman, 2000; Numaguchi & Milkie, 2003; Stern, 1998). When mothers spend time with their children they typically engage in physical childcare tasks such as nappy changing, bathing and feeding (Australian Bureau of Statistics, 1998). It is almost exclusively women who respond to infant crying, get up in the middle of the night to attend to the infant, complete child laundry and choose infant toys (Cowan & Cowan, 1992). In contrast, fathers are more likely to use their childcare time to teach or play with their young child (Australian Bureau of Statistics, 1998).
The demands of infant care are sizeable, and unfortunately household work increases substantially with the arrival of an infant. Although 89% of couples espouse an egalitarian division of housework and childcare before the birth of their first child, only 11% of couples actually report dividing the workload equally after the birth of their first baby (Kach & McGhee, 1982). Women, irrespective of occupational status, contribute 70 to 80% of their time to housework and childcare (Bittman, 1991) and their domestic labor increases by 91% after childbirth (Maushart, 2000). Fathers’ participation in housework tends not to increase across the transition to parenthood (Aldous, Mulligan, & Bjarnason, 1998; Bittman, 1991). The arrival of the first child therefore more than doubles a woman’s household chores, with 30 to 35 hours of her time being assigned to housework each week (Craig, 2005; Numaguchi & Milkie, 2003). Performing the bulk of housework and childcare at a time when a new mother is feeling physically and emotionally drained from pregnancy, birth and breastfeeding can often make these early parenting months even more difficult for women. It is therefore not surprising that new mothers are more frustrated over the distribution of housework and childcare tasks compared to new fathers, who are generally content with and wish to maintain traditional gender roles (Kluwer, Heesink, & van de Vliert, 1997).

Many men increase their hours and commitment to paid employment after the birth of their first child, probably to provide financially for their new family and possibly to compensate for the loss of the female income (Cowan & Cowan, 1992; Gottman & Notarius, 2000; Newman, 2000). The
direct costs of raising two children to the age of twenty is close to half a million Australian dollars (Percival & Harding, 2002) and as children increase in age so does the weekly cost of raising that child (Harding & Percival, 1999). Most men report that they see ensuring financial stability of the new family as primarily their responsibility (Fox, Bruce, & Combs-Orme, 2000).

*Family Adjustment*

Although infant care, individual adult, and couple relationship qualities have been described separately in the above review, these factors do not occur in isolation (Feeney et al., 2001; Levy-Schiff, 1994). Characteristics of the infant, individual adult partners and the couple dyad mutually interact to determine each other and family outcome. For example, the risk of developing individual psychopathology (e.g., maternal postnatal depression) is increased in relationships characterized by high conflict and low mutual support (Gotlieb et al., 1991), and once present, maternal postnatal depression predicts couple relationship problems (Belsky & Kelly, 1994; Cowan & Cowan, 1995). Maternal postnatal depression correlates with elevated psychological distress in male partners (Born et al., 2004) and predicts child low self-esteem, behavioral inhibition and psychopathology (Goodman et al., 1994).

Parenting practices are a likely pathway through which child outcome and couple relationship functioning influence one another (Erel & Burman, 1995; Krishnakmuar & Buehler, 2000). Couple relationships characterized by hostile and aggressive conflict are correlated with lack of
parental acceptance of the child, harsh discipline and inconsistent parenting practices (Krishnakumar & Buehler, 2000). Individual adult psychological health also influences parenting and child outcome. For example, mothers with postnatal depression use less sensitive and responsive parenting (Cohn, Campbell, Matias, & Hopkins, 1990; McElwain & Volling, 1999) and less sensitive and responsive parenting during infancy is associated with insecure infant attachment (Stein, Gath, Bucher, Bond, Day, & Cooper, 1991). A model that summarizes the interrelationship between infant, adult and couple relationship functioning is presented in Chapter 2.

Summary

Parenthood brings many changes to men, women and the couple relationship, including 24-hour responsibility for an infant, increased housework and decreased financial income. Although most first-time parents view their lives more positively after the birth of their baby, the task of parenting infants is reported as very stressful for some couples. Since most new parents receive little to no extra help with childcare, housework or advice and help on financial affairs, it is understandable that first-time parents can feel anxious, stressed and overwhelmed by parenthood (McPherren-Stover & Griffith-Marnejon, 1995). More serious psychological disorders can also arise during this transition period, and women are more vulnerable to psychological distress during these years of child-raising than at any other time in their lives.

The transition to parenthood encompasses major changes in the couple relationship. After the birth, couples have less time for each other,
less quality couple time and engage in more negative couple communication and conflict behaviors. Couples may struggle to manage new financial pressures of raising a child and both partners must negotiate role changes as they adopt the label of ‘mother’ and ‘father’. Despite recent cultural trends (e.g., the recognition of equality in parenting, increased female participation in the workforce) many women assume a disproportionate responsibility for childcare and housework, and men for financial responsibility.

Approximately 50% of couples report that parenthood-related changes impact negatively on their relationship satisfaction. Although couples with children are less likely to divorce than childless couples, at least in the first 6 years of parenthood, dissatisfied couple relationships have significant repercussions on adult, child and couple-relationship functioning. Identifying which couples are likely to experience declines in relationship satisfaction across the transition to parenthood is important so that we are able to design intervention programs that target couples who are most vulnerable. An examination of the variables that predict couple difficulties across the transition to parenthood is the focus of Chapter 2.
CHAPTER 2
Predicting Adjustment to Parenthood

MARY: “I planned my pregnancy to happen after getting married and after setting up my career. My husband and I have a stable relationship and the financial resources to get extra help if we need it. I think these sorts of factors make a big difference to how well we’ll cope with parenthood.”

RAYMOND: “Communication is everything – you’ve got to be able to talk to each-other. And you have to compromise. Without good communication I think you’ll struggle to make it work as new parents.”

(Couple commenting on what they think will help them cope with parenthood; Couple CARE for Parents study, 2003).

As Chapter 1 highlighted, there is significant variability in the trajectory of relationship satisfaction across the transition to parenthood. Approximately 50% of couples report increasing or stable relationship satisfaction, which also increases their chances of experiencing physical and psychological health. Satisfied couple relationships also correlate with optimal parenting practices with positive spill-over effects on child outcomes. Unfortunately, the remaining 50% of couples experience a moderate to severe decline in relationship satisfaction and quality. Low relationship satisfaction is associated with increased couple conflict,
individual psychological distress, negative parent-child relationships and poor child outcomes (Amato, 1996; Coie et al., 1993; Cowan & Cowan, 1990, 2000; Cummings & Davies, 1994; Erel & Burman, 1995; Fincham, Grych, & Osborne, 1993; Krishnakmuar & Buehler, 2000). Sustained relationship distress is associated with separation and divorce (Gottman, 1993), which has numerous negative consequences for adult partners and children (Fagan, 1999). What variables predict whether a couple will follow an upward or downward trajectory of relationship satisfaction across the transition to parenthood? Evidence suggests that couple relationship satisfaction is influenced by a variety of variables. The focus of Chapter 2 is the identification and exploration of these variables as predictors of relationship quality.

Numerous variables impact on relationship satisfaction and quality. Five specific categories are examined in this chapter, including: (1) parenthood-specific factors, (2) couple processes, (3) individual characteristics, (4) contextual variables, and (5) life events. The influence of the latter four variables on marital quality and stability have been summarised by previous researchers (Halford, 1999; Karney & Bradbury, 1995). The addition of parenthood-specific variables was made to capture the unique contribution of pregnancy, birth, infant and parenting factors on couple relationship satisfaction across the transition to parenthood.

For each of these five categories, I make a distinction between risk and protective factors. Risk variables function by increasing stress and the
possibility of current and later psychopathology (in the child or parent),
couple dissatisfaction or poor adjustment to parenthood (Coie et al., 1993).
Risk variables can be further divided into risk factors and risk indicators
(Halford, 1999). A ‘risk factor’ is potentially modifiable, and therefore a
potential target for intervention programs (Halford & Moore, 2002; Stanley
& Markman, 1998). For example, couple communication both predicts
couple satisfaction and is modifiable (Gottman, Coan, Carrere, & Swanson,
1998; Karney & Bradbury, 1995; Markman & Hahlweg, 1993). A ‘risk
indicator’ is a stable predictor that cannot be changed (Halford & Moore,
2002; Stanley & Markman, 1998). For example, young age at time of
marriage is associated with lower reports of relationship satisfaction and
stability (Kurdek, 1991), as is having an unplanned pregnancy (Cox et al.,
1999b; Steffensmeier, 1982). Such variables are usually easy to assess and
therefore useful in identifying couples at risk of experiencing difficulties
with the transition to parenthood. However, due to their historical nature
they are fixed and most can not be changed as a function of intervention
(Halford & Moore, 2002; Stanley & Markman, 1998).

Protective factors have the opposite effect to risk variables and
increase couple, individual and family resiliency during the stresses
associated with the transition to parenthood (Coie et al., 1993). These
factors may buffer the effects of risk variables and thus increase a couple’s
resistance to current and later relationship, individual, or family distress. For
example, support provided by partners or others, when evaluated positively,
buffers the effects of risk variables (Halford, 1999; Karney & Bradbury,
This thesis will give greater focus to reviewing the risk and protective factors that can be modified, both in this chapter of variables that predict positive adjustment to parenthood and in the review of interventions available to couples becoming parents provided in Chapter 3.

**Parenthood-specific Variables**

*Pregnancy, Birth and Infant-related Variables*

From early pregnancy there are antenatal influences on adjustment to parenthood (Carrere, Buehlman, Gottman, Coan, & Ruckstuhl, 2000; Demo & Cox, 2000). Many antenatal influences are static and if present introduce risk into the couple’s adjustment to parenthood. For example, an unplanned pregnancy increases individual adult stress levels and reduces relationship satisfaction and quality (Cox et al., 1999b; Steffensmeier, 1982), particularly among men who report feeling more powerless in adapting to the arrival of an unplanned infant (Clinton & Kelber, 1993). Higher levels of individual stress and depression are also evident in parents of infants born prematurely (Teti, O’Connell, & Reiner, 1997), with medical complications, illness, physical handicap or a severe sleeping, feeding or eating disorder (Affleck, Tennen, & Rowe, 1991; Maxted, Dickstein, Miler-Loncar, High, Spritz, Liu, & Lester, 2005; Russell, 1974; Singer, Davillier, Bruening, Hawkins, & Yamashita, 1996). The increased stress probably results from the additional tasks and demands of caring for these infants, combined with violated expectations of the ‘normal’ healthy infant and the lack of control parents have over these outcomes (Parke & Beitel, 1988). Again, fathers report higher stress and feelings of being out of control than mothers do.
when caring for infants who are in poor health (Sirignano & Lachman, 1985).

When a child is temperamentally difficult, stress may be increased within the family, presumably through the process of a greater disruption in any or all of the following areas: family routines, couple-focused time, outings, sense of parenting competence, or financial resources. The increased stress potentially leads to a strained couple relationship, parent-child relationship and adjustment problems for the child (Erel & Burman, 1995; Wachs & Bates, 2001).

A constellation of infant characteristics such as fussiness, irritability, and frequent intense crying, coupled with low sooth-ability and manageability, are typical hallmarks of a difficult temperament (Bates, 1980; Rothbart & Bates, 1998). Difficult infant temperament correlates with parental stress (Russell, 1974; Ventura, 1987), feelings of uncontrollability by fathers (Sirignano & Lachman, 1985), feelings of parental incompetence (Wandersman, 1980), maternal depression and anxiety (Wilkes & Ames, 1986), couple conflict and relationship dissatisfaction (Belsky & Rovine, 1990; Belsky & Kelly, 1994). There is some evidence that infant temperament predicts child adjustment and later child personality traits. In a sample of approximately 90 parent-child triads, Bates, Petitit, Dodge and Ridge (1998) showed that early parent reports of infant temperament and later parent and teacher ratings of child temperament and outcomes were associated. Guerin, Gottfried and Thomas (1997) also reported that parent
reports of infant temperament predicted teacher reports of child temperament in middle childhood.

Although there is some evidence for a direct link between difficult infant temperament and later child adjustment problems, there is also a growing body of research that shows an interaction between infant temperament and care-giving characteristics. For example, mother-infant interaction patterns of infants with a difficult temperament, when compared to infants who are classified as having a non-difficult temperament, are characterized by less maternal eye-contact, physical contact, involvement and responsiveness to positive infant signals, fewer effective stimulating behaviors, but more maternal soothing behavior, and fewer positive infant social behaviors and more negative infant emotionality (van den Boom & Hoeksma, 1994).

Longitudinal studies that measure parental factors before birth have found that postpartum high negative infant emotionality was associated with high prenatal couple relationship distress (Belsky, Youngblade, Rovine, & Volling, 1991; Engfer, 1986). Negative infant emotionality was concurrently associated with low parental involvement (Belsky, Fish, & Isabella, 1991) and a lack of parental responsivity to infant distress (Wachs et al., 1993). In contrast, low negative infant emotionality was concurrently correlated with responsive and sensitive parenting (Belsky et al., 1991) and high levels of maternal social support (Fish, 1997).

The trajectory of caregiver behavior differs between fussy-difficult infants and non-fussy-difficult infants. Across the first 6 to 12 months,
parents of temperamentally difficult infants show declining involvement in their infants, whereas parents of infants not perceived as fussy-difficult show increasing involvement in their infant (Maccoby, Snow, & Jacklin, 1984; van den Boom & Hoeksma, 1994). Maternal pre-conceptions of child temperament (Kiang, Mareno, & Robinson, 2004), maternal attitude about how responsive one should be toward an infant (Crockenberg & McClusky, 1986), prior experience with newborns and parenting self-efficacy (Cutrona & Troutman, 1986; Gross, Conrad, Fogg, & Wothke, 1994; Lounsbury & Bates, 1982; Teti & Gelfand, 1991) all moderate the association between infant temperament and care-giving.

Several studies have found that the birth of a male infant predicts greater paternal parenting involvement (Cox, Owen, Lewis, & Henderson, 1989; Lamb, 2004), greater parental warmth and maternal investment (Lewis, 1989), greater parenting satisfaction (Brage-Hudson, Elek, & Fleck, 2001; Elek, Brage-Hudson, & Bouffard, 2003), increased relationship satisfaction and positive couple interactions (Cox et al., 1999) and greater relationship stability (Morgan, Lye, & Condran, 1988). Furthermore, infant gender and parent gender interact with couple relationship satisfaction. For example, fathers who report relationship distress are less affectionate, more hostile and less involved in caring for a female infant compared to fathers who are distressed in their couple relationship and are caring for a male infant (Cowan, Cowan, & Heming, 1986; Kerig, Cowan, & Cowan, 1993; McHale, Crouter, McGuire, & Updegraff, 1995). Lewis (1989) found that women who were unhappy in their couple relationship demonstrated less
investment in parenting first-born girls. Aside from these static risk indicators, there are several dynamic parenthood-specific variables which influence couple adjustment to parenthood. Dynamic risk factors discussed in the next section include parenting expectations and parenting self-efficacy. Both of these variables also influence infant care-giving quality.

**Parenting Expectations**

As Chapter 1 highlighted, many first-time parents report feeling unprepared for the reality of parenthood (Vanzetti & Duck, 1996). Holding highly optimistic, and perhaps unrealistic, expectations of parenthood seems to exert a particularly negative effect on mothers. Women who hold realistic prenatal expectations of parenthood report significantly lower levels of perceived stress and higher levels of self-esteem 6 months postpartum than women with unrealistic expectations (Delmore-Ko, Pancer, Hunsberger, & Pratt, 2000). In Kalmuss, Davidson and Cushman’s (1992) investigation of couples’ adjustment to parenthood, women who expected before parenthood that things would be better at 1 year after birth than they actually were, found the transition to parenthood more difficult. Closer inspection of the data indicates that these women initially reported highly optimistic expectations of their husbands, and expected higher levels of childcare assistance from extended family than that which was received. Both of these violated expectations were correlated with maternal reports of a more difficult transition to parenthood. Although Kalmuss et al. (1992) did not examine the expectations of husbands, they concluded that unrealistic expectations about infant care and the parenting role may be even more
common in men because men typically have fewer experiences with young children and thus have less preparation for parenthood than women prior to the birth of their own children (Martin & Colbert, 1997).

Some parents hold unrealistic expectations of their child and parenthood, such as expecting their child to be more developmentally advanced than is the developmental norm, or expecting their child to help them feel better (i.e., role reversal). Such attitudes may adversely impact the developing parent-child relationship. For example, among an ethnically diverse sample of 175 low-income mother-infant dyads, Kiang et al. (2004) found that mothers who reported unrealistic prenatal expectations of child development and parent-child roles rated their infants as more temperamentally difficult at 6 months postpartum compared to mothers who held more realistic expectations. These mothers were then observed to be less sensitive to their children during video-taped parent-infant interactions at 12 to 15 months postpartum compared to mothers who had originally had more realistic prenatal attitudes about parenthood. Furthermore, at 24 months postpartum, infants of mothers with prenatal unrealistic expectations about parenthood were observed to be more indifferent and rejecting towards their mothers during the video-taped parent-child interactions. Kiang et al.’s (2004) results suggest prenatal expectations about parenting have far-reaching effects on maternal perceptions of infant temperament, maternal sensitivity and children’s behavioral patterns.

Couple shared expectations about child-rearing approaches correlate with couple relationship functioning. Among a sample of 97 couples
followed longitudinally across the first 3 years of an infant’s life (not always the first child), O’Brien and Peyton (2002) found that when couples agreed on their approach to child-rearing, wives’ marital intimacy increased over the 3 year study period. However, when couples differed in their preferred child rearing approach wives’ marital intimacy declined significantly over time. The steepest decline in couple relationship quality was reported by women when their husbands reported a traditional child rearing attitude which included endorsement of items such as “Children should always obey their parents”. O’Brien and Peyton (2002) concluded that interventions with couples across the transition to parenthood need to inform couples of current best-practice approaches to childcare, and promote couple discussion and negotiation of desired child rearing approaches in order to enhance postnatal couple adjustment.

Gender role expectations also influence couple adjustment to parenthood. Most couples espouse an egalitarian division of housework and childcare prenatally, but few couples report that these expectations are subsequently met in the postpartum period (Kach & McGhee, 1982; Maushart, 2000). Female reports of the division of labor as unfair and inequitable predict increased couple conflict (Cowan, Cowan, Heming, & Miller, 1991; Cowan & Cowan, 1992; Belsky, 1985; Belsky, Ward, & Rovine, 1986; Blair, 1993; Kluwer et al., 1996; Kluwer et al., 1997; Mederer, 1993; Perry-Jenkins & Folk, 1994; van Willingen & Drentea, 2000). Unmet expectations of shared parenting and housework predict female reports of relationship unhappiness (Ruble et al., 1988) and correlate
with increased female emotional distress (Belsky et al., 1986). Satisfaction with role responsibilities correlates with relationship satisfaction and quality (Belsky et al., 1986; Hackle & Ruble, 1992; Cowan et al., 1991; Feldman, 2000; Levy-Schiff, Goldschmidt, & Har-Evan, 1991; Ruble et al., 1988), mutual support in maintaining housework and childcare tasks (Feldman, 2000), as well as affectionate parent-child interactions, increased father involvement and infant attachment security (Russell & Russell, 1994).

In Belsky and colleagues’ extensive work across the transition to parenthood, women's violated expectations of equal (non-traditional) division of labor resulted in maternal reports of decreased satisfaction with how her spouse handled negative and positive interactions, decreased feelings of love for her spouse, increased marital conflict and decreased engagement in relationship maintenance behaviors at 9 months (Belsky, 1985). Violated male expectations (i.e., males expected traditional division of labor but were asked to share labor equally) also impacted the couple relationship negatively, although somewhat differently to females, by decreasing positive marital interactions and increasing spousal conflict.

A key limitation of Belsky’s (1985) study was the collapsing of different categories of expectations across measures of marital conflict, overall marital relationship, self-concept, care-giving, and relationship with family and friends, in order to create a global expectation score. This approach provides limited information about the specific expectations which are violated across the transition to parenthood. Feeney et al. (2001) studied specific expectations of 100 couples from the second trimester of
pregnancy, as well as 3 weeks, 3 and 6 months after childbirth, and compared their sense of fairness and satisfaction with division of labor to that of comparison couples who did not have children. Overall, new parent couples’ sense of unfairness in the division of child care and housework was low, unless the husband contributed very little in both childcare and housework. Couples where the husband contributed little to housework and childcare duties both acknowledged the inequity in this arrangement.

Unfortunately, Feeney et al. (2001) did not examine whether the couples who reported a sense of unfairness were prepared to act to remedy the situation. However, the authors did note that among their sample of new parent couples, women expected their husbands to do more housework and childcare tasks than their male partners were doing, and men wanted women to be less involved in child care and maintain or decrease their involvement in housework. Furthermore, high male ratings of unfairness and dissatisfaction with infant care were associated with high female and male psychological distress and relationship dissatisfaction at 6 months postpartum. Feeney et al. (2001) speculated that these husbands may have desired decreased partner involvement in child care not as a means of having more involvement in child care themselves but as a means of freeing time for shared couple time and intimacy.

The role of violated expectations is not however, as simple as women desiring equally shared division of labor and men desiring the more traditional allocation, such as suggested in Belsky (1985). For example, McHale and Crouter (1992) found that women who had traditional
household roles and responsibilities, but expected an egalitarian division of household labor, rated their marriages more negatively than women with prenatal expectations of traditional household labor distribution which were realized in the postpartum. The authors also noted that women who expected a traditional distribution of household and childcare tasks and then experienced a more egalitarian distribution of these responsibilities also rated their marriages negatively. Husbands who had egalitarian roles and responsibilities but expected traditional division of household labor also rated their marriages more negatively. These results suggest that men report greater marital satisfaction with traditional division of labor, whilst women are generally more satisfied with an egalitarian division of labor, but that some women prefer traditional role responsibilities and some men prefer or accept an egalitarian division of labor.

Women appear to be more negatively impacted by violated division of labor expectations than men. For example, Belsky et al. (1986) found that only 10% of the variance in relationship dissatisfaction among men was attributed to male violated expectations, whereas 25% of the variance in female relationship dissatisfaction could be accounted for by female unmet expectations. Feeney et al. (2001) found that couple adjustment at 6 months postpartum was more strongly correlated with husband’s perceptions of unfairness with the division of labor than it was to wife’s perceptions of unfairness. Specifically, the couple reported higher stress, and women reported higher depression, anxiety and relationship dissatisfaction when men thought their wives were doing too much baby care. Although men’s
violated expectations were predicted by their own psychological adjustment and relationship satisfaction at the pre-assessment, their wives ended up being more negatively effected by his sense of unfairness than he was (as evidenced in her reports of higher depression, anxiety and relationship dissatisfaction). The authors hypothesized that women may have been more negatively affected by male sense of unfairness in baby care tasks than the man himself because his complaints were about her constant involvement with the infant, their lack of couple time and shared intimacy. Alternatively, women may have been more upset by his withdrawal, which for him was a coping mechanism, but for her may have felt as unsupportive, leading her to feel disappointed that she had to assume primary responsibility for infant caretaking.

One last aspect of expectations that appears to impact adjustment to parenthood (aside from realistic and shared expectations) is the complexity of expectations. Complex expectations are characterized by an awareness of different perspectives and dimensions of an event, and the level of integration of these dimensions (e.g., the positive and negative impact; Pancer et al., 2000). Results from a study of 69 couples demonstrated that increased complexity of thinking and expectations led to better adjustment to parenthood, compared to simpler thinking and expectations, especially for women. Highly complex expectations also reduced depression, increased self-esteem and buffered stress reactions to the challenges accompanying the transition to parenthood. The complexity of expectations of parenthood may evolve from greater familiarity with childcare tasks prior to birth, or
through discussion and consultation with other parents and informed medical staff (Cowan & Cowan, 1992; Pancer et al., 2000; Steffensmeier, 1982; Terry, 1991).

**Parenting Self-efficacy**

Parenting self-efficacy refers to an individual’s belief in his or her ability to competently perform parenting tasks (Bandura, 1997). When individuals who have high parenting self-efficacy are faced with a challenging task they persist longer in that task and employ a greater variety of coping strategies than individuals who have low perceived self-efficacy (Bandura, 1997; Teti et al., 1997). Parenting self-efficacy ratings are strongly correlated, and high maternal self-efficacy ratings predict paternal self-efficacy (Binda & Crippa, 2000). High parenting self-efficacy correlates with parent perception of easy infant temperament (Bugental & Shennum, 1984; Gibaud-Wallston & Wandersman, 1978; Gross et al., 1994; Johnston & Mash, 1989; Teti & Gelfand, 1991), feelings of success in parent-child interactions and infant care tasks (Donovan & Leavitt, 1992; Reece & Harkness, 1998), and predicts highly attentive and appropriate responses to infant demands (Donovan & Leavitt, 1992; Donavan, Leavitt, & Walsh, 1997).

Parents with high self-efficacy typically demonstrate high parenting competence. Parenting competence includes parenting sensitivity, responsiveness, consistency, mutuality, stimulation, emotional availability and synchronicity during parent-child interactions (Bohlin & Hagekull, 1987; De Wolff & van IJzendoorn, 1997; Mondell & Tyler, 1981; Teti &
Gelfand, 1991; Walker, Crain, & Thompson, 1986; World Health Organization, 2004). Such high quality care-giving, when measured via observational assessment of parent-child interactions is positively correlated with early infant cognitive and language development (Allhusen, Applebaum, Belsky, Booth, Bradly, Brownell, & Burchinal, 2001; Brooks-Gunn, Han, & Waldfogel, 2002), self-regulation of arousal and emotion (Belsky et al., 1991; Thompson, 1994) and secure infant attachment (Ainsworth, Bell, & Stayton, 1971; Egeland & Faber, 1984). For example, several meta-analyses have found significant correlations between parenting sensitivity-responsiveness and parent-infant attachment classification, with modest effect sizes ranging from $r = .24$ to .32 (Atkinson, Niccols, Paglia, Coolbear, Parker, Poulton, Guger, & Sitareneos, 2000; De Wolff & van Ijzendoorn, 1997; Goldsmith & Alansky, 1987), between mutuality and infant attachment security ($r = .32$), and between synchrony and infant attachment security ($r = .26$; De Wolf & van IJzendoorn, 1997). Securely attached infants feel safe to explore new environments when a parent is present. These infants seek the parent’s comfort after separation and are easier to soothe upon reuniting with their parent compared to insecurely attached infants (Ainsworth et al., 1971; Bowlby, 1969). Insecure parent-infant attachments occur when the infant receives insensitive and unresponsive parenting, and is characterized by infant ambivalence (i.e., ‘clingy’ behavior, fear when exploring their environment, difficult to soothe) or avoidance (i.e., highly independent even in unfamiliar
circumstances, avoidant and indifferent to parent’s presence; Ainsworth, Blehar, Waters, & Wall, 1978).

A myriad of positive child outcomes have been documented as a result of developing a secure attachment, including later social competence (e.g., positive peer-relations, Cohn, Patterson, & Christopoulus, 1991; Sroufe & Fleeson, 1986), more autonomy, less dependent behaviour, greater emotional regulation, fewer behavioral problems, and greater likelihood of developing close, warm relationships in adulthood (Cassidy & Shaver, 1999; Kochanska, 2001; Lamb, 2004; Rothbaum et al., 2000; van IJzendoorn & Sagi, 1999; Sroufe, Egeland, & Carlson, 1999; Thompson, 1998, 1999). In contrast, a greater proportion of insecurely attached children have behavioral problems, poor problem-solving capacity and low self-esteem (American Association for Marriage and Family Therapy, 2002).

The persistence of a high self-efficacy parent, especially when dealing with an infant developmentally delayed, premature, in poor health, or perceived as fussy-difficult, may explain the relationship between high parenting self-efficacy and parenting competence. Parents with high self-efficacy beliefs may work harder to understand what the infant wants, which results in successful and skilful parent-child interactions, and thus more positive child behaviors. In contrast, a less efficacious parent might give up earlier than a high self-efficacious parent, and thus continue to have difficulty interpreting and responding to the child’s cues (Goldberg, 1977; Hess, Teti, & Hussey-Gardner, 2004). The strength of parental self-efficacy beliefs and the health or temperament of the infant may therefore interact to
foster either ongoing parenting self-efficacy and high quality care-giving, or low self-efficacy and poor quality care-giving (Goldberg, 1977). If such an interplay exists then it is not surprising that high parenting self-efficacy correlates positively with parenting satisfaction (Brage-Hudson et al., 2001; Coleman & Hildebrandt-Karraker, 2000; Elek et al., 2003; Reece & Harkless, 1998), negatively with self-reported parenting stress (Wells-Parker, Miller, & Topping, 1990), and predicts an overall easier transition to parenthood (Williams et al., 1987).

The association between self-efficacy and parenting competence may be moderated by parenting knowledge of infant development and prior childcare experience. For example, when parenting self-efficacy is high but knowledge about infant development is low, the parent is unlikely to be behaviorally competent and sensitive during parent-child interactions compared to a parent who has high self-efficacy and high knowledge (Hess et al., 2004; Leerkes & Crockenberg, 2002). Couples who have prior experience with children report higher parenting self-efficacy compared to couples who have very little or no prior experience with children (Coleman & Hidebrandt-Karraker, 2000; Ferketich & Mercer, 1995; Gross, Rocissano, & Roncoli, 1989). Prior experience with children, especially if the experience was with children other than one’s own may facilitate the acquisition of parenting skills and knowledge, particularly about normative child behavior and development, and thus allow parents to assume less responsibility for later child- and parenting problems (Coleman & Hidebrandt-Karraker, 2000).
Women, compared to men, tend to have more contact with children prior to the birth of their first child, and women usually report higher parenting self-efficacy after the birth of their first child than men (Brage-Hudson et al., 2001; Elek et al., 2003). The tendency for women to have more exposure, and prior experience with children compared to men probably explains the finding that men tend to have lower parenting self-efficacy ratings than women (Hudson, Elek, & Fleck, 2001).

Maternal self-efficacy beliefs are correlated with maternal mental health, social support and relationship satisfaction. Studies of maternal depression and self-efficacy beliefs consistently find that high levels of maternal dysphoric mood correlate negatively with low parenting self-efficacy (Gross, 1989; Cutrona & Troutman, 1986; Gross et al., 1994; Porter & Hsu, 2003; Teti & Gelfand, 1995, 1991). Bandura (1989) suggests that dysphoric mood acts as a cognitive filter, and that caregivers with anxiety or depression may selectively retain examples of previous parenting failures and recast current parenting events and infant behavior in a more negative light.

Parents with low parenting self-efficacy also report decreased perception and satisfaction with their support network (Teti & Gelfand, 1991), especially with self-ratings of husband supportiveness in childcare tasks (Elder, Eccles, Ardelt, & Lord, 1995; Holloway, Suzuki, Yamamoto, & Behrens, 2005; Ozer, 1995; Simons, Lorenz, Wu, & Conger, 1993; Teti & Gelfand, 1991). Parents with high self-efficacy rate their couple relationships as more satisfactory compared to parents with low self-
efficacy, and high relationship satisfaction correlates with higher parenting self-efficacy (Teti & Gelfand, 1991).

**Couple Processes**

Couple processes include the cognitive, behavioral and affective processes that occur during couple interactions (Halford, 1999). The influence of communication, mutual support, affection and intimacy, and relationship aggression, on couple, individual and child outcomes, is examined under this subheading.

**Communication**

Couple verbal and non-verbal communication behavior predict current and future couple relationship satisfaction (Karney & Bradbury, 1995). Although relatively few studies have examined couple communication across the transition to parenthood there is an abundance of studies in the broader relationship and marital field that examine this variable. Within this literature there is a consistent finding that couples with good communication and conflict management skills are more likely to stay together and report high relationship satisfaction than to couples who have poor communication skills (Kelly, Fincham, & Beach, 2003).

High levels of negative communication behaviors like criticism, disagreement and negative suggestion correlate and predict relationship distress (Christensen & Shenk, 1991; Gottman & Krokoff, 1989; Gottman, 1994; Halford, Hahlweg, & Dunne, 1990; Heavey, Christensen, & Malamuth, 1995; Notarius & Markman, 1993). In fact, male hostility may be one of the strongest predictors of relationship distress (Heyman, 2001),
especially female relationship distress (Roberts, 2000). Compared to satisfied couples, dissatisfied couples show lower levels of active listening skills (Halford et al., 1990; Jacobson, McDonald, Follette, & Berley, 1985; Weiss & Heyman, 1990), self-disclosure (van Windenfeldt, Hosman, Shaap, & van der Staak, 1996) and positive suggestion (Margolin, Burman, & John, 1989). However, there is also some evidence that satisfied couples do not naturally use active listening skills such as paraphrase, summarize and validate (Heyman, Weiss, & Eddy, 1995), even when taught these skills during communication skill-training (Gottman, Coan, Carrere, & Swanson, 1998). Furthermore, in at least one study of 130 newlywed couples, active listening skills were not predictive of future relationship satisfaction (Gottman et al., 1998).

Distressed couples are more likely to struggle to remain calm during conversations and are more inattentive to their partner than happy couples (Christensen & Shenk, 1991; Gottman, 1994; Gottman & Krokoff, 1989; Gottman, Markman, & Notarius, 1977; Heavey et al., 1995). When making complaints, distressed couples are more likely to focus on stable personality factors rather than behaviors (Weiss & Heyman, 1990) and show overall poorer problem solving skills compared to couples who are satisfied (Kelly et al., 2003). Across the transition to parenthood couples with poor problem-solving skills report more decline in relationship satisfaction postpartum, compared to couples with more effective problem-solving skills (Cox et al., 1999b). Effective problem-solving skills are protective even if only one
partner uses these skills, and are most beneficial when the male partner shows positive problem-solving behavior (Cox et al., 1999b).

Dissatisfied couples have an affective tone, observable in their nonverbal cues, facial expressions and posture, that tends to be higher in hostility and criticism (Christensen & Shenk, 1991; Gottman & Krokoff, 1989; Gottman, 1994; Halford et al., 1990; Heavey et al., 1995; Notarius & Markman, 1993), anger, sadness, fear and disgust (Gottman & Krokoff, 1989), withdrawal and closed body postures (Weiss & Heyman, 1990; 1997) compared to satisfied couples. Distressed couples are also lower in positive affective states like humor and affection (Gottman et al., 1998), and lower in eye-contact and smiling (Kelly et al., 2003) than satisfied couples. Among couples who report declining relationship satisfaction across the transition to parenthood high male negative affect during couple discussions results in the steepest declines in relationship satisfaction reported by women (Shapiro et al., 2000).

Low levels of positive affect may make the couple relationship particularly vulnerable to later relationship distress (Gottman et al, 1998; Rogge & Bradbury, 1999). For example, couples who divorce later in marriage, typically when children reach adolescence, do not often report high negative affect states or negative conflict management patterns of communication, but do report an absence of positive affect in day-to-day conversations. The absence of positive affect may initially appear more acceptable compared to constant conflict, however, after several years low rates of positive affect probably take a toll on couple relationship.
satisfaction and increases the risk of couple relationship distress, separation and divorce (Gottman & Levenson, 2000). When low rates of positive affect are combined with high levels of negative communication and negative affect, the couple is particularly vulnerable to future relationship dissatisfaction and distress (Johnson, Davila, Rogge, Sullivan, Cohan, Lawrence, Karney, & Bradbury, 2005).

Conflict management is also associated with relationship satisfaction (Kelly et al., 2003). For example, couples in distressed relationships use more negative reciprocity (Gottman, 1994; Margolin & Wampold, 1981; Wills, Weiss, & Patterson, 1974) and demand-withdraw conflict patterns compared to satisfied couples (Kelly et al., 2003). Several studies have found that women are more likely to assume the demand role and men the withdraw role, especially when the couple discuss a relationship issue which involves the woman requesting the man to change his behaviour (Heavey & Christensen, 1993; Heavey, Layen, & Christensen, 1993; Kelly et al., 2003). It is possible that women assume the demand role because they typically have less power than men and therefore view demanding behavior as an effective way to achieve relationship change. Gottman (1994) suggests that men withdraw because they find conflict more intrinsically distressing than women (Gottman, 1994).

The female demand/male withdraw pattern of conflict management is most often observed when the topic under discussion involves the women requesting the man to change. However, males and females are equally likely to assume the demand role during a discussion of an issue identified
by the male partner (Heavey & Christensen, 1993; Heavey et al., 1993). Longitudinal deterioration of relationship satisfaction is predicted by the female demand/male withdraw pattern of conflict management, whereas increased relationship satisfaction is predicted by male demand/female withdraw behaviour (Heavey et al., 1993).

Within the research examining the demand-withdraw pattern, a distinction has been made between avoidance of conflict (i.e., not responding, changing the subject, joking, making evasive remarks) and withdrawal from conflict (i.e., leaving the scene to cool off) due to inconsistencies found in studies that measure more or less of different withdrawal behaviors. When Roberts (2000) administered the Marital Adjustment Test (MAT) and Interaction Response Patterns Questionnaire (IRPQ), measuring three types of disengagement patterns (active avoidance, angry withdrawal and intimacy avoidance) among 97 newlywed couples in order to determine which type of withdrawal behavior was most deleterious to marital satisfaction, she found limited support for the unique effects of the three withdrawal behaviors. In fact, although the primary predictor of marital distress for husbands was wife withdrawal behavior, in particular intimacy avoidance, the primary predictor of marital distress for wives was husband hostile responsiveness. Roberts’ (2000) findings thus support the corrosive effect of hostility on marital satisfaction (Christensen & Shenk, 1991; Gottman & Krokoff, 1989; Gottman, 1994; Halford et al., 1990; Heavey et al., 1995; Notarius & Markman, 1993) over and above the
deleterious effect of withdrawal behavior, at least when it comes to husband hostility.

There is some evidence that the impact of withdrawal is not perceived by new parents as negatively in the immediate postpartum as among newlywed couples, and may even be seen as a positive outcome among new parents (Crohan, 1996). New parents may differ from non-parent couples in their reasons for avoiding conflict. Parents may believe that avoidance of conflict is a constructive conflict management style as it protects their child from the negative side effects of conflict and serves to dampen tension and anger very quickly. Although avoidance behavior during conflict may initially maintain couple satisfaction, it is likely to have serious negative effects on couple functioning in the long run because couples fail to resolve problematic issues (Crohan, 1996).

Low rates of negative conflict and withdrawal during couple communication predicts parenting sensitivity. Among 136 first-time pregnant couples followed longitudinally across the transition to parenthood, low rates of withdrawal observed during prenatal couple discussions of a problem topic was a consistent predictor of highly sensitive and responsive parenting at 3 and 12 months postpartum (Cox et al, 1999a). The effect was particularly reliable for mothers at 3 months postpartum. For fathers, there was a significant interaction between withdrawal and negative conflict behaviour, such that fathers who showed both of these negative conflict management behaviors were the least sensitive and responsive parents. Withdrawal from conflict remained a significant predictor of low
parenting sensitivity even after accounting for the effects of parent education, depressive symptoms and child negativity. Withdrawal during conflict may signal that the couple is unable to effectively discuss conflict issues, resulting in unresolved tension and negative affect which can spill-over into negative parent-child interactions (Cox et al., 1999a).

In sum, studies have identified a number of positive and negative communication and conflict management behaviors that predict deterioration in relationship satisfaction. Despite some inconsistency over what communication behaviors promote sustained relationship satisfaction (Gottman et al., 1998; Halford et al., 2003; Stanley, Bradbury, & Markman, 2000) there is generally agreement that distressed couples show more hostile affect and negative reciprocity, and show less positive communication behavior, relative to satisfied couples (Heyman, 2001).

**Intimacy**

High levels of couple caring, affection and intimacy appear to have positive and protective effects on couple relationships (Knauth, 2000; Shapiro et al., 2000; Sprecher, 2002). Couples who are more sexually satisfied are happier with their relationship (Blumstein & Schwartz, 1983; Byers, 2005; Byers, Demmons, & Lawrance, 1998; Cupach & Comstock, 1990; Edwards & Booth, 1994; Henderson-King & Veroff, 1994; Karney & Bradbury, 1995; Sprecher, 2002) and are more likely to stay together (Karney & Bradbury, 1995; Pinney, Gerrard, & Denney, 1987; Sprecher, 2002; Sprecher, Metts, Burleson, Hatfield, & Thompson, 1995; Waite & Joyner, 2001) than sexually unsatisfied couples.
Married couples who have infrequent sex are more likely to report sexual dissatisfaction (Greeley, 1991; Laumann et al., 1994) and relationship dissatisfaction, than married couples who have frequent sex (Call, Sprecher, & Schwartz, 1995; Cupach & Comstock, 1990; Edwards & Booth, 1994; Henderson-King & Veroff, 1994; Kurdek, 1991; Lawrance & Byers, 1995). Sexual infrequency in pregnancy is correlated with low rates of tenderness and positive communication and with relationship instability (Heinig & Engfer, 1988). However, given that declining rates of sexual relations is likely to be expected by most couples across the transition to parenthood, it is unclear whether expectant and new parent couples are also dissatisfied when sexual frequency declines during pregnancy. What is known is that most first-time parents seek information about the woman's bodily changes and sexuality postpartum, and up to 30% of couples believe that sexual counseling during this period may have been helpful (von Sydow, 1999).

Several explanations for the association between sexual satisfaction and couple relationship quality have been forwarded. First, relationship quality may affect sexual satisfaction (Byers, 2005). Consistent with this possibility, Lawerence and Byers (1995) found that low couple conflict, high self-disclosure and high affection predicted later sexual satisfaction. For example, in Shapiro et al.’s (2000) study of 130 couples, high male fondness and affection toward the female partner buffered the damaging effects of negativity observed during couple communication, such that couples who had high levels of negative communication and low levels of
husband affection and fondness also reported declining relationship satisfaction across the transition to parenthood. In contrast, couples who had high levels of negative communication, but showed high levels of affection and fondness, especially by the husband toward the wife, reported stable relationship satisfaction scores.

Third, it may be that the association between sexual satisfaction and relationship quality includes both of these pathways and is bi-directional. Henderson-King and Veroff (1994) found positive associations between both variables in the first and third year of marriage using a cross-lagged design and no significant differences in the strength of the two possible pathways. Support for a bi-directional association between sexual satisfaction and relationship quality has been provided by several other longitudinal studies (e.g., Byers, 2005; Edwards & Booth, 1994). A fourth explanation for the association between satisfaction with intimacy and overall relationship quality is that the changes are influenced by a third variable, such as couple communication. Communication is associated with both sexual satisfaction and relationship quality (Byers & Demmons, 1999; Cupach & Comstock, 1990; Fowers & Olson, 1989), and the quality of couple communication partially accounts for changes in relationship satisfaction and sexual satisfaction over time (Byers, 2005).

High levels of caring, affection and intimacy correlate with parenting quality. For example, wives in highly affectionate and close marriages demonstrate more warmth and sensitive care-giving during the first 12 months of parenthood compared to wives in less affectionate
marriages (Cox et al., 1989). The relationship between couple affection and parenting sensitivity observed by Cox et al. (1989) may be due to a positive spill-over effect from the couple dyad to the parent-child dyad. For example, the more engaged and satisfied a man was with his couple relationship, the more likely he was to be actively involved in the care-giving role and to report parenting satisfaction (Belsky & Volling, 1987; Cox et al., 1989; Feldman, Nash, & Ashenbrenner, 1983; Kauth, 2000; Levy-Schiff & Israelashvili, 1988; Parke, 1995; Volling & Belsky, 1991; Shapiro et al., 2000).

Men are more likely to be satisfied in their couple relationship when their expectations of intimacy and couples time are met. In one study, men’s levels of satisfaction with parenthood and the marital relationship were based on direct interactions with their wives, whereas women's satisfaction ratings were based on how involved her husband was with parenting (Kauth, 2000). Because fathers tend to develop a relationship with their infants more slowly than mothers, becoming more involved with care-giving as the child matures, they may need an affectionate and intimate marriage to be satisfied with the role of fatherhood. Thus, both partners benefit from a mutually affectionate, caring and intimate relationship.

**Mutual Support**

Numerous researchers have found that couples who provide each other with high levels of support report higher individual well-being, relationship satisfaction, and engage in more sensitive parenting compared to couples with low levels of mutual support (Belsky & Pensky, 1988;
Belsky et al., 1991; Cowan & Cowan, 1992; Cox et al., 1989; Levy-Schiff, 1994; Newman, 2000). In particular, male involvement and support in housework and childcare correlates with a variety of positive family outcomes. For example, women who feel supported by their male partners report feeling more capable of coping with the demands of parenthood and endorse fewer symptoms of anxiety and depression (Wicki, 1999). High male support also correlates with increased maternal positive postpartum mood (Goldstein, Diener, & Manelsdorf, 1996). In Knauth’s (2000) study of 114 couples, more frequent husband-child interactions and greater husband involvement in housework correlated with wives feeling less overworked and stressed.

For both partners, high mutual support is associated with high levels of affectionate and companionate activities and with few negative changes in their sexual relationship, compared to couples who report less mutual support. Volling and Belsky (1991) found that when male partners engaged in high levels of housework and gave emotional validation of their female partner’s feelings, the usual declines in female relationship satisfaction were not evident across the transition to parenthood. In Levy-Schiff’s (1994) observational study of parent-child interactions at 9 months postpartum, relationship satisfaction was higher among couples where the father engaged in high levels of positive infant care-giving behaviors compared to couples where the male partner showed less involvement in infant care-giving. When fathers evidenced low levels of child involvement and mothers were highly involved with infant care-giving, the couple reported
the lowest levels of marital satisfaction overall (Levy-Schiff, 1994). Women who perform the bulk of parenting tasks may begin to feel resentful toward their male partners, especially if her prenatal expectations were of an egalitarian division of responsibilities. Such discrepancies in expectations and reality may result in relationship tensions that are reflected in declining relationship satisfaction (Levy-Schiff, 1994).

Couples in which the male partner shares the household and childcare responsibilities are also observed to be more sensitive during parent-child interactions than couples with low mutual support (Feldman, Greenbaum, Mayes, & Erlich, 1997; Feldman, 2000). In attempting to explain how husband involvement in childcare and housework are related to sensitive parenting, Feldman (2000) studied father involvement in 60 couples and their newborn babies. Sensitive fathering appeared to develop as a result of the amount and range of fathers’ care-giving responsibilities, whereas sensitive mothering appeared to be more evolutionary programmed but still profited from husband support. These results suggest that a shared expectation of childcare responsibilities creates a mutually supportive relationship, with the effect of improving relationship satisfaction and sensitive care-giving, which in turn spills-over into improved child development.

Few researchers have examined the support needs of men and the benefits that men and couples receive because of supportive female behavior. What has been demonstrated is that for men, female support in balancing paid employment with the commitments of the new family seems
important in determining relationship satisfaction and has the added effect of increasing male involvement in parenting and infant care-giving (Volling & Belsky, 1991). These slightly different support needs of men and women are understandable considering that one of the common effects of new parenthood is on gender role behaviors.

**Aggression**

Relationship aggression both correlates with, and predicts relationship dissatisfaction and distress (Christian, O’Leary, & Vivian, 1994; McKenry, Julian, & Gavazzi, 1995). Relationship dissatisfaction may also precede the use of physical aggression (O’Leary, Malone, & Tyree, 1994) and may be more strongly associated with aggression when the male partner engages in problem drinking behavior (Leonard & Blane, 1992; Leonard & Senchak, 1993).

Estimates of couple violence and aggression vary greatly depending on the population studied (clinical versus population based), how aggression is measured, the definition of aggression severity, and couple characteristics (e.g., age, ethnicity, and socio-economic status; Taft, 2002). However, once a pattern of couple relationship violence is established, it is likely to persist (O’Leary, 2000). Up to 45% of couples report low levels of aggression in their relationships (Lackey, 2003; O’Leary & Woodin, 2005), with severe violence and aggression reported in 8 to 12% of North American marriages (Dutton, 1996). Even these high rates of violence and aggression may be an underestimate of the actual prevalence rates, as relationship violence is often
denied and unreported (Burch & Gallop, 2004; Lawrence, Heyman, & O’Leary, 1995; Straus & Gelles, 1990).

Among representative or community samples there is considerable evidence that prevalence of partner aggression is similar for men and women (Archer, 2000). Studies using clinical samples find that male-to-female physical aggression is more frequent and severe compared to female-to-male aggression (Archer, 2000; O’Leary, 2000). The factors that predict male severe violence are similar to those that predict relationship conflict and instability and include psychological distress, personality disorders, insecure attachment or dependency problems (Holtzworth-Munroe, Bates, Smutzler, & Sandin, 1997), power imbalances in relationship (males tend to have more power than females), need for power, ineffective coping skills, poor verbal conflict-resolution skills, alcohol abuse, ambivalence about closeness (Holtzworth-Munroe, Stuart, & Hutchinson, 1997), and observational learning (parents abusive relationship; Dutton, 1996; Halford et al., in press; O’Leary & Cascardi, 1998; Sanders et al., 1999). Two-thirds of women in relationships with severely violent husbands exhibit high levels of psychological problems (including PTSD, depression and low-self-esteem), while many show skills deficits (i.e., problem-solving and active use of coping strategies), and report feelings of helplessness (Holtzworth-Munroe, Smutzler, & Sandin, 1997).

Research comparing non-violent couples to violent couples during video-recordings of couple communication has found an important link between verbal aggression and physical aggression. Aggressive couple’s
exhibit higher levels of negative affect, in particular anger and contempt (Margolin, John, & Gleberman, 1988), as well as negative reciprocity (Cordova, Jacobson, Gottman, Rushe, & Cox, 1993; Margolin, John, & O’Brien, 1989) relative to non-aggressive couples. Similarly, Leonard and Roberts (1998) reported that aggressive married couples engaged in more negative interactions than non-aggressive couples, an association that remained after controlling for initial levels of marital satisfaction. Violent men appear to drive many of these negative exchanges by being more demanding (Babcock, Waltz, Jacobson, & Gottman, 1993), by responding aggressively to a wider variety of female behavior and by invoking fear in their partners (Jacobson, Gottman, Waltz, Rushe, Babcock, & Holtzworth-Munroe, 1994).

Although violence and aggression at any time in a person’s life can lead to a myriad of psychological and physical health problems, it is of particular concern during pregnancy. A review of fourteen studies of prevalence of violence against pregnant women found that between 1 and 20% of pregnant women are the victims of violence (Taft, 2002). No data on the prevalence of female-to-male aggression during pregnancy has been reported. Violence during pregnancy poses a health risk for not only the woman but her unborn fetus as well. Aggression during pregnancy may be more severe in its nature, or more frequent in its occurrence, than violence occurring at other times (Helton & Snodgrass, 1987; Stewart & Cecutti, 1993). For example, male perpetrated physical and sexual aggression (among 258 severely violent men) was twice as likely during pregnancy as
among similarly violent men who did not have a pregnant partner (Burch & Gallup, 2004). Risk of psychological aggression and sexual violence victimization are also higher during pregnancy (Martin, Harris-Britt, Li, Moracco, Kupper, & Campbell, 2004). Markers of risk for abuse of pregnant women include lower levels of formal education, young age, low socio-economic status and being the primary person responsible for home duties (Taft, 2002).

Once couples become parents, relationship aggression and violence can negatively impact the child. Three million US couples engage in, or experience severe marital conflict (including aggression and violence) with 37 to 63% of children in these families becoming victims of child abuse or neglect (Straus & Gelles, 1990; Aron & Olsen, 1997). Child maltreatment results in core deficits in many areas, including interpersonal relationships, affect regulation, and self-development, and can later result in reactive attachment disorder and post-traumatic stress disorder (Kaufman & Henrich, 2000). These core deficits in child development, combined with parent conflict and abuse, are risk factors for later child psychopathology, including high rates of childhood externalizing (e.g., aggression, hyperactivity and delinquency) and internalizing (e.g., withdrawal, depression and anxiety) behaviors (Belsky, 1995; Emery, Fincham, & Cummings, 1992; Erel & Burman, 1995; Fincham, 1998; Grych & Fincham, 1990; Sanders et al., 1997). Even mild relationship conflict disrupts infant attachment security (Owen & Cox, 1997) and negatively affects child
psychological and physiological functioning and sociability (Cummings & O’Reilly, 1999).

**Individual Characteristics**

Individual characteristics can impact on couple relationship satisfaction and adjustment to parenthood. Under this heading I briefly examine demographic factors (e.g., gender, age, socio-economic status), attachment and psychological health.

**Demographic Factors**

Men and women experience the transition to parenthood differently. Compared to men, women report slightly greater increases in relationship dissatisfaction and distress as new parents (Twenge et al., 2003), suffer more from perinatal affective disorders (Bright, 1994; Matthey et al., 2000; Webster et al., 2000), and report higher parenting strain and stress (Cowan et al., 1985; McHale & Huston, 1985; Pancer et al., 2000; Thompson & Walker, 1989).

Research on the impact of age on couple relationship functioning and adjustment to parenthood suggests that becoming a parent at a young age is a risk factor, particularly if the parent is still an adolescent at the time (Hobbs & Cole, 1976; Hobbs & Wimbish, 1977; Wakschlag & Hans, 2000). Becoming a parent during adolescence increases parent and child risk of future psychological, social and economic difficulties (Coren & Barlow, 2001; Letourneau, Stewart, & Barnfather, 2004). The poorer outcomes for adolescent parents and their infants is in part due to the adolescent’s lack of knowledge of child development and lack of effective parenting skills.
(Bucholz & Korn-Bursztyn, 1993; Bavolek, Kline, & McLaughlin, 1979; Reis & Herz, 1987; Whitman, Borkowski, Schnellenbach, & Nath, 1987).

If examining the effect of age on couple relationship satisfaction specifically, but not parenting adjustment more broadly, meta-analytic findings reveal that older married couples report the greatest decline in relationship satisfaction across the transition to parenthood (Twenge et al., 2003) possibly because older couples have had a longer time to establish relationship standards and patterns of interaction that need to change with parenthood.

Socio-economic status of the male and female also impact on couple relationship satisfaction and couple adjustment to parenthood. For instance, in a study of 74 mid-western couples, Conger, Elder, Lorenz, Conger, Simons, Whitbeck, Huck, and Melby (1990) demonstrated that economic pressure correlated with decreasing positive couple interactions, increasing negative couple interactions, and with low marital quality and instability. While Conger et al.’s (1990) results are limited because of the cross-sectional nature of the study, a more recent study by Conger, Rueter and Elder (1999) addressed this limitation by studying economic pressure and marital relations among 451 couples across a 3 year period. Conger et al. (1999) found that as financial stress increased so did adult emotional distress, which, in turn, increased marital conflict and subsequent marital distress. Couples who had high levels of mutual support appeared to be more resilient to economic stress and reported lower emotional distress (Conger et al., 1999).
Epidemiologic studies indicate that infants born to women of low socio-economic status are at higher risk of injury, abuse, neglect, and health problems in infancy than infants born to high socio-economic status women (Brooks-Gunn & Duncan, 1997). In a 3 year study of over 400 married couples, Conger et al. (1999) found that chronic economic pressure increased risk for individual emotional distress, which, in turn, increased risk for couple conflict and subsequent relationship distress. Thus, a mediational effect was demonstrated, where economic stress affected relationship quality and stability by decreasing the positive and increasing the negative behaviors that partners demonstrate in their interactions with one another. Economic stress also impacts on parenting. Mothers who are living in the face of financial strain engaged in more disrupted parenting behaviors when interacting with their children (Conger, Lorenz, Elder, & Simons, 1993), were more likely to perceive their child as difficult and showed more rejecting, less responsive, and more hostile parenting behaviors (Simons, Whitbeck, Conger, & Melby, 1990).

However, high socio-economic status families may also struggle with parenthood, but for different reasons. For example, a recent, large scale meta-analysis comparing childless adults to adults with children of varying ages found that the effect of parenthood on marital satisfaction was most negative among people of high economic status (Twenge et al., 2003). It is possible that adults from higher socio-economic backgrounds experience more gender role conflict (violated expectations) with the birth of their first child compared to lower socio-economic groups (Jenkins et al., 2003), and
the greater loss of freedom and autonomy combined with violated expectations lead to declines in relationship quality.

**Attachment**

Adult attachment security impacts on couple relationship quality and parent-child interaction. Adults who developed secure attachments with their caregivers during early childhood are said to have secure working models of intimate relationships, and view others as reliable and emotionally supportive, and the self as deserving of that support. Adults who experienced neglectful or harsh care-giving when they were young are thought to develop insecure working models of intimate relationships, viewing themselves as unworthy, and others as inconsistently available or overly rejecting (Bowlby, 1969). Relationship satisfaction is higher among secure couples compared to couples where one partner is secure and the other insecure, or both partners are insecure (Feeney, 1994; Feeney, Noller, & Callan, 1994; Senchak & Leonard, 1992). Longitudinally, changes in husbands' and wives' reports of secure attachment predict concurrent changes in one's own and partner's reports of marital satisfaction (Davila, Karney, & Bradbury, 1999). Partners who have secure attachment styles demonstrate more trust, positive affect, longer commitment to their partners and better couple relationship functioning than adults who fall either in the resistant or avoidant styles of attachment (who report more jealousy, insecurity, and fluctuating levels of commitment; Cohn, Silver, Cowan, Cowan, & Pearson, 1992; Hazan & Shaver, 1987; Paley et al., 1999).
Couple communication and sexual intimacy may vary as a function of attachment security. Securely attached adults use more self-disclosure and more constructive approaches to conflict management, particularly when conflict is intense and central to the relationship (Feeney, 1998; Rholes, Simpson, & Stevens, 1998).

Conflict is more negative in couple relationships even if only one partner has an insecure attachment style. For example, Cohn et al. (1992) found that couples with insecure husbands exhibited less positive and more conflictual behavior during conflict discussions than couples where husbands had a secure attachment. Furthermore, when Paley, Cox, Harter and Margand (2002) assigned pregnant couples to groups based on their attachment security (secure/insecure) and mean level of negative emotional escalation (low/high) during a problem-solving discussion, they found that the impact of negative conflict management patterns on relationship functioning was greater for couples if the husband had an insecure attachment than if he was secure. Insecure husbands and the wives of insecure husbands reported greater declines in positive marital perceptions (or lower rates of positive marital perceptions compared to secure husbands and wives of secure husbands) from 3 to 24 months postpartum only when they were engaged in negative escalation. Differences between attachment style and perception of marital quality were not evident among couples who did not engage in negative escalation, indicating a potential protective effect of secure attachment style upon couple relationship functioning during conflict.
Hazan, Zeifman and Middleton (1994) found that adults with secure attachment report more enjoyment of physical contact, and more mutually initiated sex. In another study of approximately 150 couples assessed during pregnancy and again at 6 months postpartum, attachment insecurity was linked with low sexual desire and low satisfaction with sexual communication among new fathers only (but not new mothers, or a comparison cohort of couples who did not have children; Feeney et al., 2001). New fathers with attachment insecurity may struggle with postpartum sexual intimacy because it may require discussions of when to resume sex and how to overcome obstacles to the resumption of sex (e.g., female pain, fatigue, presence of infant), when his attachment classification tends to correlate with discomfort with self-disclosure. Other variables associated with secure attachment include low rates of maternal depression (Feeney et al., 2001), psychological distress (Mikulincer & Florian, 1998) and high perceptions of partner supportiveness (Rholes, Simpson, Campbell, & Grich, 2001).

There is growing evidence that adult attachment style influences parenting. For example, adult self-reported attachment style predicted parental responsiveness toward distressed children during a stressful parent–child interaction (i.e., children receiving inoculations; Eldenstein, Alexander, Shaver, Schaaf, Quas, Lovas, & Goodman, 2004). Mothers in secure couple relationships demonstrated more parenting sensitivity than mothers in insecure relationships. Specifically, maternal sensitivity accounted for 17% of the relationship between the Adult Attachment
Interview and the classification of infant attachment from the Strange Situation procedure (Pederson, Gleason, Moran, & Bento, 1998). Several other studies have noted that adult attachment style is correlated with infant attachment style (Main, Kaplan, & Cassidy, 1985; Murray, Fiori-Cowley, Hooper, & Cooper, 1996) and one meta-analysis found an effects size of \( r = .50 \) linking adult attachment style with infant attachment security (van IJzendoorn, 1995). Thus, it is probable that securely attached adults are more capable of providing high quality infant care-giving, which is in turn associated with secure infant attachment.

**Psychological Factors**

The presence of a current psychological disorder is a risk indicator for couple relationship problems (Marks, Wieck, Checkly, & Kumar, 1996). Studies have noted that rates of relationship distress and divorce increase in couples in which one or both partners are diagnosed with schizophrenia, severe personality disorder, depression, some forms of anxiety and alcohol abuse (Halford, 1995; Halford & Osgarby, 1993; Halford et al., 1999). However, it is likely that psychological disorders and couple relationship problems influence each other reciprocally. For example, couples who report higher rates of marital difficulty also experience higher rates of depression and alcohol abuse, whereas couples in highly satisfying marriages report low rates of psychological problems (Halford et al., 1999).

In the transition to parenthood literature, parental psychopathology correlates with lower relationship satisfaction (Perren, von Wyl, Simoni, Stadlmayr, Burgin, & von Klitzing, 2003). Maternal postnatal depression
predicts couple relationship problems (Belsky & Kelly, 1994; Cowan, & Cowan, 1995; Fleming, Ruble, Flett, & Shaul, 1988; Cutrona, 1982), and the trajectory of maternal postnatal depression is influenced by relationship satisfaction, such that maternal ratings of relationship distress correlate with maternal depressive symptomatology over and above earlier levels of depressive symptomatology (Hock, Schirtzinger, & Widman, 1995). The association between maternal postnatal depression, relationship and parenting outcomes were discussed in Chapter 1 and readers are referred back to that chapter for a review of that literature.

**Contextual Variables**

Contextual variables include the cultural and social circumstances in which the couple relationship and emerging family exist that either promote or undermine relationship functioning and parenting adjustment (Halford, 1999).

*Family of Origin*

Several studies have examined the influence of the couple's family-of-origin experiences on current relationship functioning. Adult offspring of divorce have higher rates of psychological disorder and are more likely to experience relationship distress and divorce than the rest of the population (Amato, 1996; Friedman, Tucker, Schwartz, & Tomilson, 1995; Glenn & Kramer, 1985; Karney & Bradbury, 1995; Sanders, Halford, & Behrens, 1999). The modelling of poor communication, especially poor intimate communication and problem-solving skills by parents who ultimately divorce, may be one pathway through which adult offspring from divorced
parents are also at higher risk for marital dissolution (Sanders et al., 1999). Alternate pathways mediating parental divorce and marital dissatisfaction in adult offspring have been identified, including negative expectations of marriage (Black & Sprenkle, 1991; Gibardi & Rosen, 1991), the presence of verbal and physical aggression (Story, Karney, Lawrence, & Bradbury, 2003), and poor negative affect regulation (Halford, Sanders, & Behrens, 2000; Sanders et al., 1999).

Cohabitation

Cohabitation prior to marriage increases the risk for separation (Balakrishnan, Rao, Lapierre-Adamcyk, & Krotki, 1987; Janus & Janus, 1993; Trussel & Rao, 1987). However, the effects of cohabitation on relationship outcome appear to vary depending on whether or not the couple choose to have children together. Cohabitating couples who become parents are more likely to marry than cohabiting couples who do not become parents (Manning, 2004). This suggests that childbirth during cohabitation increases the stability of the relationship. However, once married, relationship stability is unaffected by whether or not children were born during cohabitation (Manning, Smock, & Majumdar, 2004), whereas children born to couples who did not cohabit before marriage tend to increase relationship stability (Fergusson et al., 1990).

Premarital and Prenatal Relationship Satisfaction

In both childless and parent couples, premarital or prenatal relationship satisfaction is highly predictive of future relationship satisfaction (Belsky et al., 1985; Cowen et al., 1985, 1991; Heinicke, 1995;
Couples who are in close, confiding and satisfying relationship before the birth of their first child show a higher level of relationship satisfaction, stability, and parenting adjustment after the birth of their first child (Cowan & Cowan, 2000; Cox et al., 1989; O’Brien & Peyton, 2002; Wallace & Gottlieb, 1990). Similarly, couples who enter parenthood earlier than expected, such as before marriage or shortly after marriage, subsequently report lower marital quality than couples who became parents later in their relationship when children were expected or slightly later than expected (Helms-Erikson, 2001). The results suggest that the effect of becoming a parent on relationship quality may reflect differences among couples premarital level of relationship building effort or in the strength of their premarital relationship foundation (Huston & Holmes, 2004).

Social Support

Supportive relationships vary greatly in their function (i.e., emotional support, informative support, instrumental support) but all produce positive effects on health and well-being and adjustment to illness, life stressors and transitions (Berscheid & Reis, 1998). This next section focuses on the benefits of other support networks on couple adjustment to parenthood. In this thesis social support refers to the support received from professionals, friends and extended family and is thus distinct from mutual support between partners which was reviewed under the heading ‘couple adaptive processes’. This distinction was made in order to help organization of variables under the different headings.
Informative support (i.e., advice, guidance, information, feedback) is particularly crucial in the first few weeks after childbirth, however, with the post-delivery hospital stay averaging only 24 to 48 hours in uncomplicated pregnancies many parents report feeling overwhelmed by the amount of new information provided to them before leaving the hospital (McPherren-Stover & Griffith-Marnjon, 1995). Mother and infant care information seems particularly important in the first weeks following childbirth (McPherren-Stover & Griffith-Marnjon, 1995; Von Sydow, 1999). The failure to receive such information can lead to unrealistic expectations about the experience of parenthood (McPherren-Stover & Griffith-Marnjon, 1995).

Support during childbirth reduces length of labor, operative delivery and other medical interventions during birth (Hodnett, 2001). Among 140 pregnant couples studied longitudinally for 5 years, social support was positively correlated with maternal well-being (Levy-Schiff, Dimitrovsky, Shulman, & Har-Evan, 1998), and to a lesser extent paternal well-being (Levy-Schiff, 1999). Levy-Schiff et al. (1998) found that when women had low levels of social support and viewed parenthood as stressful or threatening, they also showed lower levels of maternal playfulness, affiliative behaviors and reduced care-giving during two 30-minute parent-child unstructured interactions compared to women who viewed parenthood as stressful or threatening but had high levels of social support.

The size of one’s support network shows some stability across the transition to parenthood. Couples with large social networks during
pregnancy also report large social support networks in the first 2 years postpartum (Bost, Cox, Burchinal, & Payne, 2002), and larger support networks are associated with more responsive and less directive maternal behaviours during parent-child interactions (Burchinal, Follmer, & Bryant, 1996). However, network size and availability does not solely determine whether support is a risk or protective factor in couple adjustment to parenthood. Evaluation of the available support as positive and useful (rather than negative or unwanted) appears to be an important determinant of outcome. For example, perceived satisfaction with friendship support is associated with less depressive affect, whilst negative perceptions of social support is associated with high depressive affect (Bost et al., 2002; Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 1993; Norbeck, 1988) and low psychological distress in reaction to infant physical ill health (Cutrona & Troutman, 1986; Jessop, Reissman, & Stein, 1988; Singer et al., 1996).

Satisfactory social support is also associated with high self-esteem and perceptions of parenting self-efficacy (Cutrona & Troutman, 1986; Teti & Gelfand, 1991), maternal sensitivity (Crockenberg, 1993; Goldstein, Diener, & Mangelsdorf, 1996), and generally facilitates the adaptation to parenthood (Crnic, Greenberg, Ragozin, Robinson, & Basham, 1983; O'Hara et al., 1983; Terry, 1992).

**Life Events**

Life events refer to the developmental transitions, situations, incidents and acute circumstances couples encounter (Karney & Bradbury, 1995). Life events are distinct from contextual variables in that life events
are transient, and can occur to one partner alone, whereas context is a relatively stable set of background circumstances that impact upon the couple. In contrast, to context that is relatively fixed, couples may have some influence over life events (e.g., change in employment, moving house, birth of child, retirement, etc).

For the purposes of this thesis, the pertinent developmental transition is the couple’s transition to parenthood. The focus of this section is on the other concurrent life events couples may encounter across this transition period and the effects that some of these stressful life events may have on couple adjustment to parenthood.

There is growing evidence that stressful life events tend to negatively affect couple relationship functioning (Story & Bradbury, 2004), individual well-being (Rubonis & Bickman, 1991) and parent-child interactions (Webster-Stratton, 1990). Specifically, experiencing a greater number of stressful life events (e.g., low socio-economic status, medical emergency) is on average associated with more negative evaluations of the couple relationship (Tesser & Beach, 1998) and higher relationship distress and divorce (Gimbel & Booth, 1994), than for those couples who experience few stressful life events.

The relationship between stressful life events and negative outcomes is particularly evident with acute, unpredictable stressors (Karney & Bradbury, 1995). Within the transition to parenthood literature, the risk of Post-Traumatic Stress Disorder (PTSD) increases as a function of increased use of unexpected medical interventions during childbirth, with the risk of
PTSD lower after an uncomplicated vaginal birth or planned caesarean, and higher after an emergency caesarean section (Chamberlain, 1993; Ryding, Wijma, & Wijma, 1998). Even instrument-assisted births may increase maternal psychological distress, with one recent study noting that forceps deliveries were as traumatic as emergency caesarean sections (Creedy, Shochet, & Horsfall, 2000). Instrumental deliveries typically occur in response to identified foetal distress or failure to progress during labour, and are thus considered emergency procedures (Creedy et al., 2000). The effects of medical emergencies during pregnancy or childbirth on the couple relationship are not well researched, but there is emerging evidence that relationship dissatisfaction, instability, and elevated psychological distress in the partner may arise as a consequence of an unexpected stressors in pregnancy or childbirth (van Pampus, Wolf, Weijma, Schulz, Neeleman, & Aarnoudse, 2004).

When compared to acute stressors, chronic stress is more stable and pervasive, and the effects more enduring (Karney et al., 2005; Quittner, Glueckauf, & Jackson, 1990). For example, in a study of 172 couples, chronic stress (e.g., relational, financial, health and work stress) was associated with declining rates of relationship satisfaction over the course of the first 4 years of marriage (Karney et al., 2005). Studies of chronic parenting stress note that mothers of children with minor impairments experience higher levels of psychological stress (e.g., higher levels of depression, anxiety and anger), parenting stress and rate their children as more distractible, moody and demanding compared to mothers of healthy
children (Quittner et al., 1990). Parenting stress (i.e., the everyday frustrations and irritations that accompany childrearing and children’s typical, but often challenging behavior; Crnic & Greenberg, 1990) correlates with few child monitoring and diverting behaviors, reactive and punitive parenting (Ritchie & Holden, 1998), insensitivity to infant cues (Crnic et al., 1983) and low social-emotional growth fostering during parent-child interactions (McKelvey, Fitzgerald, Schiffman, & von Eye, 2002). A high number of negative life events and daily hassles correlates with low maternal competence and self-efficacy (Taylor et al., 1997; Teti, Gelfand, & Pompa, 1990), predicts decreasing life satisfaction among first-time mothers (Crnic et al., 1983), and predicts postnatal stress and anxiety in both parents (Terry, 1991).

It has been suggested that the quality of the couple’s coping resources mediate the effects of stressful life events on relationship functioning, such that stressful life events exert their negative effects by introducing opportunities for tension, strain and couple conflict that would not otherwise be experienced by the couple (Karney, Story, & Bradbury, 2005). Couples with poor adaptive processes are therefore most vulnerable to the effects of stressful life events, whereas couples with high levels of couple adaptive processes are less vulnerable to stressful life events (Markman, Halford, & Cordova, 1997). For example, new parent couples tend to experience less declines in relationship satisfaction across the transition to parenthood if they display effective problem-solving behaviors
(Cox et al., 1999) and if they demonstrate low rates of negativity and high rates of affection (Shapiro et al., 2000) during antenatal couple discussions.

Couples who use dyadic coping (i.e., empathy, attending, emotion-focused communication) and mutual support to cope with a stressful life event are also less likely to experience declines in relationship satisfaction (Bodenmann, 2005). In a recent meta-analysis of 13 studies, dyadic coping accounted for 30 to 40% of the variance in relationship satisfaction, such that couples who used high levels of positive dyadic coping also reported high relationship satisfaction. In contrast, couples who used negative dyadic coping (i.e., ambivalence, hostility) were more likely to be distressed (Bodenmann, 2000; cited in Bodenmann, 2005). Although causal pathways for this association have not been studied, it is possible that dyadic coping indirectly increases the couple’s positive feelings for each other as a function of shared problem-solving and mutual support (Scott, 2004).

Couples who perceive stressors as occurring to ‘us’ rather than to ‘me’ may also be more likely to engage in dyadic coping strategies, which in turn may enhance relationship satisfaction (Mickelson, Lyons, Sullivan, & Coyne, 2001). The conclusion drawn from such studies is that during negative or challenging life events, couple adjustment to parenthood can be optimized by minimizing negative couple interactions and maximizing couple adaptive processes (Story & Bradbury, 2004).

**Integrating Research Findings with Theory**

The preceding review identifies numerous variables that predict couple and individual adjustment to parenthood. Table 2.1 summarizes these
variables into five categories: parenthood-specific factors, couple processes, individual characteristics, contextual variables, and life events. In each category there are risk variables that have negative effects, and protective factors that have positive effects, on couple adjustment to parenthood.

Risk indicators identified in the literature include: unplanned pregnancy, birth complications, infant sleeping, feeding and health difficulties, difficult infant temperament, history of relationship aggression or low relationship satisfaction, family of origin variables (e.g., parental divorce), demographic variables (e.g., age, gender, socio-economic status), attachment, current or prior history of a psychological disorder and the co-occurrence of other stressful life events. These risk indicators cannot be changed, but they are typically easy to measure and can indicate which couples are most at risk of experiencing declines in relationship satisfaction and difficulty adjusting to parenthood (Halford, 1999).

Risk factors are often the opposite of protective factors and each variable can be viewed along a continuum, exerting either a positive or negative effect on the couple relationship and individual. For example, good communication and conflict management skills offer protective effects, whereas poor communication and conflict management skills (especially if there is physical aggression involved) act as risk factors for poor couple adjustment to parenthood.
Table 2.1

*Parenthood-Specific Factors, Couple Processes, Individual Characteristics, Contextual Variables and Life Events which Impact on Couple Adjustment to Parenthood*

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
<th>Variable</th>
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<tr>
<td>Parenthood-specific</td>
<td>Pregnancy, birth &amp; infant</td>
<td>Planned pregnancy</td>
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<td></td>
<td>indicators</td>
<td>Birth complications</td>
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<td>Infant health, gender and temperament</td>
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<td>Parenting factors</td>
<td>Expectations</td>
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<td>Self-efficacy</td>
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<td>Care giving quality</td>
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<td>Couple processes</td>
<td>Normal processes</td>
<td>Communication</td>
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<td>Mutual support</td>
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<td>Abnormal processes</td>
<td>Affection and intimacy</td>
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<td>Relationship Aggression</td>
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<td>Individual Characteristics</td>
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<td>Attachment</td>
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<td>Psychological factors</td>
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<td>Contextual</td>
<td>Family of Origin</td>
<td>For example, parental divorce, Cohabitation</td>
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<td>Relationship History</td>
<td>Prenatal satisfaction</td>
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<td>Current</td>
<td>Social support</td>
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<td>Life Events</td>
<td>Life stressors</td>
<td>For example, emergency procedures during labour</td>
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Other risk factors identified in this chapter include parenting-specific variables such as low parenting self-efficacy, unrealistic and divergent...
expectations; couple processes such as ineffective communication and poor conflict management skills, low levels of mutual support, affection and intimacy; and contextual variables such as low levels of social support. Couples who have numerous or high levels of risk indicators and risk factors are likely, across the transition to parenthood, to experience relationship dissatisfaction and adjustment difficulties (Coie et al., 1993).

The effects of risk variables are moderated by the presence of protective factors. Protective factors may decrease risk directly, or they may interact with the risk variable to buffer its effects, mediate the process through which the risk factor causes negative outcomes, or prevent the occurrence of the risk variable (Coie et al., 1993). Furthermore, risk and protective factors are rarely associated with just one specific couple outcome (Coie et al., 1993; Zeanah, 2000). Rather, most variables are associated with multiple outcomes. The association between a risk or protective factor and a multitude of potential outcomes is termed ‘plurifinality’ (Zeanah, 2000). For example, a history of maternal depression predicts higher rates of maternal PND, other maternal psychological disorders, marital dissatisfaction, low mothering self-efficacy, poor mother-infant attachment, insensitive mothering, and later child emotional or behavior problems.

A specific outcome may also be the consequence of a variety of risk variables (i.e., equifinality; Zeanah, 2000). Numerous examples of equifinality were presented in this chapter. For example, low couple relationship satisfaction is predicted by poor couple communication skills,
low rates of affection and intimacy, low mutual support, current or prior history of psychological problems, low self-efficacy, insufficient social support, difficult infant temperament or having an infant with a severe sleeping or feeding problem. The outcomes predicted by any risk or protective variable are likely to have multiple mediators and moderators.

The variability in couple adjustment to parenthood that was described in Chapter 1 is likely to be a function of the varying levels of risk and protective factors present in the individual, couple and environment, as well as the varying effects that different combinations of risk and protective factors have on outcome. The complex associations between risk and protective variables for the prediction of couple relationship adjustment across the transition to parenthood can be usefully conceptualized using an extension of the vulnerability-stress-adaptation model (Halford, 1999; Karney & Bradbury, 1995). Within the couple relationship literature the vulnerability-stress-adaptation model gained popularity because it integrates the empirical findings identified by the literature on relationship satisfaction and stability with the important theoretical contributions of four of the most influential theoretical perspectives on couple relationship, including behavioral theory, crisis theory, attachment theory, and social exchange theory (Karney & Bradbury, 1995). For example, behavioral theory explains the intricacies and implications of couple interactions over time; attachment theory describes the impact of individual characteristics, crisis theory reveals the effects of stressful life events on couple functioning, whilst social exchange theory helps to explain the distinction between relationship
quality and relationship stability (for a thorough review of these theories refer to Halford et al., 1999; or Karney & Bradbury, 1995).

The transition to parenthood introduces a fifth variable, parenthood-specific variables, into this model. The bidirectional nature of couple relationship functioning and parent-child interactions implies that parents who have a positive and satisfying couple relationship are more likely to provide sensitive and responsive care-giving, whereas couples in dissatisfied and distressed relationships are more likely to exhibit irritable, inattentive and inappropriate care-giving (Esterbrooks & Emde, 1988). Although child outcome will not be measured in this thesis it is important to recognize that optimal parenting practices are associated with positive child development, whereas insensitive parenting leads to less optimal child development (Heatherington, Cox, & Cox, 1982; Krishnakumar & Buehler, 2000).

Figure 2.1 illustrates the relationship among the key variables discussed in this chapter and thus provides a model of how risk variables and protective factors influence couple adjustment to parenthood. In Figure 2.1 individual characteristics refer to the stable characteristics of either the adult partners or the child, such as gender, age, vulnerability to psychological disorder and infant temperament. Individual adjustment refers to more temporary states of functioning, rather than trait effects, and usefully illustrates how psychological disorders such as postnatal depression predicts relationship problems (Cowan, & Cowan, 1995) and correlates with relationship satisfaction (Hock et al., 1995). The pathway between couple processes and individual adjustment is offered to provide a pathway through
which individual adjustment (e.g., postnatal depression) may be enhanced by strong couple adaptive processes and high couple relationship satisfaction. Life events refers to potentially stressful experiences (positive or negative), such as illness. Parenting refers to the parent-child interaction quality (i.e., care-giving) and outcomes such as parenting satisfaction. Other parenthood-specific variables such as parenting expectations and self-efficacy are not illustrated in the model but they would have a mediating or moderating effect on couple relationship, individual and parenting outcomes.

The interrelationship between these variables is illustrated using arrows and the letters A to I, except for contextual variables which are thought to influence all other variables. A case illustration follows with the aim of demonstrating some of the links between these variables and how couple adaptive processes, when poor, can negatively influence couple adjustment to parenthood, but when strong, can protect couples from individual vulnerabilities and stressful life events.

Consider a couple who enters parenthood with relatively poor communication skills (e.g., low levels of eye-contact and smiling, high negative affect and criticism). Aside from this risk factor the couple report high affection, intimacy and mutual support. In the past this couple has had relatively few stressful life events and has therefore not needed to negotiate and solve many disagreements (pathway A). They have had high levels of social support provided mainly by work colleagues and friends (contextual variable), and they come from relatively stable and intact family
backgrounds (individual characteristic). Both partners worked full-time, and their financial security (individual characteristic) allowed the couple to pursue couple hobbies (pathway B). Lack of stressful life events, contextual risk variables and individual risk indicators meant that the couple were not negatively affected by their poor communication skills and reported high relationship satisfaction (pathway C).

Figure 2.1. The vulnerability-stress-adaptation model adapted to the transition to parenthood (with pathways A to I showing relationships among variables).

At the end of pregnancy the woman started maternity leave. Consequently she had less adult social interaction (contextual variable), and the couple had less disposable income (increase in life stress), which caused a subtle increase in couple conflict as the couple argued over financial
decisions (*pathway A*). During birth the woman had an emergency caeserean, and later experienced difficulty breastfeeding. As a result she reported high parenting stress and dissatisfaction (*pathway D*). The male partner, adept at giving problem-solving support, struggled to provide the level of emotional support his partner needed.

As new parents the couple had less time and energy for their couple relationship – especially couple time and intimacy (decreasing adaptive couple processes). The couple reported that their infant was often irritable and difficult to soothe (difficult infant temperament is a risk indicator in the parenthood-specific domain but is illustrated as an individual characteristic in Figure 2.1). The couple argued over the care-giving behaviors that most effectively soothed their infant (*pathway B*). Couple conflict negatively influenced each partner’s parenting (*pathway G*). The increase in couple conflict, decrease in couple time, intimacy, and mutual and social support lead to maternal postnatal depression (*pathway E*; If the woman had had a history of psychological disorder she would have been even more vulnerable to future individual maladjustment such as postnatal depression during the transition to parenthood, *pathway F*).

If this hypothetical couple does not learn better couple communication and conflict management skills they are at increasing risk of declining relationship satisfaction and quality (*pathway C*) and individual maladjustment (*pathway E*). If the couple begins reporting relationship distress they will also be at higher risk of reporting individual distress (*pathway H*) and parenting stress, and for the male partner declining
relationship satisfaction may lead to insensitive or absent fathering (*pathway I*).

Figure 2.1 also provides a pathway through which couple relationship education may reduce the risk of this couple experiencing relationship dissatisfaction. Dynamic (modifiable) factors are the most likely targets for interventions, and these include couple communication, affection and intimacy, mutual support (couple adaptive processes), parenting expectations, parenting self-efficacy, and care-giving quality (parenthood specific factors), as well as social support (contextual variable).

In this thesis I am interested in how interventions that enhance couple adaptive processes affect couple relationship satisfaction and stability (*pathway C*) as well as individual adjustment (*pathway E*) and parenting outcomes (*pathway G*). For example, if couple-focused psycho-education improved this hypothetical couple’s effective communication and conflict management skills then the couple could be helped to calmly discuss financial matters, support needs and care-giving approaches. If the man learnt about the importance of different types of support (especially emotional support) and applied active listening skills during his interactions with his partner he could provide better emotional support to his partner. High emotional support may also reduce maternal postnatal depression (*pathway E*). The positive changes in their couple interactions may increase their relationship satisfaction (*pathway C*) which then spills-over into positive parenting behaviors (*pathway I*) and may enhance individual well-being (*pathway H*).
Conclusion

Programs for the transition to parenthood need to educate couples about the risk and protective factors that predict adjustment to parenthood. Factors that are modifiable and act as protective factors across the transition to parenthood are appropriate content for such programs. The following topics would be useful components of an intervention program for couples making the transition to parenthood: developing realistic and shared expectations; negotiation of gender roles and division of labor; learning about sensitive and responsive parenting practices to enhance parenting self-efficacy; communication, conflict management and problem-solving skills; maintaining or enhancing demonstrations of affection and caring; education about the challenges of sexual intimacy during pregnancy and early postpartum and encouraging couple discussion of what constitutes a mutually satisfying sexual relationship; maintaining or enhancing mutual support behaviors; identification of other support needs and information about professional support networks available to new parents. The extent to which intervention programs for the transition to parenthood have addressed these variables is explored in Chapter 3.
CHAPTER 3

Interventions for the Transition to Parenthood

Megan: “I worry that Zac and I will not have as much time for each other as we are used to and that we will lose some of that special bond.”

Zachary: “In our last antenatal class we had a talk about how parenthood changes your life with your partner. That was the best session we had.”

(A couple’s response to the question “What changes will a baby bring to your life and what will help you prepare for potential relationship changes?” Couple CARE for Parents study, 2003).

Given that some couples struggle to adapt to the role of parenthood and show deteriorating relationship quality, many commentators have suggested the need for educational interventions to ease couples’ transition to parenthood (Cowan & Cowan, 1992; Glade et al., 2005; Hawkins, Gillian, Christieans, & Carroll, 2002; O’Brien & Peyton, 2002; Polemeno, 1999; Shapiro et al., 2000). One argument for intervention with couples across the transition to parenthood is that the best way to ensure a healthy family environment for raising children is to foster parental competence and couple cohesiveness. Other reasons for intervention at this transition time include enhancing individual adjustment as a strategy to prevent psychological distress (e.g., postpartum depression), and enhancing couple
adjustment in order to prevent relationship dissatisfaction, separation and divorce. Despite our increasing knowledge that the couple relationship experiences significant challenges across the transition to parenthood; despite the consistent finding that approximately half of all couples having their first child report declining relationship satisfaction and increasing conflict; and despite the importance of the couple relationship in the development of positive parent-child relationships and child outcome, few programs are available to assist couples’ adjustment to parenthood.

My previous chapters have argued that couples who are becoming parents could benefit from psycho-education that enhances couple adaptive processes. However, psycho-education programs for the transition to parenthood have primarily focused on the needs of women, with attention to maternal mental health and/ or parenting. There are relatively few programs that attend to the couple relationship. In this chapter I review all randomized controlled trials with a psycho-educational focus for the transition to parenthood. My aim is to analyze programs that attempt to prevent problems or enhance positive outcomes, rather than treatment for existing problems. For example, I do not consider postnatal depression treatment studies, but I do review programs intended to prevent postnatal depression. Given my focus on couple relationships, I also briefly review psycho-education programs that attempt to enhance couple relationships at times other than the transition to parenthood, with the goal of explaining how such programs might be adapted to address the needs of couples making the transition to parenthood.
The notion of allocating resources to prevention strategies, rather than treatment, is increasingly being recognized as a more cost-effective and humane strategy for population health (Orgrondniczuk & Piper, 2003). Prevention can be divided into indicated, selective and universal activities (Markman et al., 1997). In this thesis, indicated prevention refers to programs that are directed at relatively small groups of people who are at high risk of individual adult distress, parenting problems, or couple relationship dissatisfaction and distress because they already have minimal, but detectable symptoms of maladjustment (e.g., expectant couples who report mild relationship distress or aggression, parents with sub-clinical levels of a psychological disorder, infants with behavioral difficulties but no clinical diagnosis). Selective prevention tends to be directed at large groups whose risk of becoming distressed or ill is higher than normal, but who, as yet do not show signs of distress (e.g., expectant couples who have divorce in the family of origin, a history of relationship distress, poor communication skills). Universal prevention refers to programs that are directed at all couples expecting a child with the aim of decreasing the number of couples reporting individual adult distress, parenting problems, or couple relationship distress across the transition to parenthood. I review the outcomes of all three types of prevention programs.

Studies were included in this review if they employed a randomized controlled design and sampled parents who were pregnant or had an infant under 6 months of age. Studies were excluded if they sampled parents with a clinical disorder, alcohol or drug dependence, or included infants born pre-
term, chronically ill or disabled. Such studies were excluded because they typically focused less on prevention and more on therapy or treatment.

**Search Strategy**

Multiple search strategies were used to maximize the probability of locating relevant transition to parenthood intervention studies. First, the computerized databases Medline, ProQuest (Psychology, Nursing), Ovid and PsychInfo were searched using the search terms psycho-education, intervention, prevention AND couple, relationship, depression, parenting, care-giving, attachment and infant. Second, the references from relevant papers located through database searches were examined for additional papers. Third, references were identified through citations from meta-analytic and review papers (e.g., Austin & Lumley, 2003; Bakermans-Kranenburg, van IJzendoorn, & Juffer, 2003; Boath, Bradley, & Henshaw, 2005; Cowan & Cowan, 1995; Dennis, 2005; Elkan, Kendrick, Hewitt, Robinson, Tolley, Blair, Dewey, Williams, & Brummell, 2000; Erickson, Korfmancher, & Egeland, 1992; Gomby, 2005; Guterman, 1999; Kendrick, Elkan, Dewey, Blair, Robinson, Williams, & Brummell, 2000; Letourneau et al., 2004; Lumley, Austin, & Mitchell, 2004; Olds & Kitzman, 1993; Sweet & Applebaum, 2004; van IJzendoorn, Juffer, & Duyvesteyn, 1995).

**Indicated Prevention Programs**

Five indicated prevention studies met the search criteria (refer to Table 3.1). Two randomized controlled trials targeted the prevention of maternal postnatal depression (PND), two targeted the prevention of infant behavior problems and one targeted both. Participants in these five studies
had early signs of maladjustment. For example, in three of these indicated intervention studies women with elevated symptoms of anxiety or depression were recruited (Barnett et al., 1987; Chabrol et al., 2002; Zlotnick et al., 2001). In the other two studies, mothers reporting problematic infant crying were recruited (Barr et al., 1991; Dihigo, 1998). The intervention targeting infant colic (Dihigo; 1998) was included because the program focused on parental responsiveness to colic, rather than treatment of colic with medication or therapy.

Interventions provided support and encouragement (Barnett et al., 1987), individualized counseling combined with education about infant care (Dihigo, 1998), pediatric advice combined with behavioral infant care strategies (Barr et al., 1991), interpersonal therapy (IPT; Zlotnick et al., 2001) and cognitive-behavioral therapy (CBT; Chabrol et al., 2002). Sessions ranged in length from one (Chabrol et al., 2002) to 30 sessions (Dihigo, 1998) and were delivered in the home (Barnett et al., 1987; Barr et al., 1991; Dihigo, 1998) or hospital (Chabrol et al., 2002; Zlotnick et al., 2001).

Four of the five indicated prevention studies found significant short-term intervention effects. Both Chabrol et al. (2002) and Zlotnick et al. (2001) found that brief psychotherapy reduced rates and severity of PND at 3 months postpartum. Unfortunately, the results of Zlotnick et al. (2001) are limited to socially disadvantaged women and may not be generalizable even among that population because of the small sample size.
<table>
<thead>
<tr>
<th>Author(s)/Year</th>
<th>Participants</th>
<th>Measures</th>
<th>Program and Control</th>
<th>Key findings</th>
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<tbody>
<tr>
<td>Barnett, Blignault, Holmes, Payne, &amp; Parker (1987)</td>
<td>81 highly anxious middle class women INT 1 = 29 INT 2 = 28 Control = 23</td>
<td>STAI, SSP, LES, Infant temperament, Interview of social interaction. Assessed in pregnancy, 6 months and 12 months postpartum.</td>
<td>INT 1 consisted of 12 months HV support and encouragement of maternal sensitivity of infant cues delivered by a social worker INT 2 was the same intervention as INT 1 but delivered by an experienced mother.</td>
<td>At 12 months postpartum more control infants showed secure attachment styles compared to INT 1 or INT 2 infants (control = 74% secure versus INT 1 and 2 combined = 59% secure). Levels of maternal anxiety declined in INT 1 compared to INT 2 and control groups. No other significant effects.</td>
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<td>Barr, McMullan, Spiess, Leduc, Yaremko, Barfield, Francoeur, &amp; Hunziker, (1991)</td>
<td>66 mothers who had complained of problematic infant crying. INT = 31 CO = 35</td>
<td>Duration and frequency of infant crying and fussing behavior. Assessed at baseline (1 week postpartum), 4 weeks (post-assessment), 6, 8, and 12 weeks of age.</td>
<td>INT received standard pediatric advice and recommendation to increase infant carrying by 50% regardless of whether infant was crying. CO received standard pediatric advice and recommended to apply 8 strategies to comforting a crying infant. Both programs monitored via diary records for 4 weeks.</td>
<td>Although INT did carry infants for longer (56% more) than CO, there were no differences in crying rates between groups.</td>
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<td>Chabrol, Teissedre, Saint-Jean, Teisseyre, Sistac, Michaud, &amp; Roge (2002)</td>
<td>241 postnatal women with elevated depressive symptoms INT = 113 Control = 128</td>
<td>EPDS, BDI, HADS. Assessed at baseline (2-5 days post-partum), 6 and 12 weeks postpartum.</td>
<td>INT group received 1 session of CBT led by Master’s level psychologists (supervised by senior psychologists).</td>
<td>At 6 weeks postpartum INT reported lower scores on the depression measure and fewer women scored above the cut-off relative to Control (INT = 30.2%, Control = 48.2%)</td>
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<tr>
<td>Author(s)/Year</td>
<td>Participants</td>
<td>Measures</td>
<td>Program and Control</td>
<td>Key findings</td>
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<tr>
<td>Dihigo (1998)</td>
<td>23 mothers (14 mother-infant pairs with colic)</td>
<td>Parent diary report of crying, NCAFS.</td>
<td>INT 1 and 2 received daily or every other day phone contact from the researcher.</td>
<td>INT 1 infants showed a significant reduction in crying duration and less feeding problems than control. INT 2 and control infants showed no change in infant crying times. INT 2 infants had a non-significant increase in crying times compared to baseline.</td>
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<td>INT 1 = 8</td>
<td>Assessed at baseline (under 3 months postpartum), 4 weeks after baseline and 2 months postpartum (follow-up).</td>
<td>INT 1 included phone discussions focused on individualized counseling and education about how to respond to an infant with colic. INT 2 included phone conversations providing empathy and support but no education.</td>
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<td>INT 2 = 6</td>
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<td></td>
<td>Control = 9 (mother-infant pairs who did not have colic)</td>
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<td>INT 1 and 2 received daily or every other day phone contact from the researcher.</td>
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<td>Zlotnick, Johnson, Miller,</td>
<td>35 pregnant women with a previous episode of depression or PND, or mild to moderate levels of depressive symptoms. INT =17 control = 18</td>
<td>DSM-IV depression BDI score Assessment at baseline (20-32 weeks gestation), post-intervention (4 weeks after baseline), and 3 months postpartum.</td>
<td>INT group received four interpersonal therapy psycho-education group antenatal classes held weekly and led by an IPT trained psychologist. Aim of IPT was to identify and manage role transition and conflict resolution; skills based with homework.</td>
<td>At 3 months postpartum INT reported lower depression scores on the BDI and there were fewer cases of diagnosed depression relative to the control (INT = 0% versus control = 33%).</td>
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<td>Howard (2001)</td>
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*Note: INT = Intervention; CO = comparison; Control group is standard care unless otherwise stated; CBT = cognitive-behavior therapy, IPT = interpersonal therapy. A list of abbreviated measurement tools and the full title of each measure appears in Appendix A.*
One indicated prevention programs aimed at reducing infant crying among infants who were labeled ‘problematic cryers’ by their parents found that a simple behavioral strategy (i.e., supplemental carrying) was ineffective in reducing infant crying frequency and duration relative to control (Barr et al., 1991). Individualized counseling and educational support about responding appropriately to infant crying, however, did reduce infant crying duration and had the additional benefit of reducing feeding problems (Dihigo, 1998). Unfortunately both of these latter studies relied on small sample sizes, had short-term follow-ups (2 to 3 months postpartum) and neither measured other parenting, individual or couple outcomes.

One indicated prevention program, aimed at decreasing maternal distress and increasing mother-infant attachment security among anxious women, found that support and encouragement of maternal sensitivity, delivered by a social worker, decreased maternal anxiety across the first 12 months postpartum compared to the same intervention delivered by an experienced mother and compared to control group women (Barnett et al., 1987). However, the intervention had no effect on mother-infant attachment security. In fact, at the 12 month assessment more control group infants showed secure attachment than intervention infants. It is possible that there was a ceiling effect for attachment security in this study, with a high percentage of securely attached infants within all conditions prior to intervention, such that additional parenting education and support had no effect on attachment security (van IJzendoorn, 1995).
Summary of Indicated Prevention Programs

In sum, indicated prevention programs showed short-term effectiveness in reducing rates of maternal PND when intervention consisted of brief psychotherapy (Chabrol et al., 2002; Zlotnick et al., 2001), and in reducing infant crying duration when intervention consisted of intensive, individualized and short-term (1 month) parent counseling and educational support (Dihigo, 1998). When intervention targeted maternal anxiety through the provision of parent-focused support and encouragement maternal anxiety remained reliably lower at 12 months postpartum relative to control (Barnett et al., 1987). Length of follow-up was a key weakness of four of these trials, with only Barnett et al. (1987) measuring outcomes at a 12 month follow-up.

Although the five indicated interventions addressed the individual problems (i.e., maternal depression or infant crying) and most found a positive intervention effect, it is also likely that their interventions affected other domains of family life. Chapter 2 presented literature which demonstrated how characteristics of the infant and mother rarely occur in isolation. Since the couple relationship, individual adult and child characteristics mutually interact to determine family outcome, it would seem important to examine the effects of indicated prevention programs on broader domains of family life. Aside from the randomized controlled trial by Barnett et al. (1987) neither of the two indicated interventions that focused on maternal mental health measured what effect their program had on parenting outcomes. Likewise, neither of the two indicated randomized
controlled trials that focused on parenting investigated what effect their program had on maternal mental health. If the woman and child live with a partner, then investigating the impact of intervention on the partner and couple relationship would also have been useful.

**Selective Prevention Programs**

In total, 40 selective randomized controlled trails met the search criteria (refer to Table 3.2). Eight studies focused on maternal mental health, 26 on parenting and child outcomes and six additional studies focused on both. No selective randomized controlled trials were found that specifically targeted the prevention of couple relationship problems. Most selective prevention programs recruited women who met at least one of many criteria for high-risk, including previous history of depression or other mental health problem, family history of depression, poor social support, low income, young age (especially adolescence), low socio-economic status, non-Caucasian background, low education, alcohol or drug addiction, single, relationship discord or operative interventions at birth. Even though four studies recruited families, rather than just women, these studies still targeted their intervention predominantly at women and their infants, and had few if any measures of partner and couple relationship outcomes (Armstrong, Fraser, Dadds, & Morris, 1999; Constantino, Hashemi, Solis, Alon, Haley, McClure, Nordlicht, Constantino, Elmen, & Carlson, 2001; St. Pierre & Lazyer, 1999; Wasik, Ramey, Bryant, & Sparling, 1990).

Eight selective randomized controlled trials were aimed specifically at preventing maternal postnatal depression (PND). Just three of these
studies reported positive intervention effects. The provision of a volunteer companion to women during labor and delivery (where the volunteer used touch and verbal communication to comfort, reassure and praise the woman) effectively reduced rates of PND up until 6 weeks postpartum (Wolman, Chalmers, Hofneys, & Nikodern, 1993). Psychotherapy approaches, such as Interpersonal Therapy (Gorman, 1997) and group psycho-education (Elliott, Leverton, Sanjack, Turner, Cowmeadow, Hopkins, & Bushnell, 2000) also reduced rates of PND and positive intervention effects were maintained at the 12 month follow-up in the group psycho-education trial (Elliott et al., 2000). The positive intervention effects of Interpersonal Therapy (Gorman, 1997) were not maintained at 6 month follow-up.

Other selective prevention programs targeting maternal PND have provided additional group antenatal classes (Brugha, Wheatley, Taub, Culverwell, Friedman, Kirwan, Jones, & Shapiro 2000; Buist, Westley, & Hill, 1999; Stamp, Williams, & Crowther, 1995), extended midwifery care (Marks, Siddle, & Warwick 2003), or birth debriefing (Small, Lumley, Donohue, Potter, & Waldenstrom, 2000). These interventions produced no significant improvements in rates of PND relative to standard antenatal care. Low attendance rates at group classes was common (e.g., 31% in Stamp et al., 1995; 45% in Brugha et al., 2000), which may explain the lack of positive intervention effects. The lack of positive intervention effects for extended midwifery care may be due to small differences between intervention and standard care conditions in the number and length of home visits (Ogrodniczuk & Piper, 2003). For example, some women in the
control condition received standard home-visiting midwifery care at the same frequency and length (up to 14 days postpartum) as intervention women (Marks et al., 2003). Lack of intervention effects may also be because women who were more vulnerable to depression were more likely to drop out of the trial or not sign up for the program in the first place (Elliott et al., 2000), resulting in a predominantly well-functioning study sample where intervention had difficulty showing an effect.

Thirty-two randomized controlled trials, aimed at preventing parenting problems with high-risk women, were identified. These studies tended to differ greatly in their target group (e.g., social disadvantage, adolescent), content (e.g., information and awareness or skill-training), what they measured (parent, child, physical health, child abuse, social-emotional health, parent-child interaction quality, etc), and how they measured these outcomes (self-report, interview, observational, Child Protection Reports, Hospitalisation records, etc). The programs also differed widely in length and intensity (e.g., 1 to 100 or more sessions), delivery mode (e.g., one-on-one, group), place of delivery (e.g., home visit or Hospital) and the professional qualifications of the person delivering the intervention. The comparison or control condition used in each trial also varied substantially, with some studies using standard care that consisted of completing the assessments only (Koniak-Griffin, Verzemnieks, & Cahill, 1992), standard care that consisted of home visits (Stevens-Simon, Nelligan, & Kelly, 2001), or a comparison group who received a minimal intervention (e.g., written infant care information; Lambermon & van IJzendoorn, 1989). The
many differences between the selective intervention studies make comparisons across trials difficult.

In order to increase the ease of comparisons across trials these 32 studies are reviewed as either non-home-visiting (8 studies) or home-visiting (24 studies) programs. This decision was based on several common differences between home-visiting and non-home-visiting programs. First, many home-visiting programs were of greater duration than non-home-visiting programs. For example, Olds and Colleagues implemented the ‘Nurse-Family Partnership’ home visiting program with high-risk women and collected 15 year follow-up data, and the majority of other home-visiting programs conducted at least a 2 year follow-up (Barnard et al., 1988; Erickson et al., 1992; Kitzman et al., 1997; Thompson et al., 1982; Stevens-Simon et al., 2001) or more (Duggan et al., 1999; Lambie et al., 1974; Love et al., 2005; St Pierre & Layzer, 1999; Wagner & Clayton, 1999; Wasik et al., 1990). Second, home-visiting programs tended to have more intervention targets and outcome measures than non-home-visiting programs. Third, home-visiting programs were typically more costly to deliver than non-home visiting program, but may have had higher client engagement and attendance, and lower attrition than clinic or hospital based programs because clients were not required to exert as much effort to receive the intervention.

Selective randomized controlled trials not employing a home-visiting design have found that intervention improves parent-child interaction quality when delivered as brief behavioral instructions
(Ainsfield, Casper, Nozyce, & Cunningham, 1990), behavioral training and modeling (Koniak-Griffin et al., 1992), interactive video-disc, modeling and feedback (Lagges & Gordon, 1999), and regular paediatric clinic attendance (Whitt & Casey, 1982). These four trials found that the intervention group, when compared to a control group receiving standard care or assessment only, demonstrated more parenting responsivity (Ainsfield et al., 1990) and sensitivity (Koniak-Griffin et al., 1992; Whitt & Casey, 1982) during observed parent-infant interactions, and increased adolescent parenting knowledge (Lagges & Gordon, 1999). The results from these randomized controlled trials need to be interpreted cautiously because two had relatively small sample sizes (e.g., $N = 31$ in Koniak-Griffin et al., 1992; $N = 32$ in Whitt & Casey, 1982), and one used outcome measures without published validity and reliability (Lagges & Gordon 1999). Furthermore, relatively little is known about the long-term benefits of these interventions due to the short follow-up periods of 2 months (Koniak-Griffin et al., 1992; Lagges & Gordon, 1999) and 5 months (Whitt & Casey, 1982), with only Ainsfield et al (1990) conducting a follow-up beyond 12 months postpartum.

Three hospital-based programs provided group parenting education and support (Constantino et al., 2001; Quint, Bos, & Polit, 1997; Truss, Benson, Hirsch, & Lickiss, 1977), and one provided a video-taped parent educational program (mailed out to participants; Lambermon & van IJzendoorn, 1989). These four studies produced no improvement in parent-child interaction quality compared to a control. Client feedback in the study by Lambermon and van IJzendoorn (1989) was that the video models were
hard to identify with, and the failure to identify with the video models may have resulted in women disregarding the video-taped information.

As with the group programs aimed at preventing maternal PND, attendance ratings at the parenting groups were often low and attrition rates typically high. For example, 44% of intervention mothers and 29% of control mothers withdrew in the trial by Constantino et al. (2001). In the trial by Quint et al. (1997) 30% of intervention mothers did not attend even one group session, and 56% of participants withdrew from the program before the end of the 18 month trial. The sites which reported the most attrition also reported higher negative parenting outcomes. Quint et al. (1997) suggested that adolescents with higher levels of depression may need to have more frequent contact with health professionals (e.g., one every 2 weeks), more skill-training, more immediate parent education (e.g., close to birth of infant), and be engaged in intervention for 6 months or longer. These recommendations may apply to high-risk women of any age. Overall, clinic and hospital-based intervention programs probably need to identify incentives for participants to remain engaged in the program, especially if it is a long-term intervention. Additional training for professionals, as well as additional checks on delivery quality and intensity across sites may also be needed to ensure that staff can facilitate ongoing participant engagement.

Many selective home-visiting trials reviewed in this chapter reported that home-visiting helped some families but not others (Barnard, Magyary, Summer, Booth, Mitchell, & Spiker, 1988; Booth, Mitchell, Barnard, & Spiker, 1989; Duggan, McFarlane, Windham, Rhode, Salkever, & Fuddy,
1999; Olds, Henderson, Chamberlin, & Tatelbaum, 1986; Olds Robinson, O’Brien, Luckey, Pettitt, & Henderson, 2002; Thompson, Cappleman, & Conrad, & Jordan, 1982), or had positive intervention effects on some outcomes, but not on others (Armstrong et al., 1999; Daro & Harding, 1999; Heinicke et al., 1999; Kitzman et al., 1997; Koniak-Griffin et al., 2000; Lambie, Bond, & Weikart, 1974; Luster, Perlstadt, McKinney, Sims, & Juang, 1996; Marcenko & Spence, 1994; Olds et al., 1986; Olds et al., 2002; Siegel, Bauman, Schaefer, Saunders, & Ingram 1980; Wagner & Clayton, 1999).

The content of home-visiting programs varied substantially and included education, advice, emotional and social support, practice support (e.g., transport to child health clinics, welfare benefits), linkage with community services, case management, and crisis counseling. Across all intervention targets, programs, sites and risk typologies, home-visiting rarely produced effects sizes exceeding .20 of a standard deviation in size (Gomby, 2005). Home-visiting studies were more likely to produce improvements related to parenting rather than in child development, child safety, maternal life course development or maternal health (Gomby, 2005).

Just over half (n = 14) of the 24 home-visiting studies presented in Table 3.2 reported a significant difference in parent-child interaction quality, favouring the intervention group. For example, home-visiting improved the quality of parent verbal interaction (Lambie et al., 1974; Luster et al., 1996), emotional responsivity (Luster et al., 1996), supportiveness and positive regard (Love et al., 2005), maternal
involvement (Daro & Harding, 1999; Luster et al., 1996), acceptance
(Siegel et al., 1980), praise, management of child aggression (Gutelius,
Kirsch, MacDonald, Brooks, & McErlean, 1977) and overall sensitive and
responsive parenting (Ammaniti et al., 2006; Heinicke et al., 1999; Kitzman
et al., 1997; Olds et al., 2002; Siegel et al., 1980; Wasik et al., 1990)
compared to a control or comparison group.

Home-visiting also increased the percentage of infants who were
securely attached (Heinicke et al., 1999; Jacobson & Frye, 1991), increased
child responsiveness (Daro & Harding, 1999), child positive affect (Olds et
al., 1986) and deceased child negative affect (Olds et al., 2002) and
irritability (Luster et al., 1996) relative to a control. Many of these positive
outcomes appear to be short-term gains identified at the post-intervention
assessment conducted between 6 and 12 month postpartum. These studies
rarely collected or found intervention effects on parent-child interaction
quality beyond a 24 month follow-up, with the exception of three studies
who reported sustained intervention effects at 3 (Gutelius et al., 1977i Love
et al., 2005) and 6 years postpartum (Wasik et al., 1990).

The HOME inventory was often used to measures parent-child
interaction outcomes (subscales included emotional and verbal responsivity
of the mother, avoidance of restriction and punishment, organization of the
home environment, provision of appropriate play materials, maternal
involvement with the child, and opportunities for variety within the daily
routine; Bradley & Caldwell, 1979).
Table 3.2 Selective Randomized Controlled Trials for the Transition to Parenthood

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<tr>
<th>Author(s)/Year</th>
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<tr>
<td>Anisfield, Casper, Nozyce, &amp; Cunningham (1990)</td>
<td>49 low income women INT = 23 CO = 26</td>
<td>Soft baby carrier use, Bayleys, 5 minute unstructured mother-infant play at 3 ½ months, SSP at 13 months. Assessment at 2, 3 ½ and 13 months postpartum (no baseline assessment).</td>
<td>INT group instructed to use a soft baby carrier CO instructed to use a plastic infant carrier.</td>
<td>INT mothers were more contingently responsive to infant vocalizations during 3 ½ month observed play task. At 13 months significantly more INT infants showed secure attachment behavior compared to CO (83% in INT group compared to 38% in CO group).</td>
</tr>
<tr>
<td>Ammaniti, Speranza, Tambelli, Muscetta, Lucarelli, Vismara, Odorisio, &amp; Cimino (2006)*</td>
<td>91 high-risk mothers (low income, low educational attainment, unmarried, family history of psychological disorder, history of abuse, current stressful life events, absence of social support and elevated symptoms of depression on the CES-D) INT = 47 Control = 44</td>
<td>AAI, CES-D Videotaped mother-infant interaction was coded using the scales of mother-infant interactional coding system. Assessed during pregnancy, 3, 6 and 12 months postpartum</td>
<td>INT consisted of HV with education and support. Topics included infant development, competent parenting practices and positive parent-child interactions. Delivered by psychologist or social worker. Available from pregnancy until 12 months postpartum</td>
<td>INT women showed significantly greater sensitivity during parent-child interactions at the 6 month assessment. No other significant group differences.</td>
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Table 3.2 Selective Randomized Controlled Trials for the Transition to Parenthood (continued)

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<tr>
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<tr>
<td>Armstrong, Fraser, Dadds, &amp; Morris (1999) Fraser, Armstrong, Morris, &amp; Dadds (2000)* ‘Family C.A.R.E.’</td>
<td>181 high-risk families (single, ambivalent feelings about pregnancy, domestic violence, childhood abuse, young age, unstable housing, low income, low education, mental health history, alcohol or drug abuse). INT = 90 Control = 91</td>
<td>Maternal ratings on PSI, EPDS, CAPI, HOME, CHQ. Assessment at baseline, 6 weeks, 12 and 18 month follow-up</td>
<td>INT was a HV model aimed at promoting mother-infant attachment, positive parenting practices; reduce maternal stress and improve maternal mood; reduce child abuse potential; promote use of community services. Included education, information, support, and counseling. Up to 20 home visits. Delivered by nurses.</td>
<td>At 6 weeks postpartum INT women reported lower depression scores. By 4 months postpartum intervention gains were lost. For first-time mothers only, INT enhanced maternal competence in parenting and decreased parenting stress relative to control. HOME scores also increased among INT mothers during parent-infant interactions, compared to control. By 12 months follow-up these INT gains were lost.</td>
</tr>
<tr>
<td>Barnard, Magyary, Summer, Booth, Mitchell, &amp; Spieker (1988, 1981) Booth, Mitchell, Barnard, &amp; Spieker (1989)*</td>
<td>147 pregnant high-risk women (alcohol/drug addiction, mental health problem, low social support, low income, single, young age). INT 1 = 79 INT 2 = 68</td>
<td>Mother – child interaction measured with the NCATS, Bayley’s Scale of Infant Development, SSP. Maternal IQ. Assessment at baseline and 12 and 24 month postpartum.</td>
<td>INT 1: HV information/resource utilization model ($M = 14$ HV from 22 weeks gestation to 12 months postpartum) with parenting education, service linkage and health education INT 2: HV mental health model (19 HVs from 22 weeks gestation to 12 months of age) with parenting education, counseling, emotional support and service linkage.</td>
<td>No difference between groups on rates of secure infant attachment or on Bayley’s scale. However, for low-IQ women INT 2 scored significantly higher on NCATS during parent-child interaction and on motor development of Bayleys.</td>
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<td>Brugha, Wheatley, Taub, Culverwell, Friedman, Kirwan, Jones, &amp; Shapiro (2000)</td>
<td>209 pregnant high-risk women (based on a score of 6 or more on a modified version of GHQ – D2) INT = 94 Control = 96</td>
<td>GHQ-D2, EPDS, ICD-10 (depression diagnosis) SCAN, Social Support Assessment at baseline (12-20 weeks gestation), 3 months postpartum.</td>
<td>INT women received six classes held weekly in the antenatal period and one class 2 months postpartum led by psychiatric nurses and occupational therapists. Standardized intervention using a detailed manual which covered problem solving to enhance social support.</td>
<td>At 3 months postpartum there were no differences on outcome measures of maternal depression and social support.</td>
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<tr>
<td>Buist, Westley, &amp; Hill (1999)</td>
<td>38 high-risk pregnant women (family history of PND, personal history of depression, PMT, marital or childhood difficulties) INT = 20 Control = 18</td>
<td>BDI, EPDS, Speilberg STAI, EPI, Saranson SSQ, ADAS. Assessment at baseline (12-24 weeks gestation) and 6 weeks postpartum with a 6 month follow-up.</td>
<td>INT received eight weekly antenatal sessions and two postnatal session led by clinical psychologist. Included didactic presentations, interactive and experiential exercises that aimed to enhance mother-craft skills.</td>
<td>At 6 weeks and 6 months postpartum there were no differences in maternal reports of depression, anxiety, relationship satisfaction, child health and mother health scores between conditions. From 6 weeks and 6 month assessment the control reported significantly greater decrease in satisfaction with support compared to INT group.</td>
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<tr>
<td>Constantino, Hashemi, Solis, Alon, Haley, McClure, Nordlicht, Constantino, Elmen, &amp; Carlson (2001)</td>
<td>148 low-income mother-infant dyads. INT = 93 Control = 55</td>
<td>Child measures included IFEEL pictures, CBCL, Video-taped parent-child free play coded using the Adult Play scale. Assessment at baseline 3-18mths postpartum) and 10 weeks later, 6 month follow-up.</td>
<td>INT consisted of 10 weekly group sessions, and targeted promotion of infant social and emotional development, practical experience in child-centered play, and peer support. Led by parent mentors who had a Masters degree in early childhood education or a related field.</td>
<td>INT women showed a trend in improvement in reading child emotional cues at the 6 month assessment. No other significant group differences.</td>
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Table 3.2 Selective Randomized Controlled Trials for the Transition to Parenthood (continued)

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<tr>
<td>Daro &amp; Harding (1999)*</td>
<td>Trial 1: 324 high-risk women INT = 157 Control = 167 Trials 2: 619 high-risk women INT = 422 Control = 197</td>
<td>Child development (Bayleys, Batelle development inventory), health; CPS reports; Parent-child interaction using the NCAST; Parenting knowledge and social support, HOME.</td>
<td>INT consisted of home visiting which provided support in parenting and child development, service linkage and referral. Led by professionals and paraprofessionals. Number of visits determined by family need (weekly up to 5 years)</td>
<td>Trial 1: INT mothers scored significantly higher on parenting knowledge and maternal involvement during the 6-month parent-child interaction relative to control. INT infants more responsive to INT mothers during parent-child interaction compared to control. No other significant group differences at any other assessment time. Trial 2: INT infants scored higher on physical health and HOME environment more supportive relative to control. No other significant group differences at any assessment point.</td>
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<tr>
<td>Duggan, McFarlane, Windham, Rhode, Salkever, &amp; Fuddy (1999)</td>
<td>643 high-risk families (defined by scores over 25 on the Family Stress Checklist) INT = 390 Control = 340</td>
<td>Maternal reports of CES-D, MHI – 5, PSI Illicit drug use and Alcohol Use, CTS Parent-child Conflict Tactics Scale (PC-CTS), HOME, Hospitalizations, CPS Reports. Assessment at baseline (1 month postpartum), 12, 24 and 36 months postpartum.</td>
<td>INT provided HV which consisted of parenting education with modeling of effective parent-child interaction. Also aimed to ensure safe home environment, address parent crises, model problem-solving skills, and prompt access to community resources. Delivered by paraprofessionals. Number of HV was determined by level of risk (high risk weekly, very low risk every 3 months) and continued until child was 3 to 5 years of age.</td>
<td>INT mothers reported modest reduction in child neglect/abuse. Significant reduction in one measure of INT maternal mental health (MHI-5) at one agency. Significant reduction in INT maternal alcohol use and in incidents of physical partner violence but only for families receiving &gt; 75% of HV. Trend toward decreased maternal pre-occupation with problems and improved access to medical care among INT women. No significant change on any other measures of risk. By 2 year follow-up there were no significant intervention effects.</td>
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<tr>
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<td>Elliott, Leverton, Sanjack, Turner, Cowmeadow, Hopkins, &amp; Bushnell (2000)</td>
<td>99 pregnant high-risk women (relationship dissatisfaction psychiatric history, low social support, high antenatal anxiety) INT = 47 CO = 52</td>
<td>EPDS, Modified PSE CEI sub-clinical mood items, SRQ. Assessed at baseline (pregnancy), 3mths postpartum and a 12 month follow-up. INT women received six antenatal and five postnatal sessions once a month. Led by a clinical psychologist. Sessions aim at normalizing and empowering women. Included information sharing and group discussions. CO received 1 pregnancy visit by a health professional.</td>
<td>At 3 and 12 months postpartum there were significantly lower scores on depression items among INT women compared to CO group.</td>
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<td>Erickson, Korfmacher, &amp; Egeland (1992)*</td>
<td>154 low-income mother-infant pairs INT = 74 Control = 80</td>
<td>SSP. Assessment in pregnancy (baseline), 13, 19 and 24 months postpartum. INT consisted of HV program initiated in pregnancy (emotional support, infant development, realistic expectations), continued fortnightly for 12 months. Postnatal group discussions offered alongside HVs.</td>
<td>At 13 months postpartum more control group infants were classified as securely attached compared to INT infants (67% versus 46% INT).</td>
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<td>Gorman (1997)</td>
<td>45 pregnant high-risk women (considered high-risk for postnatal depression) INT = 24 Control = 21</td>
<td>SCID, DSM-IV, BDI Assessed at 4 weeks and 24 weeks postpartum. INT women received two sessions in pregnancy and three postpartum sessions of IPT which focused on education about postpartum mood and anticipated interpersonal issues.</td>
<td>At 1 month postpartum INT women were less likely to have experienced a major depression compared to control women. Positive INT effects were lost by 6 months postpartum.</td>
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<tr>
<td>Gutelius, Kirsch, MacDonald, Brooks, McErlean, &amp; Newcomb (1972)*</td>
<td>95 African-American infants born to low-income, unmarried schoolgirls. INT = 47 Control = 48</td>
<td>Mother-child interaction (assessing maternal management of child aggression, maternal praise). Assessment at baseline (pregnancy) and yearly for 6 years. INT received pediatric care and home visits from 7 months gestation to 3 years postpartum. Home visitors provided counseling, anticipatory guidance and child cognitive stimulation. Led by nurses.</td>
<td>INT children scored significantly higher on diet and eating habits, lower on some developmental problems and higher on self-confidence relative to control. INT mothers used more praise and managed child aggression better at 24 and 36 month assessments compared to control.</td>
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Table 3.2 Selective Randomized Controlled Trials for the Transition to Parenthood (continued)

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<tbody>
<tr>
<td>Heinicke, Fineman, Ruth, Recchia, Guthrie, &amp; Rodning (1999)*</td>
<td>64 high-risk women (low income and low social support) INT = 31 CO = 33</td>
<td>BDI, STAI, Maternal IQ, SSQ, SSP, Attachment Q-set Bayley’s, HOME. Assessed during pregnancy (3rd trimester) for demographics, IQ and social support. Assessed 1, 6, and 12 months postpartum. SSP at 14 months postpartum.</td>
<td>INT women received weekly HV ($M = 17$ HVs) and participation in a weekly mother-infant support group. HV provided emotional support, informational support, modeling and problem-solving aimed to increase maternal parenting sensitivity, increase maternal positive self-efficacy and strengthen links to community services. CO received pediatric follow-up which consisted of developmental evaluations, feedback on evaluations, and referral to community services. INT mothers scored significantly higher on the measure of social support, and were observed to be more sensitive to their infant’s cues, less intrusive and more encouraging of child autonomy compared to CO mothers. INT infants more securely attached compared to CO infants (80% INT secure attachment versus 52% control), and more autonomous and task oriented compared to CO infants. No significant group differences on the HOME or Bayley’s.</td>
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<tr>
<td>Jacobson &amp; Frye (1991)*</td>
<td>46 low income mother-infant pairs INT = 23 Control = 23</td>
<td>LES Brazelton Neonatal Behavioral Assessment Scale (NBAS), HOME, Walter’s attachment Q’sort. Assessment during pregnancy (3rd trimester), 3 weeks postpartum and 14 months postpartum.</td>
<td>INT women received HV with infant care support and information from a trained volunteer periodically across first 12 months of parenthood. INT infants scored higher on the Walters attachment Q’sort attachment measure compared to control infants. No group differences on HOME.</td>
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### Table 3.2 Selective Randomized Controlled Trials for the Transition to Parenthood (continued)

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<tr>
<td>Kitzman, Olds, Henderson, Hanks, Cole, Tatelbaum, McCoccochie, Sidoras, Luckey, Shaver, Engelhardt, James, &amp; Barnard (1997)* ‘Nurse-Family Partnership’ Memphis Trial</td>
<td>1139 primarily African-American pregnant women (unmarried, under 18 yrs of age and under poverty line). INT 1 = 230 INT 2 = 228 CO = 681</td>
<td>HOME, AAPI, NCAST, brief child and maternal mental and physical health assessments, mother-infant interaction. Assessment at baseline (pregnancy), 6, 12 and 24 months assessments.</td>
<td>CO received free transport to prenatal services, plus screening (6, 12 and 24 months) and referral service. INT 1 received CO plus one antenatal and one postnatal HV. INT 2 received INT 1 and postnatal HVs up until 24 months postpartum (average 33 HVs). Both INTs consisted of information sharing, modeling, problem-solving, parenting education, goal setting, social support networks, and health issues. Led by nurses.</td>
<td>Fewer women visited by INT nurses during pregnancy had pregnancy health issues, postpartum infant ill health and infant hospitalizations. Significant difference in mother–child interactions as measured by HOME favoring the INT 2 over CO. There were no reported program effects on maternal mental health, child prenatal health, child mental development, or child behavioral problems.</td>
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<tr>
<td>Koniak-Griffin, Verzemnieks, &amp; Cahill (1992)</td>
<td>31 volunteer adolescents INT = 15 Control = 16</td>
<td>Video-taped recordings of maternal-infant interaction (NCATS), Self-reported Maternal identity, and confidence in infant care. Assessment at baseline (postpartum), 1 and 2 month postpartum.</td>
<td>INT received one session in which one-on-one feedback, training and modeling of parent-child interactions was given after a structured video-taped mother-infant interaction task.</td>
<td>INT had significantly higher scores on the following NCATS subscales: maternal behaviors, maternal sensitivity, and infant cognitive growth fostering activities by mothers. Maternal identity stronger and more positive in the INT group compared to control group.</td>
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<td>Koniak-Griffin, Anderson, Verzemnieks, &amp; Brecht (2000)*</td>
<td>121 pregnant adolescents women (predominantly from minority and impoverished backgrounds) INT = 62 Control = 59</td>
<td>Video-taped recordings of mother-infant behavior (NCATS), infant health, maternal social competence. Assessment at baseline (pregnancy) and 6 weeks postpartum.</td>
<td>INT consisted of four antenatal classes and HV program led by public health nurses (maximum 17 sessions) from pregnancy to 6 months postpartum. Program included life skills training, health education, social support, counseling, and parenting information and education.</td>
<td>No significant group differences in prenatal health, parenting behaviors (NCAST scores) or on maternal social competence was found for the 6 week, 1 and 2 year follow-ups. INT infants hospitalized less often than control infants at all time points.</td>
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<tr>
<td>Lagges &amp; Gordon (1999)</td>
<td>62 volunteer pregnant and parenting adolescent women INT = 33 Control = 29</td>
<td>PAQ, Parenting knowledge test Assessment at pre (pregnancy or up to 1 year postpartum), at post-intervention and 2 month follow-up.</td>
<td>INT provided one session of one-on-one via interactive video-disc. Parenting program that addressed communication skills, problem solving and parenting skills followed by a group discussion.</td>
<td>Large and significant effect favoring the INT group on parenting knowledge.</td>
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<tr>
<td>Lambermon &amp; van IJzendoorn (1989)</td>
<td>35 high-risk women (small social support networks) INT = 17 CO = 18</td>
<td>HOME, videotaped mother-infant interactions rated with Ainsworth’s scales for sensitivity and responsiveness. Assessment at 7 and 15 weeks postpartum. SSP administered at 15 months postpartum.</td>
<td>INT women received videotaped and written parent education via four mail outs. Information aimed to enhance maternal responsiveness to infant needs and expressions. CO received similar written information via four mail outs, but no videotaped education.</td>
<td>CO women were more responsive to infants than INT women. There were no significant group differences in attachment security at 15-months postpartum (however, upon closer examination 50% of INT infants securely attached versus 38% in CO).</td>
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<td>Lambie, Bond, &amp; Weikart (1974); Epstein &amp; Weikart 1979 (follow-up)*</td>
<td>88 low socio-economic status women INT 1 = 30 INT 2 = 31 Control = 27</td>
<td>Bayley’s Scale of Infant Development Verbal parent-child interaction at end of program Assessment at baseline, 16 months postpartum and 5 year follow-up.</td>
<td>INT 1 was a HV program delivered by volunteers or paraprofessionals. INT 2 was a HV program consisting of parent education, especially in cognitive stimulation of infant. Also provided with toys/books, and linked to existing support services. Delivered by professional teachers.</td>
<td>Mother-child verbal interaction at end of program was significantly better in INT 2 compared to control. INT 2 infants scored higher on mental development scale of Bayleys, but not on motor development subscale, compared to control infants. No significant differences between groups at follow-up on either mental or motor development scale of Bayleys.</td>
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<p>| Love, Kisker, Ross, Raikes, Constantine, Boller, Brooks-Gunn, Chazan-Cohen, Tarullo, Brady-Smith, Fuligni, Schochet, Paulsell, &amp; Vogel (2005)* ‘Early Head Start’ | 3001 low income pregnant women and families with infants (10% with infant disabilities; 10% with higher incomes). INT = 1513 Control = 1488 (17 sites) | Child development measured by Bayleys mental subscale, Peabody PVT-III, CBCL, and child health. Semi-structured parent-child observation, HOME. Assessed at baseline, 14, 24 and 36 months postpartum | INT included parenting education, physical and mental health services and family support. INT received either home visits (M = 2-3 per month), centre-based group programs or a mixture of both. Average enrolment was 22 months. Delivered by professionals and paraprofessionals. Some families also received child care. | At 3-years INT children had higher cognitive and language performance, compared to control children. INT parents reported lower child aggressive behavior, a more supportive HOME environment, and provided more language and learning stimulation relative to control. |</p>
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| Luster, Perlstadt, McKinney, Sims, & Juang, (1996)*  
‘Families TIES program’ | 83 low income adolescent women  
INT = 43  
CO = 40 | HOME inventory  
Child rearing beliefs measured with AAPI, Rosenberg SEI, CES – Depression, SSQ.  
Assessed prenatally, 6 and 12 months postpartum. | INT consisted of weekly HV support service by paraprofessionals from birth until child went to kindergarten. Content of intervention included emotional and instrumental support, links with community services, and parenting information.  
CO received phone contact from a social worker which covered community service linkage, parenting information and support. | INT adolescents had higher HOME scores (showed greater emotional and verbal responsivity to infant, and greater maternal involvement), higher scores on the empathy subscale of the child rearing beliefs measure. INT infants showed less irritability (HOME) than CO infants. No significant group differences on maternal measures of self-esteem or depression. |
| Marcenko & Spence (1994)* | 225 pregnant and postpartum women at risk of child abuse (substance abuse, homelessness, domestic violence, psychiatric illness, incarceration, lack of social support)  
INT = 125  
Control = 100 | HOME, ASI, Service Satisfaction, Norbeck SSQ, BSI, Rosenberg SEI, CPS reports.  
Assessment at baseline and 6 months. | INT consisted of parent education, child development norms, counseling, group support, service linkage, health education.  
HV team consisted of a peer, a social worker, or nurse who delivered up to 26 HV from pre-to 1 year postpartum. | INT women reported significantly increased social support, greater access to services, and decreased psychological distress compared to control. However, maternal self-esteem was unchanged, the quality of the home environment (HOME) did not vary by condition, and there was no indication that INT was successful at preventing child out-of-home placements. |
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<td>Marks, Siddle, &amp; Warwick (2003)*</td>
<td>87 pregnant women with a history of depression INT = 44 Control = 43</td>
<td>DSM-II-R (depression diagnosis), EPDS. Assessed at baseline (pregnancy), 4 weeks and 3 months postpartum.</td>
<td>INT women received continuity of care by a specialized midwife service for mentally ill women across the antenatal and postnatal period. Care provided in home, clinic or hospital ($M_{HV} = 10$) up until 28 days postpartum.</td>
<td>At 4 weeks and 3 months postpartum there were no group differences in level of depression or number of depressed women.</td>
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<tr>
<td>Olds, Henderson, Chamberlin, &amp; Tatelbaum (1986)</td>
<td>400 consecutive high-risk pregnant women (young age, single, low socio-economic status; but 15% had none of the three risk factors). INT 1 = 100 INT 2 = 116 CO = 184</td>
<td>HOME, mother-child interaction, Stanford Binet L-M test of intelligence, CPS reports. Assessment at baseline, 24, 36, 46 and 48mths postpartum, plus 15yr follow-up.</td>
<td>CO received screening and free transport to Hospital. INT 1 received CO plus up to 8 antenatal HVs. INT 2 received INT 1 plus postnatal HV ($M = 23$ HV). During HVs women received parenting education (focus on infant cognitive development), social support, health education, counseling and service linkage). Led by nurses.</td>
<td>INT 1 and 2 reported significantly greater prenatal maternal health behaviors, child IQ scores at 3 and 4 years postpartum (but only for smokers in INT 1 and 2) compared to control. INT 2 group showed more positive child mood at 6mths postpartum. For poor, unmarried teens only, there was a trend for less child abuse and neglect in INT 1 and 2 compared to control. Significantly less child abuse and neglect on CPS reports at 15 year follow-up for INT 1 and 2 compared to control group.</td>
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<tr>
<td>Author(s)/Year</td>
<td>Participants</td>
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<td>Program and Control</td>
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<td>Olds, Robinson, O’Brien, Luckey, Pettitt, &amp; Henderson (2002)* ‘Nurse-Family Partnership’ Denver Trial</td>
<td>735 high-risk women (low socio-economic status, no health insurance) INT 1 = 245 INT 2 = 235 CO = 255</td>
<td>Mother-child interaction, Child Mental Development, Parent physical and mental health, Conflict, CPS reports. Assessment at baseline, 6, 12, 15, 21, 24 months postpartum.</td>
<td>INT 1 received pre- and postnatal HV ($M = 23$ HV) led by paraprofessional. INT 2 received pre and postnatal HV ($M = 23$ HV) led by nurses. INT 1 and 2 HV covered parenting education, social support enhancement and counseling (as well as health education and service linkage). CO received screening and some free transport to Hospital.</td>
<td>INT 1 and 2 reported significantly greater maternal health behaviors compared to control. INT 2 mother-infant interactions characterized by significantly more maternal responsivity and less negative child mood. Among INT 2 women with low psychological resources children showed significantly greater language and mental development. Overall nurse led INT 2 produced twice the positive effect on parent and child outcomes compared to paraprofessional led INT 1. No other significant effects.</td>
</tr>
<tr>
<td>Quint, Bos, &amp; Polit (1997) Reichman &amp; McLanahan (2001) ‘New Chance’</td>
<td>2322 new parent adolescent women INT = 1714 CO = 608</td>
<td>HOME, PSI, direct observation of mother-infant interaction. Assessment at baseline, 42 month postpartum.</td>
<td>INT consisted of weekly group sessions which covered parenting education, life skills and informational support across 18 months. CO received standard care which consisted of family aid.</td>
<td>No favorable impact on attainment of parenting skills or knowledge of child development. Increased maternal stress among adolescents who were depressed at the baseline assessment.</td>
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<tr>
<td>Siegel, Bauman, Schaefer, Saunders, &amp; Ingram (1980)*</td>
<td>202 pregnant low-income women (predominantly young age, non-Caucasian, unmarried, low education) INT 1 = 50 INT 2 = 47 INT 3 = 53 Control = 52</td>
<td>3-subscales of maternal attachment ratings (acceptance, interaction/stimulation consoling a crying infant), CPS Reports. Assessment at baseline (pregnancy), 3 months postpartum. Follow up at 12 months postpartum.</td>
<td>All INT women received emotional support and encouragement to be involved with family. INT 1: early and extended contact, no HV. INT 2 : early and extended contact and HV. INT 3: HV (average nine HV between 0 and 3 months postpartum). Received parenting education, emotional support, and extended hospital contact. Provided by paraprofessionals.</td>
<td>No significant differences between all groups on any measures except on rates of maternal acceptance at 4 months, and on maternal interaction/stimulation at 12 months favoring the INT 3 group.</td>
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<td>Author(s)/Year</td>
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<td>Small, Lumley, Donohue, Potter, &amp; Waldenstrom (2000)</td>
<td>1,041 women who had operative deliveries INT = 520 Control = 521</td>
<td>EPDS, SF-36. Assessed at baseline (24 hours post-partum) and 6mths postpartum.</td>
<td>INT consisted of meeting with a midwife to discuss labor, birth and post-delivery events and experiences.</td>
<td>At 6 months postpartum there were no differences in depression scores between groups. INT group women had significantly better SF-36 (role functioning) scores at 6 months postpartum compared to control women.</td>
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<tr>
<td>Stamp, Williams, &amp; Crowther (1995)</td>
<td>144 pregnant women classified as high-risk INT = 73 Control = 71</td>
<td>EPDS Assessed at baseline (pregnancy), 6 weeks, 12 weeks, and 6 months postpartum</td>
<td>INT group received two additional antenatal classes and one postnatal class at six weeks postpartum. Led by midwife. Aimed to provide support, encourage more support seeking and share experiences of birth.</td>
<td>At 6 and 12 weeks postpartum there were no differences between conditions in scores on the depression measure.</td>
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<tr>
<td>Stevens-Simon, Nelligan, &amp; Kelly (2001)* CAMP</td>
<td>171 high-risk adolescent women (13-19 years old) INT = 58 CO = 87</td>
<td>Occurrence of child abuse, repeat pregnancy, Immunization rate, Health care utilization, HOME, Bayley’s. Assessed at baseline (2 weeks postpartum), 12 and 24 months postpartum.</td>
<td>CO received Comprehensive Home and Clinic Maternity Program (CAMP; aimed to reduce poor parenting outcomes). INT group received CAMP plus clinic appointments (up to 17 sessions) and weekly HV for the first 4 months postpartum. INT goal was to promote maternal competence and nurturing parenting. Provided counseling and guidance.</td>
<td>No significant group differences in health care utilization, the rate of school return, repeat pregnancy, Bayley’s, HOME or child abuse or neglect.</td>
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## Table 3.2 Selective Randomized Controlled Trials for the Transition to Parenthood (continued)

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<tr>
<th>Author(s)/Year</th>
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<th>Measures</th>
<th>Program and Control</th>
<th>Key findings</th>
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<tr>
<td>St. Pierre &amp; Layzer</td>
<td>4,410 low-income families INT = 2,213 Control = 2,179</td>
<td>Over 100 outcomes measured, including parent economic self-sufficiency, parenting. E.g., AAPI, HOME inventory, NCAST, health outcomes and a Mother-child interaction observation. Assessment at baseline and every 12 months up until 5 years postpartum.</td>
<td>INT included case management (e.g., linking parents with community services, crisis management) and parent education and skill training. Delivered by paraprofessionals across 21 sites. 60% of families were enrolled in the INT for 3 or more years. All families received fortnightly HV (maximum 240 HVs).</td>
<td>Across the 5 year evaluation there were no statistically significant impact of INT on family health, economic self-sufficiency, maternal life course, child cognitive, social or emotional development, maternal parenting education and knowledge, when compared to control families. At one site there were statistically significant positive effects of INT on child cognitive development, economic self-sufficiency, and parenting attitudes compared to control at that site.</td>
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<td>‘Child Comprehensive Development Project’</td>
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<td>Thompson, Cappleman, Conrad, &amp; Jordan</td>
<td>40 ‘high-risk’ pregnant women (African America, unmarried, low-income, under 18 years of age) INT = 20 Control = 20</td>
<td>Mother-infant interaction, Child Cooperation, Stanford – Binet. Assessment at baseline and 2½ years postpartum.</td>
<td>INT was nurse led HV to encourage positive parent–child relationship and encourage parents to interact with child in developmentally conducive way. HV were monthly for 2 years.</td>
<td>Only significant difference favoring INT over control was for children whose IQ score over 84 at 30 months postpartum, where INT group scored higher on cooperation during mother-child interaction than the control group.</td>
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<td>(1982)*</td>
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<td>Truss, Benson, Hirsch, &amp; Lickiss</td>
<td>95 pregnant and new parent adolescent women INT = 83 Control = 12</td>
<td>HOME, Bzoch-League Receptive-Expressive Emergent Language Scale, Utah test of Language development Assessment at baseline (postpartum) and 48 months postpartum.</td>
<td>INT consisted of an 11 week group-based program focused on managing infant needs and effective stimulation of infants and informational support. Provided through infant development booklets aimed at enhancing mother-infant interaction.</td>
<td>No significant effects favoring INT on the HOME inventory. Non-significant effect favoring INT group on infant language development and maternal parenting motivation.</td>
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<td>(1977)</td>
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<td>Wagner &amp; Clayton</td>
<td>497 pregnant or new mothers (risk factors included minority ethnic group, low income, unemployed)</td>
<td>Parenting knowledge PSCS, Child DPII HOME scale, Child health and CPS Reports. Assessment at pre-intervention (pregnancy or early postpartum), and yearly thereafter until child was 3 years of age or the family withdrew.</td>
<td>INT group received one hour HVs from birth up until 3 years postpartum ($M = 20$ HV) by professional (college degree or higher). Content included case management, and PAT program which consisted of crisis intervention, links to community service and parent education (appropriate parent-child interaction modeling), and invitation to attend parent support group. CO received age-appropriate toys.</td>
<td>INT produced modest benefits in child development (DPII – cognitive, social and self-help subscales), but no measurable benefits on parent measures or on HOME.</td>
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<td>(1999)* ‘Parents as Teachers Program (PAT)’</td>
<td>INT = 298 CO = 199</td>
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<td>Wagner &amp; Clayton</td>
<td>704 adolescent women, pregnant or early postpartum</td>
<td>Parenting knowledge PSCS, Child DPII HOME scale, Child health and CPS reports. Assessment at pre-intervention (pregnancy or early postpartum), and yearly thereafter until child was 3 years of age or family withdrew.</td>
<td>INT 1 PAT alone INT 2 case management alone INT 3 PAT plus case management CO received age-appropriate toys.</td>
<td>No significant group differences on parenting scales. INT 3 children demonstrated significant gains of one or more months in cognitive development (DPII) compared to control. INT 1 and 3 were associated with significantly fewer cases of child abuse or neglect.</td>
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<td>(1999)* ‘Teen PAT program’</td>
<td>INT 1 = 177 INT 2 = 174 INT 3 = 175 CO = 178</td>
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<td>Author(s)/Year</td>
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<td>Wasik, Ramey, Bryant, &amp;</td>
<td>65 families (risk factors included parental disadvantage, i.e. low educational</td>
<td>HOME assessment at 6, 12, 18 and 24 months postpartum. Bayley’s at 6, 12 and 18 months. Stanford-Binet</td>
<td>INT 1 intensive HV family education and parenting program plus support groups (emotional support, promoted skills in positive parent-child interactions, age appropriate learning activities, problem solving, coping strategies and community service linkage). INT 2 consisted of INT 1 plus centre-based educational day-care (children could be in day care 5 days a week, 6 hours a day).</td>
<td>INT 2 children scored higher on 6 month HOME and Bayley’s assessment measures compared to INT 1 and control. INT 2 children consistently scored higher on subsequent outcome measures compared to INT 1 and control.</td>
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<tr>
<td>Sparling (1990)*</td>
<td>parental disadvantage, i.e. low educational attainment, poor social circumstances)</td>
<td>Intelligence at 24, 36 and 48 months, McCarthy Scales of children’s abilities at 30, 42 and 54 months postpartum.</td>
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<td>‘Project CARE’</td>
<td>INT 1 = 25</td>
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<td>INT 2 = 16</td>
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<td>Control = 23</td>
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<td>Whitt &amp; Casey (1982)</td>
<td>32 low-income mother-infant pairs</td>
<td>20 minute observation of mother-infant interaction. Bayley’s infant development scale Uzgiris and Hunt’s psychological development scale No baseline assessment. Assessed at 27 weeks postpartum.</td>
<td>INT women received standard postnatal follow-up plus support and education about infant development, and responding appropriately to infant cues through information sharing and modeling. Aim of INT was to increase parenting competence and self-efficacy (up to 6 clinic visits). CO received standard postnatal follow-ups with a physician.</td>
<td>INT mothers more sensitive, co-operative, appropriate during parent-child interaction compared to control group mothers. No group differences in infant outcome on Bayley’s and Uzgiris’ measures.</td>
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<td>INT = 15</td>
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<td>CO = 17</td>
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<td>Wolman, Chalmers, Hofneys, &amp; Nikodern (1993)</td>
<td>189 women without a supportive partner</td>
<td>PDI. Assessment at baseline (3rd trimester pregnancy) and 6 weeks postpartum.</td>
<td>INT women received volunteer support person during labor and birth. At 6 weeks postpartum INT women who had a volunteer support person reported lower depressions scores relative to control women.</td>
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<td>INT = 92</td>
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<td>Control = 97</td>
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*Note: INT = Intervention group; CO = Comparison group; Control group is standard care unless otherwise stated; HV = Home Visiting. Measurement tools: A list of abbreviations and the full title of each measure appears in Appendix A. *All home-visiting programs are asterisked.
Although a recent meta-analysis of 12 home-visiting studies supported that home-visiting reliably improved the quality of the home as measured by the HOME inventory, the overall effect size for these improvements was not calculated because too few studies provided means and standard deviations on all the HOME subscales (Kendrick et al., 2006). Effect sizes for parent-child interaction scores across different observation measures were typically small (.14, Sweet & Applebaum, 2004) to moderate (.36; Geerart, Van Den Noortgate, Grietens, & Onghena, 2004) for home-visiting.

Improvements in child outcomes such as health, safety and development were less frequently observed in home-visiting studies. Some studies have reported small, but positive intervention effects on child cognitive development (Lambie et al., 1974; Olds et al., 1997 Wagner & Clayton, 1999; Wasik et al., 1990), child abuse and neglect (Duggan et al., 2004; Wagner & Clayton, 1999), infant hospitalizations (Koniak-Griffin et al., 2000), and infant health (Kitzman et al., 1997). Two of these trials also focused on maternal mental health (Duggan et al., 2004; Kitzman et al., 1997), but neither found an overall intervention effect on rates and severity of depression. Duggan et al. (2000) reported a significant improvement in maternal depression at one agency out of three, and suggested that staff commitment and length of involvement with the project and families were particularly high at the site which demonstrated a positive intervention effect. The agency which was associated with improved maternal mental
health was also associated with a trend for improved rates of partner violence (28% in intervention versus 56% in control).

St. Pierre and Layzer (1999) also found differential agency effects, with only one out of 21 sites demonstrating positive intervention effects on child cognitive development, parenting attitudes and socio-economic outcomes at 5 years postpartum. Large trials tended to report that staff commitment and length of involvement with the project and families, degree of liaison with community services (St. Pierre & Layzer, 1999), and quality control procedures varied across sites (Duggan et al., 2004; Love et al., 2005) and that these differences probably explained why the same intervention had differential effects at various sites.

Of all the home-visiting selective interventions that focused on parenting, child outcomes and maternal health, only two found an overall positive intervention effect on maternal mental health (Armstrong et al., 1999; Marcenko & Spence, 1994). However, in one of these studies, improvements in maternal mood were only evident for the 6 week post-assessment (Armstrong et al., 1999) and had attenuated by the 4 month follow-up assessment (Fraser et al., 2000). It is unclear why Marcenko and Spence (1994) found a positive intervention effect as there did not seem to be any major differences in their trial compared to the other multi-focused home-visiting trials.

Two selective randomized controlled home-visiting trials found no positive intervention effects at all (Erickson et al., 1992; Stevens-Simons, Nelligan, & Kelly, 2001). Erickson et al. (1992) aimed to promote mother-
infant attachment security by raising awareness of, and sharing information
about parenting (labeled ‘insight-oriented’ by the authors). It is possible that
information and awareness approaches may not effectively change the
parenting behaviors that predict secure attachment (e.g., sensitive and
responsive parenting, consistency). The second home-visiting study that
found no positive intervention effects, aimed to foster maternal social
competency through the development of a trusting interpersonal relationship
between home-visitor and adolescent (Stevens-Simon et al., 2001). Lack of
intervention effects among these two home-visiting studies may be due to a
number of factors, including the fact that both studies focused on
improvements on measures (e.g., child maltreatment, maternal life course
development) which other home-visiting studies also rarely found
improvement on.

Overall, lack of intervention effects among home-visiting trials may
also be attributed to small differences in intervention and control program
content (e.g., Duggan et al., 2004) and to small differences in intervention
and control program contact hours (e.g., St. Pierre & Layzer, 1999). The
quality of home-visiting programs could be improved with greater attention
to matching program intensity to client needs, higher staff skill-training,
closer monitoring of program implementation, and matching of program
content with program goals and outcome measures (Gomby, 2005). Other
factors that characterized successful home-visiting programs among high-
risk families included the use of professional staff (rather than
paraprofessional or volunteer; Olds et al., 2002), low staff turn-over rates
(Gomby et al., 1993) and frequent home visits (e.g., at least two a month) that continue through to the child’s second year of life (Brooks-Gunn, 2001; Olds et al., 2002). Again, researchers suggested home-visiting programs could enhance intervention effects by increasing the use of skill-training when delivering parent education (Duggan et al., 2004). Lastly, the inclusion of partners, and a focus on couple relationship issues in the program design, implementation and outcome measurement, may have enhanced intervention effectiveness and could have identified what, if any, beneficial effects mother- and infant- focused interventions have on partners and the couple relationship.

Given the relatively modest effect sizes reported by even the most rigorously implemented home-visiting trials, the cost-benefit ratio of providing long-term, intensive home-visiting has been investigated. For example, the costs of delivering the Nurse-Family Partnership program (Elmira site, Olds et al., 1986) for the first 2 years postpartum ($M = 31$ home visits) was US$1,280 per family per year, or US$3,200 per family for the full 2½ years of home visits in the 1980’s (cited in Gomby, Larson, Lewit, & Behrman, 1993). In 2004, this translates to approximately US$2,936 per family per year, or approximately US$7,340 per family for the full 2½ years of home visits. Later analyses suggested that US tax-payers were saved US$3,300 (1980 costing; translates to US$7,569 in 2004) over 4 years for every family enrolled in the Nurse-Family Partnership program at Elmira (Gomby et al., 1993). Financial benefits were returned from reduced rates of unemployment, participation in social welfare, fewer hospitalizations and
better health care utilization, higher earnings and higher school achievement. However, cost-benefit analyses of home-visiting programs based on meta-analyses of high-risk mothers and infants (e.g., infants with ill health, physical disabilities; women with substance abuse problems) reported lower financial benefits than those found in the Elmira trial. Some home-visiting programs were substantially more than the financial benefits they provided (e.g., Healthy Families America, Comprehensive Child Development Program; Gomby, 2005).

**Summary of Selective Prevention Programs**

This review found that effective selective prevention programs for maternal PND were brief (Elliott et al., 2000), either psychotherapy based and led by psychologists (Elliott et al., 2000; Gorman, 1997), or emotionally supportive and led by community members during the birth only (Wolman et al., 1993). In total, four randomized controlled trials (two indicated, Chabrol et al., 2002; Zlotnick et al., 2001; and two selective, Elliott et al., 2000; Gorman, 1997) have now found that psychotherapy approaches, when led by psychologists, were effective interventions for PND among high-risk women (Ogrodniczuk & Piper, 2003), with positive intervention effects sustained at the 12 month follow-up in one study. Since maternal PND predicts relationship problems (Belsky & Kelly, 1994; Cowan & Cowan, 1995; Poe et al., 1998), and correlates with numerous poor parenting and child outcomes (Cohn et al., 1990; Cox et al., 1999b; Emery et al., 1987; Maxted et al., 2005) interventions that reduce maternal PND may also lead to corresponding reductions in rates of couple relationship distress and poor
parenting outcomes. Future research should examine the positive effects of brief psychotherapy interventions for PND on parenting, child, partner and couple outcomes, and not just maternal mental health.

Great variability in program content, design, outcome measures, length of follow-up, staff qualifications, and the definition of high-risk, was evident among selective parenting intervention programs (Gomby, 2005). The differences not only made comparison across programs difficult (Clarke-Stewart, 1988; Fonagy, 1998), but also made it difficult to identify the characteristics of successful intervention programs. What did emerge from this review was that among non-home-visiting programs, parenting interventions that were brief, behaviorally specific and included skill-training produced short-term (2 to 5 months) positive outcomes on observational or self-report measures of parenting competence, whereas intervention studies without these characteristics reported no or fewer positive intervention effects.

Effective home-visiting interventions for parenting were harder to summarize. Most home-visiting programs produced some benefit on at least one of many outcome measures. Successful home-visiting programs tended to use professional staff, had low staff turn-over rates (Gomby et al., 1993), extensive staff training and support (Olds et al., 2002), frequent home visits that continued through to the child’s second year of life, clearly defined program content and goals (Brooks-Gunn, 2001; Olds et al., 2002) and included parent skill-training (Duggan et al., 2004). Home-visiting interventions that aimed to improve parent-child interventions tended to
demonstrate positive intervention effects for 6-12 months postpartum, which is longer than that demonstrated by brief, non-home visiting skill-training programs. However, given the relatively modest effect sizes reported by most of the home-visiting studies, in combination with the relatively high cost of providing multiple home visits, the expectations of home-visiting models should remain modest (Gomby, 2005).

In sum, a large number of selective randomized controlled trials investigated the potential positive outcomes from intervention with high-risk women. The majority of these selective interventions targeted parenting, and some targeted maternal mental health (PND specifically). As with the indicated interventions, there were no studies that were conducted with fathers, and only one study examined the effects of additional perinatal group education (aimed at reducing PND) on female relationship satisfaction (Buist et al., 1999). Although the larger, multi-focused home-visiting trials often recruited high-risk families, rather than mothers alone, and measured some family outcomes (e.g., father participation in childcare), these programs were still aimed at the mother, not the father or the couple, and outcomes were reported for women, but not men (e.g., Duggan et al., 2004; St. Pierre & Layzer, 1999).

Universal Programs

Twenty-one universal prevention studies met the search criteria. Eight randomized controlled trials targeted maternal mental health, ten targeted parenting and infant behavior, and three targeted the couple relationship (Refer to Table 3.3). Before reviewing the outcomes of these
trials, a brief overview of the universal perinatal services provided to
pregnant women and new parents is presented. Such an overview is
important as it is the feedback from the receivers and providers of universal
perinatal services that has motivated researchers to improve these services
to better meet the needs of pregnant women and new families.

Universal Perinatal Services

The term ‘perinatal services’ refers to the services that provide care
and education to families from pregnancy through to the early postpartum
period. In most Western countries perinatal care is provided by midwives or
nurses, either in Hospitals, community centers, or the home (Hirst, 2005). A
significant majority of women expecting their first child also attend
antenatal education classes during their pregnancy.

Structured antenatal education programs are currently one of the key
sources of information about childbirth and parenthood for expectant
mothers (and less frequently, fathers). Antenatal education programs and
classes can be found in almost all Western countries. Rates of attendance at
antenatal education are often high among first-time parents (Renket &
Nutbeam, 2001). For example, approximately 70% of US women (Lu,
Prentice, Yu, Inkelas, Lange, & Halfon, 2003; Slusser, & Lange, 2002),
80% of Australian women (Lumley & Brown, 1993; Redman, Oak, Booth,
Jensen, & Saxton, 1991) and 90% of Swedish women (Fabian, Radestad, &
Waldenstrom, 2004) attend at least one antenatal education class. The
widespread popularity of antenatal classes testifies to the desire of many
expectant parents for education about birth and parenthood (Gagnon, 2001).
Pregnancy is therefore a key window of opportunity to provide psycho-education because women are used to attending educational sessions, are highly receptive to parenting advice, and very likely to act on information which fosters an optimal transition to parenthood (Hirst, 2005).

Traditional antenatal education tends to focus predominantly on childbirth itself, with lesser coverage of early parenting experiences (Policy Research Bureau, 2000; Renket & Nutbeam, 2001), and little to no emphasis upon emotional well-being (Policy Research Bureau, 2000), mental health or the couple relationship (Hirst, 2005; Nolan, 1997; Polemeno, 1999). Despite the popularity of antenatal education, research indicates that antenatal education does not prepare first-time parents for the reality of birth and parenthood (McKay & Yager-Smith, 1993; Policy Research Bureau, 2000), and has even been criticized for failing to impart onto parents the practical skills required to care for their newborn (McIntosh, 1993).

Among well conducted randomized controlled trials of standard antenatal education, no clear benefit to participants and infants has been demonstrated (Gagnon, 2001). O'Meara (1993), in her evaluation of consumer perspectives of childbirth and parenting education, found a high level of dissatisfaction among women attending childbirth education classes in Australia. She noted that women lacked timely knowledge about infant care and did not have the confidence to make decisions for the family's care. Other research has indicated that women do not have a realistic
understanding of the burden of parenthood, or the changes in lifestyle and relationships that come with it (Hillan, 1992).

Reports of dissatisfaction are not limited to traditional antenatal care and education, but also extend to postnatal services. Postnatal care is almost exclusively aimed at the mother and her needs, but many women, particularly first time mothers, view the current postnatal care services as inadequate, with some studies finding that as many as one third of women report problems caring for themselves and their infant (Hirst, 2005; Murray, Ryan, & Keane, 2000). Given that parents are vulnerable to emotional distress and couple relationship dissatisfaction during the first 12 months postpartum, with potentially negative spill-over effects on parent-child interaction and child outcome, having inadequate perinatal education and support services has serious and far-reaching negative consequences.

Several improvements to universal perinatal services are recommended, including continuity of care across the antenatal and postnatal period and more focus on adult emotional adjustment, mental health and couple relationship issues (Hirst, 2005; Nolan, 1997; Policy Research Bureau, 2000). In recognition of the need to improve perinatal services a number of research trials have investigated the effects of additional perinatal education and support on early adjustment to parenthood. The prevention of maternal postnatal depression (PND) and the prevention of parenting difficulties are the two most common universal intervention targets. A third and recent intervention focus is on prevention of couple relationship distress.
Universal Prevention Programs

The prevention of postnatal depression (PND) has received growing interest in recent years and all eight randomized controlled trials that met the inclusion criteria were conducted in the last decade. Two universal prevention studies provided women with additional antenatal group classes (Matthey, Kavanagh, Howie, Barnett, & Charles, 2004; Reid, Glazener, Murray, & Taylor, 2002), three provided extra midwife contact visits in the Hospital (Hays, Muller, & Bradley, 2001; Hayes & Muller, 2004; Lavender & Walkinshaw, 1998; Priest, Henderson, Evans, & Hagan, 2003), and two provided extended postpartum midwifery care in the home (MacArthur, Winter, Bick, Knowles, Lilford, & Henderson, 2002; Morrell, Spiby, Stewart, Walters, & Morgan, 2000; Shields, Reid, Cheyne, Holmes, McGinley, Turnbull, & Smith, 1997). Of these randomized controlled trials, only three studies found a positive intervention effect (Lavender & Walkinshaw, 1998; MacArthur et al., 2002; Shield et al., 1997).

One of the three studies that found a positive intervention effect provided postnatal birth debriefing with a midwife (Lavender & Walkinshaw, 1998). However, Priest et al. (2003) conducted a very similar trial and failed to find an intervention effect for midwife birth debriefing. Two possible methodological differences may explain the different outcomes; first unstructured birth debriefing may have been more effective than structured birth debriefing because it was individually tailored to the woman’s emotional support needs; and second, birth debriefing may have produced only a short-term preventative effect on depression (at 3 weeks).
which attenuated by 2 months postpartum. Priest et al. (2003) suggested that by 2 months postpartum parenting stress may be the salient trigger for PND rather the birth experience. This last explanation is supported by the results of the midwife birth debriefing intervention by Small et al. (2000) who also failed to find an intervention effect at 6 months postpartum, despite their selective intervention being very similar to Lavender and Walkinshaw’s (1998) universal intervention. Combining the results of these three randomized controlled trials leads to the conclusion that birth debriefing may only reduce severity and rates of PND if it is unstructured and assessed in the first postpartum month.

Extended postpartum midwifery care in the home produced mixed results on PND rate and severity (MacArthur et al., 2002; Morrell et al., 2000; Shields et al., 1997). McArthur et al. (1992) and Shield et al. (1997) found that midwives providing this type of support for 28 days postpartum reliably reduced rates of PND at 7 weeks postpartum (Shield et al., 1997) and 4 months postpartum (MacArthur et al., 2002) relative to standard community care. However, Morrell et al. (2000), delivering a very similar intervention, found that intervention produced no additional benefits on rates of PND when compared to standard care at 6 months postpartum. Since some women in Morrell et al.’s (2001) standard care group received home visits up to 28 days postpartum, the difference between intervention and control was probably too small to show up the different intervention effects. The slightly longer follow-up in Morrell et al.’s (2001) study may also explain lack of intervention effect, with the possibility that the 7 week
and 4 month intervention effects observed by MacArthur et al., 2002; Shields et al., 1997) attenuate between 4-6 months postpartum. Lastly, the use of midwives (MacArthur et al., 2002; Shields et al., 1997) compared to trained community support workers (Morrell et al., 2000) may also have contributed to the differential outcomes reported by these three studies. For example, in a home-visiting selective prevention trial, Olds et al. (2002) reported that intervention effect sizes on maternal health, mother-infant interaction, and child outcome measures were half the size when a home-visiting intervention was delivered by paraprofessionals compared to the same intervention delivered by nurses. These differences emerged despite equal access to program training materials, similar number of mother contact hours, and increased supervision time for the paraprofessionals compared to nurses. Olds et al. (2002) suggested that paraprofessionals may differ from nurses, by having less clinical skill and less understanding of the study objectives and outcomes. Mothers may also have perceived nurses as more legitimate providers of information about pregnancy, birth and early parenthood than paraprofessionals.

Attempts to reduce rates of PND by providing additional group antenatal classes have not reduced rates of PND. Attendance at the support groups was very low in Reid et al.’s (2002) study (18%), and engagement in the comparison condition was also low (e.g., only 57% of the comparison women read the information pack by 6 months postpartum). The low support group attendance probably reduced the power of the study to detect intervention effects (Reid et al., 2001).
Having fewer support group sessions and inviting male partners along may have contributed to the higher engagement and attendance rates (e.g., 92% attendance) reported by Matthey et al. (2004). Despite the higher attendance rate the intervention did not significantly improve rates of depression, except among low-self esteem women. The authors provided no explanation for their lack of overall intervention effect, except that their sample of couples initially reported high levels of partner support and thus may not have represented the type of ‘high-risk’ couples who would most benefit from additional antenatal group classes.

A second common area of universal intervention was the prevention of parenting difficulties and infant behavioral problems. Studies in this area tended to focus on the provision of parenting education (e.g., parental strategies to increase infant sleep, decrease infant crying, or general strategies to enhance parent-infant interaction quality). Universal parenting interventions were typically delivered in groups (Reid, Glazener, Murray, & Taylor, 2002; Wolfson et al., 1992) or in the home (Dickie & Gerber, 1980; Metzl, 1980; Pinilla & Birch, 1993; Scholz & Samuels, 1992; St. James-Roberts et al., 2001), supplemented by written information (Hunziker & Barr, 1986; Kramer, Barr, Dagenais, Yang, Jones, Ciofani, & Jane, 2001; Metzl, 1980; Reid et al., 2002; St. James-Roberts et al., 2001) or with ongoing telephone support (St. James-Roberts et al., 2001) and short-term in nature. Of the ten randomized controlled trials that focused on parenting, seven found a positive intervention effect.
Relative to a control group, parenting education and skill-training increased father involvement with the infant, parenting competence during father-infant interactions (Scholz & Samuels, 1992), improved maternal sensitivity and responsiveness, perceptions of partner parenting competence (Dickie & Gerber, 1980), quality of the home environment and infant development (Metzl, 1980). A key weakness in these studies was the short-term follow-up each conducted, with Dickie & Gerber’s (1980) follow-up of 6 months being the longest in duration amongst these three studies. Unfortunately Dickie and Gerber’s (1980) small sample size (e.g., 9 couples in the intervention group) limits the generalizability of their results. Despite these weaknesses these three universal parenting interventions indicate that parenting skill-training enhances short-term parenting competence among low-risk parents.

Behavioral interventions, aimed at improving infant sleep were more effective than a control (Pinilla & Birch, 1993; St. James-Roberts et al., 2001; Wolfson et al., 1992). However, most reported that mothers did not introduce one of the behavioral strategies (i.e., the focal feed), suggesting that this aspect of parent training was unnecessary. The long-term benefits of these interventions is unknown since none of the aforementioned three trials collected infant sleep data beyond 5 months postpartum.

Efforts to reduce infant crying through parent training have been less successful than parent education on infant sleep. Only one out of four universal randomized controlled trials reported that behavioral strategies (i.e., supplemental carrying) decreased infant crying (Hunziker & Barr,
Infant crying interventions may need to be individually tailored to the parent’s immediate concerns. For example, the indicated intervention by Dihigo (1999) consisting of daily phone support, counseling and problem-solving, reduced infant crying duration. The reasons for the positive intervention effect found by Hunziker and Barr (1985) is unclear, however because intervention parents increasingly breastfed their infants, as well as carried them for longer than control parents, the decrease in intervention infant crying may be attributed to the increased breastfeeding and not to the carrying per se.

Three randomized controlled trials supplemented antenatal education with couple relationship material. Interventions were conducted in groups, led by psychologists (Cowan & Cowan, 1992; Shapiro & Gottman, 2005) or midwives (Midmer et al., 1995). Length and number of program sessions varied, from two 2 hour sessions held antenatally (Midmer et al., 1995) to 24 one hour sessions held across the last 3 months of pregnancy and the first 3 months of parenthood (Cowan & Cowan, 1992). All studies conducted a follow-up assessment, with Cowan and Cowan (1992) conducting the longest follow-up of intervention effects at 6 years postpartum (Schultz, Cowan & Cowan, 2006).

The content of these three couple-focused universal prevention programs included some of the potentially modifiable influences on couple adjustment to parenthood identified in Chapter 2 (e.g., communication, realistic expectations, conflict management, couple intimacy, couple quality time, sensitive parenting and couple problem-solving).
<table>
<thead>
<tr>
<th>Author(s)/Year</th>
<th>Participants</th>
<th>Measures</th>
<th>Program and Control</th>
<th>Key findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cowan &amp; Cowan (1992)</td>
<td>72 couples</td>
<td>DAS, Couple separations. Assessed prenatally (2nd trimester), 3, 6, 18 months postpartum. Followed up at 3½ and 5 ¾ years postpartum.</td>
<td>INT consisted of 24 weekly group sessions focused on the couple relationship and parenting expectations.</td>
<td>Intervention couples lost 4% of their initial marital satisfaction whereas control couples lost 14% of their marital satisfaction over the 5.75 year follow-up. At 18 month postpartum assessment INT group showed reduced rate of couple separations compared to control (0% separated in INT group compared to 12.5% separations in control). Positive INT effects on divorce lost by 3½ years postpartum.</td>
</tr>
<tr>
<td>Dickie &amp; Gerber (1980)</td>
<td>19 couples</td>
<td>2-hour home observation, 20 minute video-taped parent-child interaction, Sense of own parenting competence, and perception of spouse parenting competence. Pre-intervention (4 to 12 months postpartum) and post-assessment 2 months later.</td>
<td>INT couples received 8 weeks of education and training in assessing, predicting, eliciting and responding appropriately to their infants’ behavioral cues (16 hours in total).</td>
<td>Compared to control couples the INT couples showed increased parenting competence during the parent-child interaction task (parents showed higher anticipation of, and appropriate responsiveness to infant needs; INT infants more responsive and predictable); INT couples reported higher view of spouse competence than control group.</td>
</tr>
<tr>
<td>Elliott, Reilly, Drummond, &amp;</td>
<td>94 mother-infant</td>
<td>Perception of infant temperament, PSCS Parent-infant interaction observation (NCAST and NCAFS), duration of infant crying. Assessed at week 1 (baseline), 4, 6 and 16 weeks postpartum.</td>
<td>INT 1 = massage group, INT 2 = supplemental carrying group, INT 3 = combined massage and carrying group.</td>
<td>There were no statistical differences between groups on duration of crying, parenting sense of competence, mother-infant interactions, or maternal perception of infant temperament.</td>
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<tr>
<td>Letourneau (2002)</td>
<td>pairs</td>
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<td>Author(s)/Year</td>
<td>Participants</td>
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<td>Hays, Muller, &amp; Bradley (2001)</td>
<td>188 pregnant women INT = 95</td>
<td>POMS depression subscale score, Norbeck SSQ.</td>
<td>INT was educational consisting of an information booklet, audiotape describing PND and a meeting with a midwife.</td>
<td>At 3 and 6 months postpartum there were no differences between groups on reported depression scores.</td>
</tr>
<tr>
<td>Hays &amp; Muller (2004)</td>
<td>Control = 93</td>
<td>Assessment at baseline (12-28 weeks gestation), 3 and 6 months postpartum.</td>
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<tr>
<td>Hunziker &amp; Barr (1986)</td>
<td>99 mother-infant pairs INT = 49</td>
<td>Parental diaries recording infant behavior and caretaking activities (study particularly interested in measuring infant crying duration and frequency, sleep duration, and feeding duration and frequency. Assessed at week 3 (baseline), 4, 6, 8, and 12 weeks postpartum.</td>
<td>INT mothers instructed to carry infants more (twice as often as usual).</td>
<td>INT mothers reported reduced crying duration compared to control mothers. At the peak crying age (6 weeks) there was 43% less crying during daytime and 51% less crying during the evening hours in INT compared to control infants. INT infants fed more frequently compared to control infants. Neither group showed changes in feeding duration or sleep patterns.</td>
</tr>
<tr>
<td>Kramer, Barr, Dagenais, Yang, Jones, Ciofani, &amp; Jane (2001)</td>
<td>281 healthy, breastfeeding mother-infant pairs INT = 140</td>
<td>Early weaning (before 3 months), frequency and duration of infant crying and fussing, Pacifier use. Assessed at 4, 6, 9 weeks and 3 months postpartum.</td>
<td>INT consisted of recommending alternative ways to comfort a crying or fussing infant (breast, rocking, carrying but not pacifier).</td>
<td>There was less pacifier use in the INT group compared to control. There were no significant group differences in weaning time or in frequency and duration of infant crying and fussing behaviors.</td>
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Table 3.3 Universal Randomized Controlled Trials for the Transition to Parenthood (continued)

<table>
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<tr>
<th>Author(s)/Year</th>
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<tr>
<td>Lavender &amp; Walkinshaw (1998)</td>
<td>114 postnatal women</td>
<td>HADS.</td>
<td>INT consisted of midwife birth debriefing which aimed to provide women with an opportunity to discuss labor ask questions and explore feelings.</td>
<td>At 3 weeks postpartum fewer INT women met criteria for depression compared to control women (INT 8.6% versus control 55.3%), and INT women reported lower depression and anxiety scores overall than control women.</td>
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<td></td>
<td>INT = 58</td>
<td>Assessment at baseline (pregnancy) and 3 weeks postpartum.</td>
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<td>Control = 56</td>
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<td>MacArthur, Winter, Bick, Knowles, Lilford, &amp; Henderson (2002)</td>
<td>1,503 postnatal women</td>
<td>EPDS, SF -36.</td>
<td>INT women received HV ($H = 6$ HV) from a midwife which was individualized and extended to 28 days postpartum.</td>
<td>At 4 months postpartum INT women scored lower on depression compared to control women (INT = 14.4% versus control = 21.3%). SF-36 scores on the mental health subscale were significantly better for INT compared to control. No significant group differences on the SF-36 physical health subscale.</td>
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<td>INT = 801</td>
<td>Assessment at baseline (first postnatal home visit), 10-28 days postpartum and 4 months postpartum.</td>
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<td>Control = 702</td>
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<td>Matthey, Kavanagh, Howie, Barnett, &amp; Charles (2004)</td>
<td>268 couples</td>
<td>EPDS (women only), CES-D (men only), POMS, DIS (depression and anxiety diagnosis), WDW, Coopersmith SEI, SOS, PSCS and Partner Awareness Scale. Assessment at baseline (pregnancy), 6 weeks and 6 months postpartum.</td>
<td>INT 2 couples received 6 routine antenatal classes and an additional class identifying postpartum parenting and couple issues. INT 1 couples received 6 routine antenatal classes plus an additional class on infant-play.</td>
<td>No significant differences in rates of depression or anxiety between groups at 6 weeks and 6 months postpartum. However, INT 2 women with low self-esteem reported higher positive mood, sense of parenting competence, more satisfied with sharing of household tasks compared to INT 1 and control. These effects were lost at the 6 month follow-up. INT had no beneficial effect on men.</td>
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<td>INT 2 = 89</td>
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<td></td>
<td>INT 1 = 78</td>
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<td>Control =101</td>
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<tr>
<td>Metzl (1980)</td>
<td>60 first-time parent couples</td>
<td>HOME, Bayley’s.</td>
<td>INT 1 and 2 received the Infant Language Program (ILP) designed to promote infant development, parenting sensitivity and positive parent-child interactions. Delivered in three 1½ hour HVs. In INT 1 the ILP taught to mothers only. In INT 2 both mother and father taught the ILP.</td>
<td>Both INT 1 and 2 groups scored higher on Bayley’s infant mental scale and HOME inventory compared to control group. No significant group differences on Bayley’s motor scale scores.</td>
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<td>INT 1 = 20</td>
<td>Assessed at baseline (6 weeks postpartum) and 6 months postpartum.</td>
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<td>INT 2 = 20</td>
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<td>Control = 20</td>
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<td>70 couples expecting their first child.</td>
<td>STAI, DAS, PPAQ.</td>
<td>INT consisted of 2 additional antenatal classes focusing on postpartum adjustment offered alongside standard antenatal classes.</td>
<td>INT women reported reduced STAI postnatal scores compared to prenatal scores and compared to control women. INT couples reported fewer declines in relationship satisfaction and greater postpartum adjustment compared to control couples.</td>
</tr>
<tr>
<td>Midmer, Wilson, &amp; Cummings (1995)</td>
<td>INT = 41</td>
<td>Assessed prenatally (2nd trimester), 6 weeks and 6 months postpartum.</td>
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<td>Control = 29</td>
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<td>623 postnatal women</td>
<td>EPDS, SF -36, Duke FSSS.</td>
<td>INT women received standard care plus up to 10 HV ($M = 6$ HVs; up to 3-hours per visit) for the first 28 days postpartum. HVs delivered by support worker.</td>
<td>At 6 weeks postpartum there was a significant difference in mean maternal depression scores, favoring control. By 6 months postpartum there were no significant intervention effects. 12% of INT women declined extra HVs but were still included in the analysis.</td>
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<tr>
<td>Morrell, Spiby, Stewart, Walters, &amp; Morgan (2000)</td>
<td>INT = 311</td>
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<td>Control = 312</td>
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<tr>
<td>Pinilla &amp; Birch (1993)</td>
<td>26 first-time parents of breastfed infants. INT = 13 Control = 13</td>
<td>Parental infant feeding and sleep diaries (collected every week for 8 weeks), Bates ICQ. Assessed 8 weeks postpartum. (Baseline assessment during 3rd trimester pregnancy collected demographic information only).</td>
<td>INT received structured infant sleep program in which parents were instructed to offer a focal feed between 10pm-12midnight, gradually lengthen intervals between night feeds, and maximize the difference between night and day.</td>
<td>INT resulted in increased infant night-time sleep periods by 8 weeks compared to control (100% of INT versus only 23% of control infants were sleeping through the night). INT infants rated as more predictable by parents compared to parents of control infants.</td>
</tr>
<tr>
<td>Priest, Henderson, Evans, &amp; Hagan (2003)</td>
<td>1,745 postnatal women INT = 875 Control = 870</td>
<td>EPDS, IES, DSM-IV (depression diagnosis). Assessment at 2, 6, and 12 months postpartum (No baseline assessment).</td>
<td>INT women received standardized midwife birth debriefing based on the principles of critical incidence debriefing (1 session of 15-60 minutes).</td>
<td>At 2, 6 and 12 months postpartum there were no group differences on reported depression scores, number of cases of clinical depression, difference in time of onset or duration of depression.</td>
</tr>
<tr>
<td>Reid, Glazener, Murray, &amp; Taylor (2002)</td>
<td>1004 primiparous women INT 1 = 250 INT 2 = 250 INT 3 = 253 Control = 251</td>
<td>EPDS, SF –36 (general health), SSQ6, Use of health services, Consumer satisfaction with the program. Pre-intervention assessment (2 weeks postpartum), post-intervention (3 months postpartum) and at 6 months.</td>
<td>INT 1 women received a magazine with infant care advice and information. INT 2 attended a weekly support group. Included infant care, mother well-being and health issues. INT 3 received INT 1 and INT 2.</td>
<td>INT 1, 2 and 3 were evaluated positively, but there were no group differences on reported depression scores, SF -36 scores or SSQ 6 scores. Only 18% of the women invited to attend support groups (92/503) did actually attend a support group.</td>
</tr>
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</table>
Table 3.3 Universal Randomized Controlled Trials for the Transition to Parenthood (continued)

<table>
<thead>
<tr>
<th>Author(s)/Year</th>
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<tbody>
<tr>
<td>Scholz &amp; Samuels (1992)</td>
<td>32 first-time parent couples</td>
<td>INT = 16 CO = 16 Parenting tasks diary records started at 4 weeks postpartum and continued daily until 12 weeks postpartum. 1 minute father-infant reuniting observation task and 10-minute family interaction task at 12 weeks postpartum.</td>
<td>INT couple received one 1-hour HV. Trained in relaxation bath technique and infant massage. Couples practiced techniques under supervision. CO couples received shorter HV in which couples spoke generally about their infant.</td>
<td>INT infants greeted fathers with significantly greater eye contact, smiling, vocalization, reaching and orienting responses and showed less avoidance behaviors during 1 minute father-infant reuniting observation task compared to CO infants. INT fathers showed significantly greater involvement in parenting during 10-minute family observation task compared to CO fathers.</td>
</tr>
<tr>
<td>Shapiro &amp; Gottman (2005)</td>
<td>38 pregnant couples</td>
<td>INT = 18 CO = 20 MAT, Derogatis SCL-90 (depression index), 15 minute video-taped couple discussion. Assessed prenatally (1st trimester), 3 months postpartum and 12 months postpartum.</td>
<td>INT consisted of a psycho-communicative educational workshop delivered antenatally over 2 days.</td>
<td>No immediate effect on marital satisfaction at the 3 month post-assessment. At 1 year postpartum INT couples showed higher relationship satisfaction, and women showed lower depression and hostile affect compared to control couples.</td>
</tr>
<tr>
<td>Shields, Reid, Cheyne, Holmes, McGinley, Turnbull, &amp; Smith (1997)</td>
<td>1,299 pregnant women</td>
<td>INT = 648 Control = 651 EPDS. Assessment at 7 weeks postpartum (no baseline assessment).</td>
<td>INT consisted of midwife managed care which was continuous, individualized and included a focus on emotional support.</td>
<td>At 7 weeks postpartum the INT women reported lower depression scores compared to control. Fewer INT women scored above the cut-off for depression compared to control (INT = 16.7% versus control = 23.2%).</td>
</tr>
<tr>
<td>Author(s)/Year</td>
<td>Participants</td>
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<td>Program and Control</td>
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<tr>
<td>St. James-Roberts, Sleep, Morris, Owen, &amp; Gillham (2001)</td>
<td>610 mother-infant pairs</td>
<td>Behavioral diaries measuring infant crying and sleeping behavior. Assessed before randomization, and again at 3, 6, 9, and 12 weeks postpartum.</td>
<td>INT 1 women received behavioral instructions (e.g., emphasize day and night differences; use a focal feed between 10pm and midnight). INT 2 women received parent education containing written advice and suggestions for parents to follow in establishing good sleeping habits and minimize crying.</td>
<td>Neither INT reduced infant crying and fussing behavior. INT 2 did not change maternal care behavior (and almost all mothers did not introduce the focal feed between 10-12 midnight). INT 2 produced a modest increase in the number of infants who slept through the night by 12 weeks compared to control.</td>
</tr>
<tr>
<td>Wolfson, Lacks, &amp; Futterman (1992)</td>
<td>60 couples and their infants</td>
<td>Parent infant sleep diary; Hassles and Uplifts scale, Parental efficacy measure. Assessed during pregnancy (baseline for parental efficacy), 6 weeks (baseline for other measures) and 5 months postpartum.</td>
<td>INT couples received three group-based infant care sessions (prenatal, post-natal and 16-20 weeks after birth), focused on methods to establish good sleep habits.</td>
<td>INT improved infant sleep patterns, reduced parent-reported daily hassles, and higher sense of parenting efficacy compared to control group.</td>
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*Note: Abbreviations: INT = intervention, CO = comparison; Control group is standard care unless otherwise stated; HV = home visit. Measurement tools: A list of abbreviations and the full title of each measure appears in Appendix A*
The reporting of program content in Cowan and Cowan’s (1992) study was unclear but appeared to have included discussion of individual adult concerns about pregnancy, labor and birth, family of origin parenting styles, work and family issues, and marital conflict. Additional modifiable risk factors not addressed in these couple-focused prevention programs included mutual partner support, developing shared parenting expectations, parenting efficacy and parenting competence.

The delivery of program content was predominantly via didactic presentations (Midmer et al., 1995; Shapiro & Gottman, 2005) or group discussions (Cowan & Cowan, 1992; Midmer et al., 1995). Midmer et al. (1995) and Shapiro and Gottman’s (2005) programs both included a communication skill-training component, however only Shapiro and Gottman (2005) measured the effects of communication skill-training and only in terms of observed couple affect.

All three of these couple-focused randomized controlled trials reported positive intervention effects. Both Midmer et al. (1995) and Shapiro and Gottman (2005) demonstrated some positive outcomes on measures of relationship quality, maternal mental health and parenting adjustment after providing relatively brief antenatal couple-focused interventions. However, results of both studies need to be interpreted with caution. For example, Shapiro and Gottman (2005) had a relatively small sample size and high attrition, which limits the generalizability of their results. For example, the authors stated that at least 4 couples ($N = 38$) withdrew early on in the study, and that numerous couples did not complete
an assessment. It is not stated if there was differential attrition. Second, although Shapiro and Gottman (2005) noted improvements on all outcome measures at the 12 month postpartum assessment, their pre-intervention to 3 month postpartum results showed that intervention men reported significant declines in marital quality, and intervention women reported significant increases in PND and in rates of hostile affect during observed couple communication. In contrast, from baseline to 3 months postpartum, control men reported increased in relationship satisfaction, and control women showed stable depression scores. The 3 months postpartum results thus showed a detrimental intervention effect.

The authors hypothesized that their intervention caused a temporary increase in distress because couples were asked to discuss and face conflict topics and that improvements at 12 months were due to intervention couples becoming better at utilising effective communication skills and managing conflict. In contrast, from 3 to 12 months postpartum the control couples were hypothesized to continue avoiding conflict, and the accumulation of unresolved couple issues eventually resulted in lower marital quality, maternal depression and hostile affect. Until this hypothesis is tested, Shapiro and Gottman’s (2005) suggested that couples receiving brief psycho-communicative intervention across the transition to parenthood should be cautioned that communication skill-training may initially increase their distress levels, but that long-term positive effects are anticipated.

There were also limitations in Midmer et al.’s (1995) study. First, although Midmer et al. (1995) provided some communication skill-training,
they used group members with good communication skills as models. Using group members to demonstrate effective communication skills without providing prior training in communication to those models is likely to have resulted in wide variability in the quality of the communication training the different groups received. Furthermore, because Midmer et al. (1995) did not include a measure of couple communication, the effects of their intervention on couple communication and problem-solving remain unknown. Second, Midmer et al. (1995) did not examine their intervention effects separately for men and women and it is therefore unclear whether males and females differentially benefited from their intervention. Failure to report results separately for each gender also produces difficulty when attempting to compare intervention effects to other intervention studies (e.g., Shapiro & Gottman, 2005; Schulz et al., 2006) and to the cross-sectional data on gender differences in relationship satisfaction across the transition to parenthood.

Couple-focused psycho-education may differentially impact male and female relationship satisfaction across the transition to parenthood because women tend to be more profoundly affected by pregnancy, birth and early parenting (Pancer et al., 2000; Cowan et al., 1985), and women also typically report greater and more immediate declines in relationship satisfaction in the early postpartum months relative to men (Cowan & Cowan, 1992; Feeney et al., 2001; Shapiro et al., 2000). Lastly, despite the recommendation that continuity of care across the transition to parenthood is desired by couples and advocated by professionals (e.g., Hirst, 2005),
neither Midmer et al. (1995) nor Shapiro and Gottman (2005) provided postpartum support or education.

Only one randomized controlled trial of a couple-focused psycho-education program has been delivered to couples across the pre- and postpartum period. The Becoming a Family Project (Cowan & Cowan, 1992) was the first and most intensive program delivered to couples becoming parents. The results were highly positive, showing that the usual declines in relationship satisfaction were less severe in the 24 intervention couples compared to the 24 control couples. A particular strength of the Cowan and Cowan (1992) trial was their long-term follow-up of intervention effects at both 3.5 and 5.75 years postpartum (Schultz et al., 2006).

At the 18 month postpartum assessment no intervention couple had divorced, whereas 10 control couples had separated or divorced in the same period. While the positive intervention effect on divorce was lost by the 5.75 year follow-up, the overall marital satisfaction scores of intervention couples remained almost 4 times as high as that of control couples (Schultz et al., 2006). No gender differences in marital satisfaction were found as a result of intervention. The highly positive findings of the Cowan and Cowan (1992) intervention are countered by the lack of detail about the precise content of the program, the intervention time intensity and therefore delivery expense. Each of these limitations makes it an unlikely program for replication and large scale implementation.
Summary of Universal Prevention Programs

In summary, universally targeted programs for the prevention of PND reported that intervention delivered one-on-one by midwives and individually tailored to women’s emotional support needs reduced PND rates and severity compared to control (Lavender & Walkinshaw, 1998; MacArthur et al., 2002; Shields et al., 1997), at least up until 4 months postpartum. Compared to a control or minimal intervention, intervention programs that were highly structured (e.g., critical incident debriefing; Priest et al., 2003), delivered in group settings (Matthey et al., 2004; Reid et al., 2002) or which relied heavily on written educational information (Hayes et al., 2001) produced no differential outcomes for rates and severity of PND. Universal parenting intervention programs that provided parenting education, training and behavioural strategies to increase parent sensitivity and responsiveness to infant developmental needs (Dickie & Gerber, 1980; Metzl, 1980; Scholz & Samuels, 1992), and to improve parent management of infant sleep behaviour (Pinilla & Birch, 1993; St.James-Roberts et al., 2001; Wolfson et al., 1992), were more effective than a control but lack of long-term follow-up limits the strength of these findings. There was limited evidence for the effectiveness of behavioural strategies in reducing infant crying. Universally-targeted group interventions aimed at improving the couple relationship across the transition to parenthood have demonstrated positive effects on couple relationship quality (Cowan & Cowan, 1992; Midmer et al., 1995; Shapiro & Gottman, 2005) and some additional positive effects on adult well-being (Midmer et al., 1995; Shapiro &
Gottman, 2005) compared to control with some evidence that intervention effects can last up until 3.5 years postpartum.

Among universal interventions there is an increased recognition of the importance of fathers and the couple relationship in influencing adjustment to parenthood. Seven out of the 21 randomized controlled trials reviewed in this section recruited couples and assessed intervention effects on both the mother and father. Four randomized controlled trials recruited and targeted intervention at the couple; three of these trials focused on improving parenting outcomes (Dickie & Gerber, 1980; Scholtz & Samuels, 1992; Wolfson et al., 1992), and one on improving adult well-being (Matthey et al., 2004). None of these four trials included a measure of couple relationship functioning. The remaining three trials were focused on improving the couple relationship, and two of these also measured the impact of their intervention on adult well-being (Midmer et al., 1995; Shapiro & Gottman, 2005). Out of all 66 studies none reported intervention effects on all three domains of family functioning (i.e., couple relationship functioning, individual adult well-being and parenting competence or parent-child interaction quality). The strength of the evidence for the interrelatedness of couple, adult and parent-child outcomes (presented in Chapter 2) warrants the evaluation of a transition to parenthood intervention on all domains of early family life.

Summary of Prevention Programs for the Transition to Parenthood

Despite decades of research indicating that a substantial number of couples experience relationship distress after having a baby, there are
virtually no services designed specifically to ease the couple’s transition to parenthood. However, attendance ratings at antenatal education classes indicate that new parents seek out information to assist them in the transition to parenthood. Parental feedback from antenatal education classes includes the recommendation to increase the focus on couple relationship issues (Hirst, 2005; Nolan, 1997; Policy Research Bureau, 2000). Improving the existing antenatal and postnatal education currently available to new parents by including some focus on couple relationship issues may therefore increase parent satisfaction with perinatal education and care, and prevent the decline in couple relationship satisfaction that is widely reported among new parent couples.

This chapter has illustrated that the majority of prevention studies focus on the prevention of maternal distress and the prevention of parenting and infant behavioral problems. Whilst supporting mothers, especially if they are identified as high-risk, is very worthwhile, most children are born to couples. However, from the 66 studies reviewed in this chapter, only three studies implemented and evaluated a couple-focused intervention (5%; all universally applied) and only seven studies (11%; all universally applied) targeted their intervention equally at the father and mother. Providing parenting information to mothers alone can foster discrepancies in couples’ knowledge about parenting, and increases the likelihood of couples having divergent parenting expectations, knowledge and competence. Divergent expectations can lead to couple conflict because the less informed partner may feel resentment or defensiveness when advised about ‘what you should
do’ (Tomlinson, Bryan, & Esau, 1996). Interventions for the transition to parenthood need to increase their focus on couple issues and couple adjustment because parenting is a joint couple endeavor, and both partners are active and valuable influences in the child’s development. Couple-focused programs could significantly ease the challenges couples face as they embark on raising a family.

Since couple-focused interventions for the transition to parenthood are a relatively new development and little is known about the effective components of couple-focused psycho-education across the transition to parenthood compared to at the time of marriage, a review of premarital education programs may be useful in providing further guidance in the content and format that more broadly produces significant positive change in relationship satisfaction and stability. Prevention programs available to newlywed couples are widely available, widely researched and evaluated (Halford, 2000) and span almost seven decades (Christensen & Heavey, 1999).

Relationship Education for Couples entering Committed Relationships

Interest in the provision of relationship education to couples, especially around the time of marriage, has intensified and become key government and community priorities due to the growing social, emotional and financial costs of marital dissatisfaction and divorce (Parker, 1999). Currently, approximately one quarter to one third of marrying couples in Western societies (i.e., USA, Australia and Britain) attend relationship education at the time of marriage (Halford, 1999; Simons, Harris, & Wills,
1994; Sullivan & Bradbury, 1997). Three broad categories of marriage and relationship education programs have been evaluated, and these include information and awareness, inventories, and skill-training (Halford & Moore, 2002). The most widely disseminated programs offer information and awareness of key relationship processes that affect couple relationship outcome with little to no focus on active skill-training (Halford, 2002; Harris, Simons, Willis, & Barrie, 1992; House of Representatives Standing Committee on Legal and Constitutional Affairs, 1998). Within the premarital relationship education field there is limited evidence that information and awareness approaches produce significant change in relationship outcome (Halford & Morre, 2002).

Inventory programs, such as PREPARE (Olsen, Fournier, & Druckman, 1996) and FOCCUS (Larsen & Holman, 1994; Williams & Jurich, 1995), generally require each partner to complete a self-report inventory assessing a broad range of dimensions of couple functioning (Halford & Moore, 2002). Feedback is provided to both partners by a trained facilitator, with the goal of providing couples with awareness of potential problems and facilitating discussion of important issues that may require change (Parker, 1999). Both PREPARE and FOCCUS are clearly structured programs which have been scientifically evaluated. Results from PREPARE and FOCCUS reliably predict which couples stay together and which couples divorce within the first 4 to 5 years of marriage (Halford & Moore, 2002). As with information and awareness programs, little to no active skill-training is involved.
Skill-training relationship education is the third category of relationship education and aims to help couples learn useful relationship enhancement skills that may reduce the risk of subsequent relationship problems and assist in the maintenance of a long-term satisfying relationship (Halford & Moore, 2002). Several skill-training education programs have been widely used and evaluated, including the Couple Communication program (CC; Miller, Wackman, & Nunally, 1976), the Relationship Enhancement program (RE; Guerney, 1977; Guerney & Maxson, 1990), and the Prevention and Relationship Enhancement Program (PREP; Markman, Stanley, & Blumberg, 1994; Stanley, Blumberg, & Markman, 1999).

There is now a substantial body of evidence that skill-training approaches to relationship education can develop key relationship knowledge, attitudes and skills (Halford, Markman, Stanley, & Kline, 2003). Specifically, premarital interventions appear to be effective in producing significant change in couple communication and conflict management skills, and overall relationship satisfaction and quality. Gains are maintained between 6 months and 3 years post-intervention depending on the program studied (Carroll & Doherty, 2003).

The content of premarital and relationship enhancement skill-training programs often target similar areas of couple interaction, primarily couple communication, conflict management and intimacy enhancement. Other couple adaptive processes may be included in such programs, including mutual support, commitment, self-regulation, self-disclosure,
empathy, change contracts and couple expectations (Halford & Markman, 1997). Communication skill-training is the most common target of empirically validated relationship education programs (Halford, 1999). The rationale for this focus rests on the finding that deficits in couple communication and conflict management skills predict relationship distress, (at least in samples of newlywed couples; Karney & Bradbury, 1995; Markman, 1981; Markman & Hahlweg, 1993; Noller & Feeney, 1994; Pasch & Bradbury, 1998).

Skill-training relationship psycho-education programs have documented positive changes in couple communication after 5 to 6 sessions (Avery, Ridley, Leslie, & Millholland, 1980; Markman, Floyd, Stanley, & Storaasli, 1988; Markman & Hahlweg, 1993; Miller, Nunally, & Wackman, 1975; Renick, Blumberg, & Markman, 1992), and improvements in couple communication are maintained several months, to years, after completion of the program (Hahlweg et al., 1998; Ridley, Jorgensen, Morgan, & Avery 1982; Stanley, Markman, St. Peters, & Leber, 1995).

For example, a meta-analysis of CC studies found a large effect size for couple communication improvements during observation tasks for CC versus control couples, and medium to small effects sizes for improved relationship satisfaction for CC versus control couples (Butler & Wampler, 1999). Studies evaluating RE programs typically find that couples who received RE show improved communication, self-disclosure, empathy and relationship adjustment compared to their pre-intervention levels and couples in the control conditions (Avery et al., 1980; Cavedo & Guerney,
1999; Guerney & Maxon, 1990). Comparing the efficacy of RE and CC, Giblin, Sprenkle and Sheehan’s (1985) meta-analysis noted that RE programs produced the largest effect sizes (0.96) compared to other relationship education programs (including CC and PREP) but that the positive improvements resulting from participation in either CC or RE failed to last from post-intervention to the follow-up assessment 6 months later.

The short-term efficacy of PREP is comparable to that of CC and RE. Couples enrolled in PREP demonstrate increased positive communication and decreased negative interactions (Hahlweg et al., 1998; Markman et al., 1993; Stanley et al., 2001), retain the skills learned (Markman & Hahlweg, 1993; Sanders et al., 1999) and report reliable and robust increases in relationship satisfaction (Hahlweg et al., 1998; Renick et al., 1992; Sanders et al., 1999). Because many of these studies have noted an association between couple communication and relationship satisfaction, some researchers have hypothesized that improvement in couple communication mediates the effects of relationship education on relationship satisfaction (Markman et al., 1988).

However, three well-conducted randomized controlled trials of skill-training relationship psycho-education have found different short-term intervention effects on couple communication and relationship satisfaction. Halford, Moore, Wilson, Farrugia and Dyer (2004) found psycho-education improved relationship satisfaction from pre- to post-intervention, but found no intervention effect on couple communication. Two trials have found post-assessment reductions in negative couple communication without any
post-assessment or 12 month follow-up increases in relationship satisfaction (Kaiser et al., 1998; Laucerneau et al., 2004), despite maintenance of low communication negativity and high communication positivity among intervention couples at the follow-up (Laucerneau et al., 2004).

Halford, Sanders and Behrens (2001) found skill-based education produced sustained improvement in communication and relationship satisfaction, but only for some couples – those classified at high-risk for future relationship problems. Finally, one long-term uncontrolled study found that a weekend version of PREP led to the expected improvements in couple communication, but had varying effects on relationship satisfaction. Specifically, increases in male positive communication were associated with improved relationship satisfaction, whereas increases in female positive communication were associated with a decline in future relationship satisfaction (Schilling et al., 2001). Thus, while skill-training relationship psycho-education has the best evidence of effectiveness in comparison to awareness and inventory-based relationship programs, there are some conflicting findings as to whether changes in couple communication are necessary or sufficient to enhance sustained relationship satisfaction.

Relatively few relationship education programs have conducted long-term follow-ups of more than 6 months. Of the four studies to have followed couples for more than 12 months after participating in relationship psycho-education, all delivered PREP (Hahlweg, Markman, Thurmaier, Engl, & Eckert, 1998; Markman et al., 1993; van Widenfelt et al., 1996), or a variant of PREP (e.g., Self-PREP; Halford, Sanders, & Brehens, 2001).
Hahlweg et al. (1998) and Markman et al. (1993) found at their 2 and 5 year follow-ups of PREP, that initial gains from PREP were maintained and that PREP continued to produce higher relationship satisfaction and functioning, and lower relationship aggression compared to control. However, van Widenfelt et al. (1996), using an almost identical PREP program with a high-risk Dutch population, failed to replicate the results of Hahlweg et al., (1998) and Markman et al. (1993).

Aside from the use of high-risk couples, a key difference between the Hahlweg et al. (1998), Markman et al. (1993) and the van Widenfelt et al. (1996) study was the randomisation procedure. Specifically, the Markman et al. (1993) study did not use true randomisation to allocate couples to PREP. Couples were randomly offered or not offered PREP and only 1/3 of couples offered PREP participated. The PREP couples were then compared to matched control couples. Self-selection also confounds the results of the Hahlweg et al. (1998) study because couples were offered the choice of participating in either PREP or a church-based program. The results of these two studies must therefore be interpreted cautiously as they may be artifacts of self-selection into PREP.

A more recent study of PREP that also included a long-term follow-up, modified the original PREP to be self-administered (Self-PREP; Halford et al., 2001). A unique aspect of the Halford et al. (2001) study was the classification of couples into high risk (negative family of origin experiences) and low risk typologies. Self-PREP promoted relationship satisfaction through till the 4 year follow-up (effect size $d = 1.0$) and
reduced negative non-verbal couple communication at the 1 year follow-up but the effects were only evident among high-risk intervention couples. Skill-based relationship education may therefore benefit some couples (i.e., possibly high-risk couples) more than others.

Unfortunately, the pre-marital education literature has found that high-risk couples are less likely to attend relationship education than low-risk couples (Halford, O’Donnell, Lizzio, & Wilson, 2004; Sullivan & Bradbury, 1997). No systematic research has examined how high-risk couples may be encouraged to attend relationship education (Halford, 2004). Mass media outreaches and newspaper advertisements describing common relationship risk factors and the services available to couples, are strategies that have shown some promise in increasing participation rate (e.g. Halford et al., 2001; Karney, Davilla, Cohan, Sullivan, Johnson, & Bradbury, 1995). Couples tend to associate relationship education at the time of marriage with highly religious and conservative views about relationships (Halford et al., 2005; Harris, Simons, Wills, & Barrie, 1992; Sullivan, 2001) and marketing efforts for pre-marital relationship education will need to challenge such assumptions in order to enhance attendance (Halford et al., 2005). Couple-focused psycho-education for the transition to parenthood has no affiliation with religiosity and may not be affected by that barrier.

Attendance at relationship psycho-education may also be enhanced by providing couples with more choice about where and how to access the program. For example, The Couple Commitment And Relationship Enhancement (Couple CARE) program (Halford, Moore, Wilson, Dyer, &
Farrugia, 2006) is based on adult self-directed learning principles and uses a flexible delivery model of education to deliver relationship psycho-education. The Couple CARE program has content that substantially overlaps with the content of most other skill-training relationship education programs. Shared content includes relationship expectations, family of origin influences, couple communication, conflict management, enhancement of intimacy and mutual support (e.g., RE, Guerney, 1977; PREP, Markman et al., 1994; Stanley et al., 1999; CC, Miller et al., 1976). The six self-directed learning units are accessed via videotaped information, professional modeling of skills, and self-directed learning activities, all of which are supported by telephone contact with an educator (Halford & Moore, 2002).

In addition to the skill-training and self-administration of content, Couple CARE uses a self-regulation approach to assist couple learning and implementation of new skills. A recent randomized controlled trial of Couple CARE demonstrated that the program enhanced couple relationship satisfaction (effects size $d = .41$), but not couple communication, relative to control (Halford et al., 2004). The Couple CARE program is described in more detail in Chapter 4.

Couples may be particularly attracted to flexible-delivery relationship psycho-education programs because of the competing demands of early parenthood. A recent feasibility study by Stanley et al. (1995) showed that 72% of women who completed an initial survey of individual mental health and relationship status during their waiting time at an
antenatal clinic were interested in participating in a couple-focused psycho-
education program that addressed the challenges of early parenthood, how
to communicate better with their partner, what to expect as new parents, and
how to recognise and cope with postpartum depression. Half of these same
women (44%) stated they thought their partners would also be interested in
this type of prevention program. These percentages are higher than the 30%
of couples who attend premarital education and may indicate that couple-
focused psycho-education across the transition to parenthood could attract a
greater number of couples than at the transition into marriage. This higher
attraction to relationship psycho-education at the transition to parenthood
may be because couples becoming parents are very open to ways that they
can maintain high commitment to their relationship whilst enjoying
parenthood (Bryan, 2000).

The challenges facing couples having their first child overlap with,
but are not identical to, the challenges confronting newlywed couples. It is
likely that relationship education programs originally designed for couples
entering committed relationships do not adequately address the needs of
couples becoming parents. Two small pilot studies have tested whether a
modified version of PREP prevented couple relationship distress among
married couples expecting their first child. No statistically significant effects
on relationship satisfaction were reported after intervention, however
recruitment, attendance, retention, and evaluation data indicated that couples
expecting the birth of their first child were very open to relationship
education programs, found them useful, and evaluated them positively
(Heavey, 1995; Jordan, 1995). There is little documentation of the modifications made to the pilot of PREP for couples becoming parents and it is possible that more tailoring of content of traditional skill-training, couple-focused psycho-education is needed in order for such programs to address the unique challenges confronting new parents.

**General Conclusions and Future Directions**

Given the high percentage of couples who report increasing couple relationship dissatisfaction, distress and conflict across the transition to parenthood, it is surprising that there are so few prevention programs for couples during this life transition (Silliman, Stanley, Coffin, Markman, & Jordan, 2002). In contrast to the small number of couple-focused psycho-education programs for the transition to parenthood, there are numerous interventions that target maternal mental health and parenting. Future prevention trials for the transition to parenthood may benefit from providing a more global intervention focus; one that targets the couple-relationship, adult mental-health and parenting. No randomized controlled trial has merged these three intervention foci, nor has any randomized controlled trial measured the effects of their intervention on all three outcomes. Since the couple relationship is often seen as the foundation upon which the family develops (Cowan & Cowan, 1992; Glade et al., 2005; Polomeno, 1999), it would seem particularly important to provide couple-focused psycho-education that aims to prevent relationship problems.

So far this thesis has argued that couples may be particularly attracted to couple-focused psycho-education across the transition to
parenthood, and intervention may result in substantial benefits for couples, individual adult partners, parenting and subsequent child development. Although there is some evidence that couple-focused psycho-education during the transition to parenthood does prevent declines in relationship satisfaction, with some associated improvements in adult mental health, there is no evidence about the impact of such programs on parenting and child outcomes.

Improvements could be made to each of the three universally applied, couple-focused transition to parenthood interventions reviewed in this chapter. For example, although the continuity of support provided by Cowan and Cowan (1992) seems ideal, replication of Cowan and Cowan’s (1992) intervention would be difficult due to the lack of detail about the precise content of their intervention. Replication of their program is also unlikely because of the program intensity (weekly group sessions for 6 months). The briefer interventions of Midmer et al. (1995) and Shapiro and Gottman (2005) are more likely to be universally attractive to couples because of the lower time commitment. Briefer programs are also more likely to be cost-effective and therefore incorporated into existing perinatal education services as an adjunct to the current curriculum.

However, interventions such as Cowan and Cowan’s (1992), that provide ongoing education and support from pregnancy to the early postpartum may be more effective than programs that are focused on either pregnancy or the postpartum period for two reasons. First, because couples are likely to be easier to recruit during the antenatal period since they
already attend antenatal clinic and antenatal classes in the Hospital and thus expect interaction with, and education from, health professionals. Second, because of the rapid and high number of changes that occur in couples lives in the early postpartum period, interventions that continue into the early postnatal period could provide support and education about parenting when issues are most salient to the couple.

In order for interventions to remain cost-effective but provide this length of support, a series of contacts, spaced a few weeks to a month apart, may be sufficient to provide continuity of care across the perinatal period. Adopting a flexible delivery approach, where couples can complete some, or all of the program content in their own home, may achieve this and be an attractive mode of delivery for couples. A flexible delivery program may also minimize the problems associated with low attendance and high attrition that is frequently associated with group classes. Home-visiting may also reduce the burden of couples needing to attend sessions outside their home, and therefore possibly attract more couples to the program and enhance couple engagement in the program. However, the high costs associated with home-visiting do not seem justified with low-risk couples when effects sizes from home-visiting are typically small to moderate. The issue of an ideal delivery mode is further explored in Chapter 4.

Couple-focused psycho-education for the transition to parenthood could be improved by targeting more of the couple adaptive processes that predict couple adjustment to parenthood. Although many of the risk variables identified in Chapter 2 were targeted in the three published couple-
focused transition to parenthood universal interventions (e.g., conflict management, communication, realistic expectations, couple intimacy, couple quality time, sensitive parenting, problem-solving), the following additional factors could be added to such a program; mutual support, developing shared expectations, parenting efficacy and competence, social support, and community support networks. Mental health issues (e.g., prevention of depression), stress management, and parenting skills (e.g., providing a responsive, developmentally appropriate and stimulating environment) would also be useful. The provision of an appropriately stimulating and safe infant environment is increasingly recognized as contributing to child cognitive and social-emotional development and might help to reduce the high rates of injury to infants and young children (Cicchetti, 2004).

Although we know much about the predictors of couple adjustment to parenthood we know little about which risk factors need to be targeted in order to prevent couple distress across the transition to parenthood. For this reason couple-focused psycho-education programs still need to be trialed universally. A universal prevention program is also justified on the basis that 50% of couples report declining relationship satisfaction across the transition to parenthood. This high rate of relationship dissatisfaction suggests that even relatively low-risk couples struggle with the normative changes accompanying the transition to parenthood.

Despite the strong evidence from the premarital education field that skill-training produces the most significant effects on relationship outcomes,
only one transition to parenthood randomized controlled trial has provided and measured the effects of skill-training. The short-term results of that trial are concerning because they indicated that communication skill-training had a detrimental effect on couple communication, maternal depression and relationship satisfaction (Shapiro & Gottman, 2005). However, within the premarital education field, skill-training programs typically produce highly positive short-term intervention effects on couple communication and relationship satisfaction (Carroll & Doherty, 2003; Giblin et al., 1985; Halford et al., 2003). Delivering program content via skill-training is therefore recommended. Brief skill-training programs are also identified as a successful intervention strategy for enhancing parenting competence and the quality of parent-child interactions (Dickie & Gerber, 1980; Heinicke et al., 19997; Koniak-Griffin et al., 1992; Lagges & Gordon, 1999; Metzl, 1980; Scholz & Samuels, 1992; Wolfson et al., 1992).

In summary, interventions for the transition to parenthood might be made more effective if targeted at the couple and their adjustment to parenthood, rather than just the mother and her adjustment to parenthood. Program content needs to be clearly documented and informed by empirical studies of the factors predictive of couple adjustment to parenthood. These factors include many of the modifiable variables listed in Chapter 2, especially those described under the heading ‘couple adaptive processes’.

Parenting skills and mental health issues may also need to be incorporated into such a program because of the relevance of those topics to couples across the transition to parenthood. Continuity of education and
support, from late pregnancy to the early postpartum period is recommended and may be achieved cost-effectively if the program is brief, and includes some self-administered units. Self-administration of program material may also increase the attractiveness of the program to couples. Although there is limited evidence in terms of the long-term effectiveness of skill-based programs in the prevention of relationship problems, utilising a skill-training approach to relationship and parenting education is recommended based on the number of studies of this nature which document reliable short-term improvements in relationship satisfaction, couple communication and parenting competence. Finally, such a program should be applied universally to all couples since relationship dissatisfaction and adult distress increase significantly after the birth of a couple’s first child, even among relatively low-risk couples.

Program of Research

Chapter 4 describes the development and preliminary evaluation of a couple-focused psycho-education program for the transition to parenthood. The program, called ‘Couple CARE for Parents’, draws on the strengths of existing transition to parenthood randomized controlled trials and the broader premarital education and relationship enhancement literature reviewed in this chapter. The goal of Couple CARE for Parents was to assist couples to face the challenges of becoming a parent. Thus, the program included skill-training in key couple relationship skills, as well as information and support with parenting and the prevention of mental ill health. Feedback provided by the pilot couples was used to improve the
Couple CARE for Parents program before trialing it with a larger sample of couples in a randomized controlled trial. Chapter 5 describes the method and results of the Couple CARE for Parents randomized controlled trial, and present final conclusions.
CHAPTER 4

The Development and Pilot of Couple CARE for Parents

MATTHEW: “I am really looking forward to parenting our baby equally. If both of us feel supported, knowledgeable and act as a parenting team then surely we will find parenthood easier.”

KILANI: “As a first-time parent I wanted all the support and information I could get. But I also wanted to know how to keep my relationship with my partner, Matthew, strong and loving, because I think happy parents, raise happy children.”

(A couple states what they want from the Couple CARE for Parents program, 2003).

This chapter reports on the development and the preliminary evaluation of the Couple CARE for Parents (CCP) psycho-education program. The aim of CCP was to strengthen couple relationships across the transition to parenthood. Strengthening the couple relationship across the transition to parenthood was considered important because longitudinal studies of couples becoming parents consistently report declining relationship satisfaction among approximately 50% of couples after the birth of their first
child (Belsky & Kelly, 1994; Cowan & Cowan, 1992; Feldman, 1971; Shapiro et al., 2000). Declining relationship satisfaction is likely to be a consequence of the high demands of infant care and the numerous relationship changes that accompany the transition to parenthood. For example, the birth of a couple’s first child is associated with a decline in couple-focused time (Belsky & Rovine, 1990; Gottman & Notarius, 2000), affection and intimacy (Cowan & Cowan, 1992) and couple recreation (Belsky et al., 1983; Vanzetti & Duck, 1996), an increase in negative couple communication and conflict (Belsky et al., 1985; Belsky & Pensky, 1988; Crohan, 1996) and a divergence in gender roles (Cowan & Cowan, 1992; Numagucci & Milkie, 2003; Sanchez & Thomson, 1997; Stern, 1988).

Declining relationship satisfaction is associated with individual psychological distress (Gotlieb & Beach, 1995; Halford et al., 1999; Hock et al., 1995), negative parent-child interactions (Cox et al., 1999; Erel & Burman, 1995; Krishnakmuar & Buehler, 2000; Rogers & White, 1998) and poor child outcomes (Amato, 1996; Cowan & Cowan, 1990; Cummings & Davies, 1994). Early intervention with expectant couples may prevent declining relationship satisfaction and the far-reaching negative consequences of relationship distress.

Couples who have a high number of risk variables and a low number of protective factors are probably at increased risk of experiencing difficulty adjusting to parenthood (Coie et al., 1993). A number of protective factors may prevent couple relationship dissatisfaction and distress. Couple adaptive processes such as effective communication and conflict...
management skills, satisfactory negotiation of gender roles, mutual support, affection, caring and intimacy, and making time for the couple relationship, when combined with parenting factors such as high parenting self-efficacy, parenting competence, shared and realistic expectations may enhance couple adjustment to parenthood.

Only three randomized controlled trials have provided couple-focused psycho-education for couples becoming parents. These studies included some of the modifiable risk factors identified in Chapter 2. However, two of these programs were predominantly information and awareness raising approaches (Cowan & Cowan, 1992; Midmer et al., 1995). All three studies found that couple-focused psycho-education lessened the decline in relationship satisfaction typically observed among couples becoming parents. Two of these trials also found that couple-focused psycho-education improved maternal mood, with fewer women in the intervention condition reporting elevated depression relative to control women at 6 weeks postpartum (Midmer et al., 1995) and at 12 months postpartum (Shapiro & Gottman, 2005). None of these three programs examined intervention effects on parenting adjustment. However, the inter-correlation between the couple dyad and the parent-child dyad suggests that there is a positive spill-over effect between the functioning of one dyad and that of the other (Cox et al., 1999a; Erel & Burman, 1995). Strengthening the couple relationship may therefore improve the parent-child relationship and subsequent child development. This thesis extends previous transition to parenthood intervention research by examining whether a couple-focused
psycho-education program promotes sustained relationship satisfaction, strengthens individual adult well-being and enhances parenting adjustment among couples becoming parents.

This thesis also extends previous transition to parenthood intervention research in a number of other important ways. First, the content of Couple CARE for Parents was informed by empirical studies of the predictors of couple adjustment to parenthood. Some of the CCP content has not been covered in previous couple-focused programs for the transition to parenthood. For example, CCP targeted increasing mutual support, developing shared expectations and promoting parenting self-efficacy. The modified vulnerability-stress-adaptation model (Figure 2.1 provided in Chapter 2) provides a theoretical model to explain how targeting couple adaptive processes and parenting factors may improve couple adjustment to parenthood.

Second, the program was predominantly a skill-training program. I focused on skill-training because of relatively strong evidence from the broader relationship education research field that skill-training programs are effective in helping couples sustain relationship satisfaction (Carroll & Doherty, 2003; Halford et al., 2003). Brief skill-training programs are also identified as a successful intervention strategy for enhancing short-term parenting competence and the quality of parent-child interactions (e.g., Dickie & Gerber, 1980; Heinicke et al., 1997; Koniak-Griffin et al., 1992; Lagges & Gordon, 1999; Metzl, 1980; Scholz & Samuels, 1992; Wolfson et al., 1992).
Third, the program was based on the principles of adult learning as a means of increasing couple engagement with the material, and maintenance of learned skills. This approach asked couples to choose their own goals for self-change in each of the program units and to implement and evaluate these in self-directed change plans.

Fourth, CCP delivered program content over 7 months. The extended delivery time was thus similar to that of Cowan and Cowan (1992) and was offered to couples in the last 3 months of pregnancy and first 4 months postpartum. The extended delivery time had the advantage of allowing couples to receive relationship education and support from the facilitator across one of the most dramatic life-course transitions within the family lifecycle (Feldman & Nash, 1984; Sollie & Miller, 1980).

Fifth, in order to provide such extended and continuous care CCP adopted a flexible delivery approach. Couple CARE for Parents consisted of one antenatal group workshop, followed by two home visits and three self-administered units. The antenatal workshop was chosen because of the familiarity of this delivery mode to pregnant couples. The home visits were chosen because they reduced participant burden to attend sessions outside the home and this may enhance program engagement. However, because home visits were costly to deliver, the last three units of CCP were self-administered units which could be completed by the couple in their home, with the telephone support from a psychologist. These innovations are further discussed under the heading ‘The Couple CARE for Parents
Intervention’ and readers are referred back to pages 153-163 for a review of the innovations of CCP.

Aims of the Preliminary Study

The preliminary evaluation of CCP was intended to establish how couples responded to, and engaged in the CCP program. The specific aims of the pilot study were to: (a) obtain verbal feedback on the assessment procedure (self-report questionnaires, interview), the delivery format of the intervention (e.g., group, one-on-one, telephone contact), the content of the intervention (e.g., communication, baby care), and the timing of each unit; (b) to obtain written feedback on the program content using an activities checklist (Appendix B) and the Client Satisfaction Survey (CSS; Bornstein & Rychtarick, 1983); and (c) to use the verbal and written feedback obtained by couples to improve and refine the CCP program. The revised CCP program was then delivered to a larger sample of couples in a randomized controlled trial. Chapter 5 reports the results of the randomized controlled trial of CCP.

Method

Participants

Five couples, expecting their first child, were referred to the study by their midwife through the Birthing Centre at the Royal Brisbane and Women's Hospital, Queensland, Australia, during their 28th and 32nd week of pregnancy. Criteria for inclusion in the study were: (a) the couple was in a stable relationship defined as either married or cohabiting for a minimum of 12 months, (b) the couple lived within 50km of the metropolitan area to
make intervention delivery feasible, (c) both partners agreed to attend the
sessions that formed the program, (d) both partners had a moderate ability in
the written and spoken English language, (e) both partners reported a
Dyadic Adjustment Scale (described below) score of 90 or more (as this was
a program for currently satisfied couples and highly distressed couples
would likely require more intensive support); and (f) neither partner
reported treatment for a psychological disorder in the last 12 months.

Four couples agreed to participate in the study (one woman declined
because of complications during her pregnancy). The mean age of women
was 30 years ($SD = 5.0$) and of men was 33 years ($SD = 4.9$). All couples
were married and the mean relationship duration was $7\frac{1}{2}$ ($SD = 6$). Three
couples were Caucasian, and all but one participant was in full-time paid
employment at the time of recruitment. Level of education was comparable
to the Australian population (e.g., three women and one man held a Tertiary
Degree Education, two men held a TAFE or Trade qualification, one woman
held a high school qualification). Three couples gave birth to a boy and one
couple gave birth to a girl.

Measures

*Engagement in the Couple CARE for Parents Program*

At the completion of each of the six CCP units the facilitator rated
each partner’s completion of activities on a 3-point scale ($0 = no attempt to
undertake activity$, $1 = partial completion of activity$, and $2 = completed the
activity$). The total number of activities to complete in the CCP program was
23 (maximum individual score = 46, maximum couple score = 92). The
number of self-directed change plans completed by each partner was also calculated as a measure of individual effort to strengthen the relationship or increase parenting adjustment (maximum couple score = 12).

Perceived usefulness and satisfaction with the Couple CARE for Parents Program.

Couples were asked to provide written feedback on the usefulness of each CCP activity on a 4-point scale; 0 = not useful, 1 = okay, 2 = useful and 3 = extremely useful (Appendix B). At the end of the intervention, couples were asked if they would recommend the program to other couples and how satisfied they were with the overall program (Client Satisfaction Questionnaire, CSQ; Bornstein & Rychtarick, 1983). The CSQ has a total score and three subscales measuring: (1) satisfaction with the program (8 items), (2) satisfaction with facilitator (3 items) and (3) overall satisfaction with the intervention. Scores for each item range from 1 (quite dissatisfied) to 4 (very satisfied) with a maximum possible score of 48 (higher scores reflecting greater satisfaction).

Self-report measures of relationship, individual and parenting adjustment.

Couples were assessed on a small range of measures, which included an interview and self-report questionnaires both before and after the CCP program. Prenatal and postnatal interviews took place in the participants’ home and were aimed at gathering socio-demographic (e.g., age, socio-economic status, employment status) and background information (e.g., history of psychological treatment, relationship history) as well as to build
rapport with the couple. Self-report measures assessed couple relationship satisfaction and effort, individual well-being and parenting stress.

Couple relationship satisfaction and quality was assessed with the Dyadic Adjustment Scale (DAS; Spanier, 1976). The DAS is a widely used 32-item self-report measure of general relationship satisfaction with good reliability and validity (Carey, Spector, Lantiga, & Krauss, 1993; Eddy, Heyman, & Weiss, 1991). Scores range from 0-150, with high scores reflecting high relationship satisfaction. A score below 98 is often used to define relationship distress, corresponding to a standard deviation below the population mean in intact couples ($M = 114.8$, $SD = 17.8$; Spanier, 1976). Example items on the DAS include “How often do you or your partner leave the house after a fight?” and “Do you and your partner engage in outside interests together?” Although the DAS has four subscales, factor analyses indicate that these are unstable, hence the total score was used in the analyses to assess relationship satisfaction. The reliability of the total scale score on the DAS is very high, $\alpha = .96$ (Carey et al., 1993; Kurdek, 1992). The total DAS score correlates significantly with marital status and positively with scores on the Locke-Wallace Marital Adjustment Scale (.86 for married couples, .88 for divorced couples). Test-retest reliability over a 3 week period for married couples was .87 (Carey et al., 1993) and over an 11 week period was .96 (Stein, Givodo, & Dotzenroth, 1982).

The 16-item Self-Regulation for Effective Relationships Scale (SRERS; Wilson, Charker, Halford, Lizzio, & Kimlin, 2005) was included to assess the extent to which each partner utilised effective strategies and
efforts to sustain their relationship. The SRERS generates two subscale scores. The strategies subscale consists of 10 items (e.g., “I work out practical ways or strategies to achieve the goals I set for myself”) and the effort subscale consists of 6 items (e.g., “If things go wrong in my relationship I tend to feel powerless”), which are scored on a 5-point Likert scale (1 = ‘not at all true’, 5 = ‘very true’). The two subscales of the SRERS show high internal consistency and stability over time (Wilson et al., 2005). The SRERS total possible score for the strategies subscale is 50, and for the effort subscale is 30. Within an Australian sample of newlywed couples mean strategies scores for females was 37.3 (SD = 6.05) and for men was 35.8 (SD = 6.25), and mean effort scores for females was 23.45 (SD = 4.05) and for men was 22.65 (SD = 4.1; Wilson et al., 2005). Across two Australian samples of newlywed couples the SRERS subscales also show good reliability (strategies α = .81-.86, effort α = .67-.83; Wilson et al., 2005). Female and male self-reported self-regulation correlate significantly with each other, predict relationship satisfaction independent of mood and show divergent validity from personality and intelligence measures (Wilson et al., 2005).

To measure individual well-being, the Depression-Anxiety-Stress Scale (DASS-21; Lovibond & Lovibond, 1995) was administered. The original DASS consists of 42 items, however the shorter 21-item self-report version was used in the current study to reduce participant burden. Both the 42- and 21-item versions have three subscales assessing anxiety (7 items), depression (7 items) and stress (7 items). Example items include “I felt I
was using a lot of nervous energy” (anxiety subscale), “I tended to over-
react to situations” (depression subscale) and “I found it hard to wind
down” (stress subscale), and total scores for each subscale on the DASS-21
can be doubled for comparison to scores on the DASS-42. Among the
general population scores on the DASS tend to be positively skewed and for
this reason an underlying negative affect dimension was created. The
negative affect total score was calculated by adding the three subscale
scores together to form a total negative affect score, with higher scores
indicating higher negative affect. Previous investigations, one with a small
non-clinical sample (N = 49) found a mean total negative affect score of
6.85 (SD = 9.19; Antony et al., 1998), and one with a large adult community
sample (N = 1,771) found a mean of 9.19 (SD = 9.41; Crawford & Henry,
2003). The mean negative affect score from the larger adult community
sample was used for comparative purposes in this study. The DASS-21
shows good discriminant and convergent validity with other scales designed
to assess depression and anxiety (Crawford & Henry, 2003; Lovibond &
Lovibond, 1995). The DASS-21 has also shown high reliability for all three
subscales (Depression α = 0.94; Anxiety α = 0.87; Stress α = 0.91; Antony,
Bieling, Cox, Enns, & Swinson, 1998; Lovibond & Lovibond, 1995) and the
2 week test-retest reliability in a clinical sample (N = 20) ranged from r =.71
to.81 (Brown, Chorpita, Korotitsch, & Barlow, 1997).

To assess parenting adjustment, the Parenting Stress Index (PSI;
Abidin, 1983) was administered at post-intervention only. The PSI is
typically used as a screening and diagnostic measure of stress in the parent-
child system. The original version, with 120 items and 13 subscales, was substituted for a 36-item short form. Three 12-item subscales measure: (a) difficult child temperament (e.g., “My child generally wakes up in a bad mood”), (b) dysfunctional parent-child interaction (e.g., “My child smiles at me much less than I expected”), and (c) parental distress (e.g., “I feel trapped by my responsibilities as a parent”). Questions are scored on a 5-point Likert Scale (1 = “not at all true” to 5 = “very true”), with a total possible score of 180 and a mean of 71 ($SD = 15.4$). A total raw score above 90 indicates that the parent is experiencing clinically significant levels of stress (Abidin, 1983; Loyd & Abidin, 1985). The total PSI score was used as the derived measure of parenting stress. The PSI has demonstrated reliability and validity and is able to discriminate between normal and stressed parent-child systems (Kasak & Marvin, 1984; Loyd & Abidin, 1985). Furthermore, the PSI has been used in over 50 studies as an outcome measure of program effectiveness and is sensitive to changes in parent stress levels as a result of intervention (Abidin, 1997). Internal consistency reliabilities for the scales are high ($\alpha = .89$ for the child domain, and $\alpha = .93$ for the parent domain). The PSI has good test-retest reliability across a 3 week period ($\alpha = .82$ for the child domain, $\alpha = .71$ for the parent domain) and across a 1 year period ($\alpha = .55$ for the child domain, $\alpha = .70$ for the parent domain, and $\alpha = .65$ for the total PSI score; Loyd & Abidin, 1985).

**Couple CARE for Parents Intervention**

Couple CARE for Parents (CCP) was developed as a modification of the Couple Commitment And Relationship Enhancement (Couple CARE)
program (Halford et al., 1999). The content of Couple CARE overlaps with that of other skill-training couple relationship education programs (e.g., Guerney, 1977; Guerney & Maxson, 1990; Halford et al., 1999; Markman et al., 1994; Miller et al., 1976). For example, Couple CARE educates couples about couple communication, conflict management, expectations, affection, intimacy, and mutual support (Table 4.1).

In a recent randomized controlled trial, Couple CARE enhanced relationship satisfaction and stability (as measured by the DAS, Spanier, 1976), with effect sizes ranging from small (for stability) to moderate (for satisfaction; Halford et al., 2004). Although the Couple CARE program included skill-training in couple communication, and conducted that skill-training similarly to other relationship education programs (e.g., PREP), Couple CARE had no effect on communication. Since reductions in negative communication are often observed after communication skill-training (e.g., PREP) and Halford et al. (2004) observed a low base rate of negative couple communication in their cohort, the lack of intervention effect on couple communication may be due to a floor effect on negative communication, rather than Couple CARE being ineffective at improving communication.

Couple CARE was chosen as the skill-training program to adapt for couples across the transition to parenthood because of two unique aspects of its delivery. First, Couple CARE is based on the principles of relationship self-regulation, otherwise known as self-directed change. The use of self-regulation strategies have been recommended to assist long-term
maintenance of adaptive relationship behaviors in both the marital (Halford, Sanders, & Behrens, 1994) and family (Sanders, 1998; Sanders & Glynn, 1981) intervention fields.

Table 4.1

*Content of the Original Couple CARE Program*

<table>
<thead>
<tr>
<th>Unit</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Self-directed change</td>
<td>Introduction to the program and its structure; relationship expectations and goal setting; commitment to relationship enhancement; producing self-change in relationships.</td>
</tr>
<tr>
<td>2. Communication</td>
<td>Model of effective couple communication; communication self-evaluation; self-change for communication enhancement.</td>
</tr>
<tr>
<td>3. Intimacy and Caring</td>
<td>Importance of expression of affection; social support and shared positive activities; self-change plan for affection, social support and shared activities.</td>
</tr>
<tr>
<td>5. Sexuality</td>
<td>Common myths about sexual expression; assessment of current sexual behavior within the relationship; self-change plan for enhancing sexual communication.</td>
</tr>
<tr>
<td>6. Adapting to Change</td>
<td>Impact of life events on relationship; assessment of likely life changes and possible relationship effects; review of how to maintain a relationship focus in a busy life; self-change plan for managing change and maintaining a relationship focus.</td>
</tr>
</tbody>
</table>
Relationship self-regulation refers to the extent to which each partner works at sustaining the relationship. It involves the self-appraisal (i.e., evaluation of individual strengths and weaknesses), the identification of goals for self-change to improve the relationship, subsequent implementation of self-change strategies and finally, evaluation of self-change effort (Halford, Moore, Wilson, Dyer, & Farrugia, 2004). Self-appraisal includes being able to analyze adaptive processes in the relationship (i.e., helpful versus unhelpful behaviors) as well as the ability to identify contextual factors and life events which influence relationship functioning (Halford et al., 1994). Distressed partners who have poor self-appraisal skills more often engage in partner-blaming attributions for relationship problems than partners with good self-appraisal skills (Bradbury & Fincham, 1990). Attributing relationship problems to the partner can lead to individual feelings of powerlessness (Vanzetti, Notarius, & NeeSmith, 1992). Education in self-regulation may encourage individuals to make constructive changes in their own behavior, which in turn may enhance relationship functioning (Halford et al., 2002).

Couple CARE teaches partners to identify how their own behaviors can change the dynamics of the relationship (Halford, 1998; Wilson, et al., 2005). Self-implementation of change is the third step and is a process whereby individuals implement behaviors that achieve the relationship goals. Finally, evaluation involves the individual appraising the extent to which their desired behavior changes were achieved and the extent to which those changes produced the desired relationship changes (Wilson et al.,
Thus the relationship self-regulation approach is not a universal prescription of the relationship skills couples must adopt to improve relationship quality (e.g., active listening), rather it can be individually tailored to couples unique circumstances (Halford et al., 2004). Such individual tailoring may be useful for example, for a couple who is avoidant of conflict and is encouraged to make a modest increase in disagreements and complaints as a means of addressing relationship issues. The goal for such a couple is therefore in contrast to the reduction in negative communication behaviors which many other skill-training programs aim for, but is helpful for the couple because a further reduction in negative communication may exacerbate the couples’ avoidance of relationship issues and thus have a detrimental long-term effect on relationship quality (Halford, 2001).

Previous studies of relationship self-regulation show that relationship self-regulation is associated with relationship satisfaction in newlywed and long-term married couples (Wilson et al., 2005), and increases after completion of the Couple CARE program (at least among women; Halford et al., 2004). Since relationship self-regulation shows divergent validity from constructs such as mood, intelligence and personality (Wilson et al., 2005), and is associated with relationship satisfaction in the absence of change in couple communication (Halford et al., 2004), self-regulation may be an important mechanism mediating the effects of relationship education on relationship satisfaction. Self-regulation may be a particularly important concept to measure in self-directed psycho-
education programs because it may reflect the degree to which couples are practising key program skills. The self-regulation for effective relationships scale (SRERS, see measures section) was therefore included to measure the extent to which CCP enhanced self-directed change efforts.

A second important feature of Couple CARE was its flexible delivery format. In Australia, as in most Western countries, relationship education is predominantly delivered face-to-face with small groups of couples (Halford & Moore, 2002; Halford & Simons, 2005). However, many couples prefer to complete educational materials through flexible delivery modalities because they can be completed at times and places that suit the participants rather than the educator or organization (Christensen & Jacobson, 1994). Flexible delivery psycho-education allows for such privacy, and also allows for flexible scheduling, self-pacing and self-control (Webster-Stratton, 1988). Flexible delivery programs also have the potential to reach wider audiences than face-to-face programs (Laurillard, 1995), especially in geographically large countries like Australia and the US (Halford & Simons, 2005).

Flexible delivery programs have been shown to promote parental skill acquisition which decreases problematic child behavior (e.g., Christensen & Jacobson, 1994; Sanders, Markie-Dadds, Tully, & Bor, 2000), and increases parent self-efficacy by allowing partners to solve problems and be responsible for their own change. Couple CARE is currently the only skill-training relationship education program that has been delivered in a flexible delivery format as a randomized controlled trial,
and as noted above, Couple CARE improved relationship satisfaction and stability in comparison to a control group. Furthermore, consumer satisfaction with the self-regulation focus and flexible delivery nature of Couple CARE was high, and almost all couples completed all the recommended tasks (Halford et al., 2004).

As with Couple CARE, the Couple CARE for Parents (CCP) program adopted a skill-training, self-regulation and flexible delivery approach to encourage positive relationship change. Couples received a videotape, workbook and support from a registered psychologist. The first half of CCP was delivered face-to-face (one group session, two home visits), whilst the second half of the program was completed independently by the couple and then followed-up with a telephone review discussion with the psychologist. The videotape and workbook activities were structured to: (a) describe common challenges, (b) describe approaches to managing these challenges, and (c) model specific skills. Facilitator support focused on assisting couples to define specific self-change goals, monitor progress, encourage the use and understanding of the written and videotaped materials, and to generally support the individual and couple in learning and successfully applying new skills. A CCP facilitator manual and couple workbook were written to aid in program adherence.

As is evident in Table 4.2 the CCP program included information and education on parenting practices, parenting expectations and baby care, and these were major additions to the original Couple CARE program. My goal was to keep the CCP program to six units, maintain most of the core
content of Couple CARE, and incorporate additional parenting activities. Consequently, several of the original Couple CARE units needed to be condensed. For example, Table 4.2 shows that caring and affection (unit 3 of Couple CARE) and intimacy (unit 5 Couple CARE) were combined in unit 4 CCP, and that communication (unit 2 Couple CARE), conflict management (unit 4 Couple CARE) and self-directed change (unit 1 Couple CARE) were all covered in the CCP unit 1 workshop.

Whilst some Couple CARE activities were condensed, new information and activities were introduced. For example, CCP unit 3 consisted almost exclusively of parenting activities, and covered good-enough parenting, sensitive and responsive parenting, and stress management. In CCP couples also received a series of published brochures covering standard infant care information and several parenting tip sheets developed specifically for the program. The tips sheets covered infant crying, sleep, breast- and bottle-feeding, play and parent-infant interaction. These tip sheets were included as a means of promoting realistic and shared couple expectations and increasing parenting knowledge. A minor addition to the CCP program was the inclusion of a tip sheet and education about postnatal depression. Specifically, the importance of supportive relationships as a key intervention to preventing postnatal depression was discussed. Suggestions for accessing existing maternity, parenting, and psychological support services were made available when the facilitator identified an issue requiring a higher level of intervention or support than that offered in CCP.
A second major modification to the Couple CARE program was the adaptation of activities to apply to the challenges common to most first-time parents. For example, in Couple CARE the intimacy and sexuality unit focused on enhancing the current expression of these behaviors in the relationship, whereas in CCP the focus was on managing the effects of pregnancy, birth, breastfeeding and infant care on expressions of caring, affection and the resumption and enjoyment of sexual relations. A second example of a modification of Couple CARE for CCP was that CCP focused on gender role expectations for the division of labor which are potential sources of conflict for many new parents rather than the more global review of relationship expectations that was in the original Couple CARE program.

A third modification of Couple CARE for CCP was in the delivery mode and timing. Delivery of CCP was only 50% by self-administration, compared to 100% self-administration in Couple CARE. In CCP, facilitator guidance and support was initially high, and was gradually replaced by an increasing focus on self-administration and self-evaluation. Specifically, CCP couples first attended an antenatal group workshop, followed by two home visits and three self-administered units. The decision to begin with an antenatal workshop was based on the rationale that pregnant couples were familiar with attending groups because of their exposure to the Hospital antenatal classes.
<table>
<thead>
<tr>
<th>Unit</th>
<th>Content</th>
<th>Activities</th>
<th>Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Expectations</td>
<td>Communication Conflict management Self-directed change</td>
<td>Introduction to the program and it’s structure; Model of effective couple communication; communication self-evaluation; model of effective conflict management; self-evaluation of current conflict management; relationship and parenting goal setting; producing self-change in relationships and parenting.</td>
<td>1. Identify baby care expectations 2. Couple communication skills 3. Complete partner feedback 4. Identify conflict patterns 5. Managing conflict Self-directed change plans (SDCP)</td>
</tr>
<tr>
<td>2. Review of workshop content</td>
<td>Practice of unit 1 skills.</td>
<td>1. Identify parenting expectations (gender roles) 2. Complete a second communication and conflict management task SDCP</td>
<td>Antenatal home visit</td>
</tr>
<tr>
<td>3. Adjusting to Parenthood</td>
<td>Baby care facts and figures (what’s normal behavior among infants); Reading baby body language and cues; Stress management strategies.</td>
<td>1. Discuss personal coping with parenthood, good enough’ parenting approach and baby care skills 2. Playing with your baby (sensitive and responsive parenting) 3. Identify useful stress management strategies SDCP</td>
<td>Postnatal home visit 4 weeks after birth</td>
</tr>
<tr>
<td>Unit</td>
<td>Content</td>
<td>Activities</td>
<td>Delivery</td>
</tr>
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</tbody>
</table>
| 4. Caring, affection and sexuality | Importance of expression of caring and affection; Common myths about sexual expression; assessment of current sexual behavior within the relationship; | 1. Caring behaviors  
2. Sex myths  
3. Frequency of sexual intimacy  
4. Share sexual likes and dislikes with partner | SDCP (caring and sexual intimacy)  
Self-administered unit  
8 weeks after birth |
| 5. Mutual support and balance of activities | The different types of support; assessment of own and partner’s support needs; where to obtain extra support; evaluating balance of activities; shared positive activities. | 1. Review current mix of activities  
2. Identify satisfaction with activities  
3. Types of support  
4. Identify support needs  
5. Support Circle | SDCP (activities and support)  
Self-administered unit  
12 weeks after birth |
| 6. Adapting to Change | Impact of life events on relationship assessment of likely life changes for couple and possible relationship effects; review of how to maintain a relationship focus in a busy life. | 1. Identify and planned for two life changes  
2. Complete ‘what if things go wrong’ activity  
3. Identify celebration rituals  
4. Nominate 5 CCP skills to maintain SDCP | SDCP  
Self-administered unit  
16 weeks after birth |
However, to overcome the problems of low group attendance ratings and high attrition commonly associated with non-home-visiting interventions (e.g., Brugha et al., 2000; Constantino et al., 2001; Quint et al., 1997; Reichman & McLanahan, 2001; Reid et al., 2002; Stamp et al., 1995) only the first session required couples to attend a session outside of their home. The two home-visiting units were included to maximize couple engagement with the program and minimize the effort couples had to make to receive CCP. During these home visits the facilitator promoted couple engagement in the program by supporting them through CCP units 2 and 3, highlighted important material, modeled skills and encouraged the couple to review their level of skills and practice new skills if necessary.

By delivering the last half of CCP via self-directed learning materials (i.e., workbook, video-tape, telephone support and review) I minimised the costs associated with home-visiting, whilst maintaining a low level of couple burden to attend sessions outside of their home at a time when they have high demands of infant care. The self-administered units (CCP units 4, 5 and 6) also had the benefit of increasing privacy, flexibility and self-control. Furthermore, many adults state that they prefer self-directed learning materials which can be completed at times suitable to them, rather than face-to-face sessions (Christensen & Jacobson, 1994).

The extended, 7 month delivery time was purposefully selected. Continuity of professional support across the transition to parenthood has only
been provided in one other couple-focused randomized controlled trial (Cowan & Cowan, 1992). Providing both antenatal and postnatal support and education was considered important because almost every parent experiences some difficulty managing and adjusting to his or her infant’s crying, sleeping and feeding, particularly first-time parents (Sollie & Miller, 1980; Terry, 1988; Vanzetti & Duck, 1996). Timely information and education about current parenting challenges is more likely to be remembered by new parents than that same information provided during the 2 day postpartum hospital stay or in the antenatal period (McPherren-Stover & Griffith-Marnjon, 1995).

In sum, CCP shared the skill-training, self-regulation and flexible delivery approach of the original Couple CARE program. However, major modifications were made to the Couple CARE program to adapt it to the needs of pregnant and new parent couples. These modifications included the addition of infant care, parenting and mental health information, a changed focus of several of the couple activities (e.g., sexuality, expectations), an extended 7 month delivery time, and a combination of face-to-face and self-administered units. These modifications were all made to enhance couple learning and use of key relationship skills, to enhance couple engagement in the program and minimise the need for couples to co-ordinate trips outside their home during late pregnancy or with a young infant, as well as to manage the intervention delivery costs. A detailed outline of each CCP unit and the rationale for inclusion of content and activities is provided in Appendix C.
Procedure

In February of 2003, I attended the Birthing Centre at the Royal Brisbane and Women’s Hospital (RBWH) to liaise with midwifery staff and to recruit a small study sample. Two midwives referred a total of five couples to the study. I phoned each couple to check if they were interested in participating and four of the five couples agreed. These four couples were visited in their homes to seek informed consent and complete the pre-intervention assessment. After completion of the pre-intervention assessment, couples commenced the CCP program and at the completion of CCP all four couples completed the post-intervention assessment.

Results

Engagement in the Couple CARE for Parents Program

Table 4.3 presents the number and percent of all scheduled CCP activities, and self-directed change plans (SDCPs), completed by each couple, and the mean across all couples. As is evident, three of the four couples finished the vast majority (80%) of CCP activities, though Couple 3 completed only half of the activities. There was considerable variability between couples in completion of SDCPs. Couple 1 completed almost all possible SDCPs, Couples 2 and 4 completed about half, while Couple 3 only completed a quarter of the possible SDCPs.
Table 4.3

*The Number and Percent of CCP Activities and Self-directed Change Plans (SDCPs) Completed by each Individual and Couple.*

<table>
<thead>
<tr>
<th></th>
<th>Activities</th>
<th>SDCP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Couple 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>46 (100%)</td>
<td>5 (83%)</td>
</tr>
<tr>
<td>Male</td>
<td>42 (91%)</td>
<td>5 (83%)</td>
</tr>
<tr>
<td>Total</td>
<td>88 (96%)</td>
<td>10 (83%)</td>
</tr>
<tr>
<td><strong>Couple 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>43 (93%)</td>
<td>4 (66%)</td>
</tr>
<tr>
<td>Male</td>
<td>42 (91%)</td>
<td>3 (50%)</td>
</tr>
<tr>
<td>Total</td>
<td>85 (92%)</td>
<td>7 (58%)</td>
</tr>
<tr>
<td><strong>Couple 3</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>27 (59%)</td>
<td>2 (33%)</td>
</tr>
<tr>
<td>Male</td>
<td>20 (43%)</td>
<td>1 (17%)</td>
</tr>
<tr>
<td>Total</td>
<td>47 (51%)</td>
<td>3 (25%)</td>
</tr>
<tr>
<td><strong>Couple 4</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>40 (87%)</td>
<td>3 (50%)</td>
</tr>
<tr>
<td>Male</td>
<td>40 (87%)</td>
<td>2 (33%)</td>
</tr>
<tr>
<td>Total</td>
<td>80 (87%)</td>
<td>5 (41%)</td>
</tr>
</tbody>
</table>

Mean, SD (Percent)  
* M = 75; *SD* = 19 (82%)  
* M = 6.25; *SD* = 3 (52%)

*Note: SDCP = Self-directed change plan; The total number of CCP activities was 23 (maximum individual score = 46, maximum couple score = 92). The maximum number of SDCPs an individual could complete was six, and for the couple the maximum was twelve.*

*Perceived Usefulness and Satisfaction with the Couple CARE for Parents*

**Program**

Couple feedback on each CCP activity is presented in Table 4.4. Couples found the following CCP activities the most useful: ‘communication’ and ‘conflict management’, ‘managing infant sleep, feeding and crying’, ‘couple caring’, ‘balance of activities’ and ‘planning for life changes’.
Table 4.4 Couple Ratings of Perceived Usefulness of each CCP Activity

<table>
<thead>
<tr>
<th>Unit</th>
<th>Activity</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 and 2</td>
<td>1. Parenting expectations (infant care)</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>2. Communication skills</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td>3. Partner feedback</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td>4. Parenting Expectations (gender roles)</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td>5. Conflict patterns</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td>6. Conflict management skills</td>
<td>2.9</td>
</tr>
<tr>
<td></td>
<td>SDCP</td>
<td>2.6</td>
</tr>
<tr>
<td>3</td>
<td>1. Playing with your baby</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>2. Infant care-giving</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td>3. Stress management strategies</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td>SDCP</td>
<td>2.3</td>
</tr>
<tr>
<td>4</td>
<td>1. Couple caring</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td>SDCP (caring)</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>2. Sex myths</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>3. Sexual frequency</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>4. Sexual satisfaction</td>
<td>1.9</td>
</tr>
<tr>
<td></td>
<td>SDCP (sex)</td>
<td>1.8</td>
</tr>
<tr>
<td>5</td>
<td>1. Type of support</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td>2. Support needs</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>3. Support Circle</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>SDCP (support)</td>
<td>1.9</td>
</tr>
<tr>
<td></td>
<td>4. Review of activities</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td>4. Satisfaction with activities</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td>SDCP (activities)</td>
<td>1.9</td>
</tr>
<tr>
<td>6</td>
<td>1. Planning for life changes</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td>2. ‘What if things go wrong’</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>3. Celebration rituals</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>4. Skill maintenance</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td>SDCP</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Total usefulness rating of all CCP activities $M = 2.3$ (SD = 0.42)
Couples rated the following CCP activities as the least useful: ‘myths about sex’ and ‘what if things go wrong’. No CCP activity was rated as ‘not at all useful’. Despite several couples requesting additional completion time for at least one CCP unit, couples generally commented that the postpartum program duration was too long and they recommended a shorter postnatal program delivery in order to prevent losing momentum between CCP units.

There was wide variation in couple ratings of the usefulness of SDCPs. For example, the SDCPs in CCP unit 1 and 2 (plans could be on communication, conflict management or parenting expectations) had a mean rating of 2.6 (2 = very useful to 3 = extremely useful), whereas the SDCP for unit 6 (plan could be on planning for change, prevention of problems, celebration rituals, or skill maintenance) had a mean rating of 1.6 (1 = useful to 2 = very useful). The SDCP mean usefulness rating for units 3 to 5 fell in between these two means. The overall ‘usefulness’ mean for all CCP activities was between very useful and extremely useful ($M = 2.3, SD = 0.42$).

All couples (100%) stated that they would recommend the program to other first-time parents. Consumer satisfaction as measured by the CSQ was high, with men and women reporting close to the maximum score possible (male $M = 39.50, SD = 7.59$; female $M = 43.50, SD = 2.08$).

Self-report Measures of Relationship, Individual and Parenting Adjustment

Using inferential statistical analyses was inappropriate due to the low number of couples in this preliminary investigation of CCP. I therefore
comment on patterns of results, and individual means if they were reliably different from pre-intervention to post-intervention.

As can be seen in Table 4.5 couples generally reported high and largely unchanging relationship satisfaction across the duration of the program. Males generally reported higher relationship satisfaction at both pre-intervention and post-intervention compared to females. Couple 3 who completed the fewest CCP unit activities and SDCPs was the most satisfied in their relationship before and after the intervention compared to the other three couples. Couple 2, who had the lowest relationship satisfaction scores before the program remained the least satisfied couple despite completing 90% of the activities and seven SDCPs.

I also examined the variability of change in relationship satisfaction for each partner using Jacobson and Truax’s (1991) index of statistically reliable change. Reliable change is defined as a change on a dependent measure that exceeds the 95% confidence interval around zero change, and therefore is likely at \( p < .05 \) to be a reliable change. Based on normative data for the DAS (Spanier, 1976), a change of 10 or more points on the DAS is a reliable change. From pre- to post-intervention Male 2 showed a reliable decline on the DAS. No other males and no females showed a reliable change on the DAS. By post-intervention Couple 2 was classified in the distressed range of relationship functioning.
Table 4.5

*Individual Raw Scores and Group Means (Standard Deviations in Parentheses)*

on Self-report Measures

<table>
<thead>
<tr>
<th></th>
<th>DAS</th>
<th>SREGS</th>
<th>SREGS</th>
<th>DASS</th>
<th>PSI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
</tr>
<tr>
<td>F 1</td>
<td>117</td>
<td>116</td>
<td>35</td>
<td>34</td>
<td>21</td>
</tr>
<tr>
<td>M 1</td>
<td>123</td>
<td>123</td>
<td>36</td>
<td>40</td>
<td>22</td>
</tr>
<tr>
<td>F 2</td>
<td>99</td>
<td>94</td>
<td>33</td>
<td>38</td>
<td>18</td>
</tr>
<tr>
<td>M 2</td>
<td>113</td>
<td>93*</td>
<td>35</td>
<td>29</td>
<td>17</td>
</tr>
<tr>
<td>F 3</td>
<td>123</td>
<td>123</td>
<td>34</td>
<td>32</td>
<td>20</td>
</tr>
<tr>
<td>M 3</td>
<td>128</td>
<td>136</td>
<td>31</td>
<td>29</td>
<td>19</td>
</tr>
<tr>
<td>F 4</td>
<td>118</td>
<td>122</td>
<td>31</td>
<td>33</td>
<td>23</td>
</tr>
<tr>
<td>M 4</td>
<td>127</td>
<td>129</td>
<td>28</td>
<td>28</td>
<td>23</td>
</tr>
</tbody>
</table>

F M, \( (SD) \) 114.25 113.75 33.25 34.25 20.50 20.75 17.50 15.75 64.75
\( (SD) \) (10.5) (13.5) (1.71) (2.63) (2.08) (2.87) (3.79) (12) (8.4)
M M 122.75 120.25 32.50 31.50 20.25 21.75 17.00 5.75 50.75
\( (SD) \) (6.85) (18.9) (3.7) (5.69) (2.75) (4.03) (8.41) (4.3) (4.4)

*Note:* DAS = Dyadic Adjustment Scale; SREGS = Self-regulation for Effective Relationships Scale; DASS = Depression, Anxiety and Stress Scale; PSI = Parenting Stress Index; F = Female; M = Male; * Indicates scores that represent reliable change.

Scores on the self-regulation subscales were comparable to the newlywed mean reported in previous studies (e.g., Wilson et al., 2005). As can be seen in Table 4.5, CCP couples reported relatively unchanging relationship
self-regulation from pregnancy to 4 months postpartum, with mean strategies and effort subscale scores remaining within one point of one another. Couple 1 showed the highest self-regulation effort and use of strategies at post-intervention, which is consistent with their completion of the most SDCPs.

Total negative affect scores (DASS-21) were above the mean of 9.19 for all individuals at pre-intervention, except for Male 4 (Refer to Table 4.5). The mean female and male scores on the DASS for these four couples were 1 SD above the population mean, suggesting that the sample consisted of individuals who were experiencing higher than normal levels of anxiety, depression and stress. Across the course of CCP, negative affect reliably declined for Male 1, and Couple 3, but increased for Female 2 by just over 2 SDs (Jacobson & Truax, 1991). Female 2 also reported the highest parenting stress as measured by the PSI (Refer to Table 4.5). However, her score, along with all other participants’ raw scores on the PSI were below the clinical cut-off of 90, and were comparable or below the population mean of 71 (Abidin, 1983; Loyd & Abidin, 1985). Parenting stress at 4 months postpartum was thus low in this sample.

Discussion

The aim of this preliminary evaluation was to assess the viability of the CCP program. The feedback from couples on the assessment protocol, content, delivery and timing of units was very positive. Couples reported high consumer satisfaction with the content of CCP, and most activities were rated as either
‘useful’ or ‘extremely useful’ with three out of four couples completing over 80% of the recommended activities. All couples reported that they would recommend the program to other first-time parents. Results on the standardized measures also suggest that CCP may be a useful intervention. On average, couples maintained stable relationship satisfaction, maintained their relationship effort and use of relationship enhancement strategies, decreased their levels of negative affect and reported low parenting stress.

Couple CARE for Parents was evaluated very positively by all couples in this preliminary study, and only minor variations in content and timing of units were suggested by some couples. These suggestions were used to modify CCP before conducting the larger randomized control trial of the program (reported in Chapter 5). For the purpose of the larger trial the timing of the postpartum units will be changed so that couples complete the program within 3 months postpartum and the post-intervention assessment by 4 months postpartum.

No major modifications were made to CCP program content. Although couples rated two CCP activities (‘myths about sex’ and ‘what if things go wrong’) as only ‘okay’, both activities will be retained in the larger trial of CCP. The decision to retain these activities was based on the premise that education about sex after childbirth and the identification of unacceptable relationship behaviors provides couples with shared and realistic expectations of what they may experience in their sex lives and in their relationship future. Both activities aimed to assist couples in early identification of relationship
problems, for which the facilitator could prompt the couple to seek professional help.

A slight modification was made to the communication activities in CCP unit 1. The original communication activities encouraged couples to hold two separate discussions (one discussion topic chosen by each partner) in which each partner assumed the speaker role once and the listener role once. Couples then self-evaluated their discussion. For the purposes of the randomized controlled trial the couples will listen to their pre-intervention assessment problem-solving discussion and self-evaluate their communication skills. The benefits of using the problem-solving discussion tapes include: (a) the time saved in CCP unit 1 by not having couples discuss two new topics; (b) the use of a prior example of the couples’ communication skills (couples in the preliminary evaluation stated that in the workshop their discussions were forced and unrealistic); (c) the ability to rewind and listen to certain segments of the problem-solving discussion more then once (potentially facilitating more accurate self-evaluations); and (d) the opportunity provided to the facilitator to evaluate the communication skills of each partner during the couple problem-solving discussion prior to conducting unit 1 (which may result in more specific and useful feedback).

One new activity, a ‘birth-debrief’, will be added to CCP. The birth-debrief activity will encourage couples to discuss their experience of their baby’s birth whilst practising their communication skills. Specifically, partners will be encouraged to practice their speaker skills whilst sharing their thoughts
and feelings on the birth, and their listener skills whilst hearing their partner’s
description of the birth experience. The birth debrief is concluded by each
partner rating their communication strengths and areas to work on. During the
CCP unit 3 home visit the facilitator will ask the couple how useful the birth-
debrief was for them, and what communication skills the couple thought they
still needed to work on. The birth-debrief was added to the CCP program
because all four couples in the preliminary study engaged in an informal birth-
debrief with the psychologist during CCP unit 3 and this discussion therefore
seemed a useful opportunity for couples to engage in ongoing communication
skill practice. The change to the CCP unit 1 communication activity and the
addition of the birth debrief were the only changes made to the CCP program
content for the randomized controlled trial.

The variability in SDCP completion in the current study is noteworthy.
Mean SDCP completion was lower in CCP than that reported by Halford et al.
(2004). In the current study few partners completed all recommended SDCP,
and there was large variability across couples (i.e. one couple completed three
SDCPs, one couple completed ten SDCPs). There are a number of potential
explanations for the lower SDCP completion rate in the current study relative to
Halford et al (2004). First, the Halford et al couples were in early stage
relationships and few had children, for the new partents in the current study the
demands of new parenthood may have interfered with SDCP completion. Lack
of time and energy were common barriers couples reported for not enacting a
SDCP. Second, relative to the couples in the study by Halford et al. (2004), new
parents may not perceive relationship-focused SDCPs as having such high priority; their priority might be on meeting the challenges of daily infant care. Third, the variability in SDCP completion may be unreliable as the current study was a small sample. A trial of CCP with a greater number of couples is needed in order to evaluate whether the variability and overall lower SDCP completion rate found among these four couples is also found among a larger cohort of couples.

Turning to the findings from the four outcome measures, the relatively stable and unchanging relationship satisfaction scores observed among seven of the eight partners is encouraging in terms of the potential value of CCP. As Chapter 1 highlighted (e.g., Table 1.1 in Chapter 1), approximately 50% of couples report declining relationship satisfaction across the transition to parenthood and CCP may be responsible for the relatively stable relationship satisfaction scores observed among this cohort. Along with stable relationship satisfaction scores, couples reported stable relationship self-regulation subscale scores, statistically reliable declines in negative affect and low parenting stress.

Couple CARE for Parents, aimed at strengthening couple relationships, may improve individual adult well-being and promote parenting adjustment. The relatively unchanging self-regulation subscale scores, despite CCP completion, suggest that CCP does not increase the amount of effort, or enhance the number of strategies, couples use to enhance their relationships across the transition to parenthood. It is possible that without the self-directed change aspect of CCP, couples would have reported a decline in self-regulation.
Without a control group of couples it is difficult to contextualize the stable self-regulation scores found among couples in this study. In sum, the findings on the outcome measures, although limited because of the very small sample of couples, suggest that CCP may promote couple adjustment to parenthood. An investigation of the effects of CCP within a randomized controlled trial with a larger cohort of couples is needed in order to more confidently identify the potential of this intervention.

Summary

This study was a preliminary evaluation of the CCP program. There are substantial limitations to the study, particularly the absence of a control group and a small sample size. However, the study provides preliminary evidence that couples have high rates of task completion. Furthermore, feedback from couples on the content of CCP was very positive. Minor revisions to the CCP program were made based on that feedback obtained from the pilot evaluation. The effect of the revised CCP was investigated in a randomized controlled trial, discussed in Chapter 5.
CHAPTER 5
A Randomized Controlled Trial of Couple CARE for Parents

ROWENA: “I’d never before analyzed our discussions. I learned not to interrupt so much, and to be more specific when I am telling Ryan what I think and feel.”

RYAN: “All new parents would benefit from the Couple CARE for Parents program. It reminded me to do nice things for Rowena, to really listen to her, and to work together as a team to parent our baby.”

(A couple’s response to the question “What was the best thing about the Couple CARE for Parents program?” 2003).

This chapter presents the results of a randomized controlled trial of the Couple CARE for Parents (CCP) program. The aim of the study was to evaluate the effects of CCP on overall adjustment to parenthood, and compare the CCP outcomes to those of a minimal intervention program. Couples who were expecting their first child were randomly assigned to a couple-focused psychoeducation program (Couple CARE for Parents, CCP) or a mother support program (Becoming a Parent, BAP). The BAP program was a brief, emotionally supportive intervention that focused on infant care and parenting.
issues. In previous trials, programs like BAP have been positively evaluated by new parents, and have been shown to be more effective than a control group in preventing maternal depression among low-risk women (Lavender & Walkinshaw, 1998; MacArthur et al., 2002; Shields et al., 1997). A treatment control condition was employed because of the belief that couples would be more interested in receiving an intervention, and therefore more likely to remain in the study if both programs appeared equally appealing. The BAP program did not include discussion of the couple relationship, skill-training or self-regulation, since these were the active components of CCP that may enhance couple adjustment to parenthood.

Based on the belief that educating and supporting the couple about key relationship skills is important across the transition to parenthood, it was expected that CCP would enhance, relative to BAP, couple relationship functioning (Hypothesis 1), individual well-being (Hypothesis 2), parenting adjustment (Hypothesis 3) and couple communication (Hypothesis 4).

Method

Participants

Seventy-one couples completed the pre-intervention assessment and were enrolled in one of the two programs. As can be seen in Figure 5.1, 80 couples initially consented to participate in the study. Between the initial consent and pre-intervention assessment 4 of the 80 couples were found to be ineligible (three couples had a premature delivery, one couple separated), two
couples moved interstate, and three couples withdrew because they were ‘no longer interested’.

To obtain the sample of 71 couples, 257 women and couples were approached. Two hundred and eight couples met the initial screening criteria for study eligibility, which included (a) the woman being between 20-35 weeks
pregnant, (b) the woman not expecting a multiple birth, (c) the couple being in a stable relationship defined as either married or cohabiting for a minimum of 12 months, (d) neither partner reporting having attended treatment for a psychological disorder in the last 12 months, and (e) both partners having a moderate ability in written and spoken English.

One hundred and twelve couples immediately declined involvement and 96 expressed interest in participating in the study. These 96 couples received a home visit in which the study aims were reviewed and informed consent was sought. During this home visit a further nine couples were found to be ineligible (e.g., four couples were moving interstate/overseas in the next 6 months, two couples not living together, two couples were already parents, one woman was currently in treatment for psychological distress), and seven couples declined to participate, stating the study was too time-consuming, or they did not like idea of random assignment.

Of the 71 couples who completed the initial assessment, all met the last screening criterion of a score of 90 or above on the Dyadic Adjustment Scale. Seven couples (10%) were referred from the Birth Centre, 16 (23%) were recruited through antenatal clinic, 37 (51%) through the antenatal classes and 11 (16%) self-referred. The mean age of women was 29 years ($SD = 4.9$) and for men was 31 years ($SD = 5.6$). Couples had been together for a mean of 5.1 years ($SD = 3.1$). Fifty (70%) couples were married, eight (12%) engaged to be married and 13 (18%) were in a de facto relationship. Seven (10%) men and six (9%) women had been previously married. Infant data, which consisted of
infant gender, birth complications and breastfeeding length, were gathered from 66 couples (five couples withdrew from the study before their infant was born). Most infants (31 boys, 35 girls) were delivered via vaginal birth ($n = 46; 71\%$) and most (79\%) were still being breastfed at 4 months postpartum.

Consistent with the population of Queensland, Australia, almost all couples were Caucasian (~ 90\%). The current sample had higher levels of education and mean annual family income than the average Australian family. The mean annual after-tax family income among this sample was AUS$62,829 ($SD = 24,826$) and for the Australian population in 2000-2001 was AUS$55,224 (Australian Bureau of Statistics, 2005; Leigh, 2006). In the year 2000, 31\% of Australians held a tertiary degree, 26\% held a Trade or TAFE qualification and the remainder held no post-school qualifications (Australian Bureau of Statistics, 2003). In comparison, more than half of the current sample (57\%) held a tertiary degree, 23\% had completed a Trade or TAFE qualification, and 20\% had no post-school qualifications. Most men were in full-time employment (83\%), as were 47\% of women. Eleven percent of men and 26\% of women were in part-time or causal employment and 6\% of men and 27\% of women were unemployed.

A series of one-way ANOVAs showed no significant differences between BAP and CCP couples’ relationship duration, level of education, employment, income, and male age. Despite random assignment, there was a baseline difference in female age, with CCP females ($M = 28$ years, $SD = 4.36$)
significantly younger than BAP females ($M = 31$ years, $SD = 4.7$), $F (1, 69) = 11.03, p < .001$.

*Measures*

Participants completed the same interview and self-report measures in this randomized controlled trial as those completed by couples in the preliminary investigation reported in Chapter 4. In addition to the self-report and interview questions administered in the preliminary study of CCP, couples in this larger trial completed several extra self-report measures and observational assessments. Assessment occurred at pre-intervention, when women were in the third trimester of pregnancy, and at post-intervention when infants were 4 months old. An additional assessment of couple communication was conducted 2 weeks after CCP 2 or BAP 2 (i.e., approximately 4 weeks before the birth).

The additional self-report measures assessed couple conflict, satisfaction in life, adult attachment, and at post-intervention assessed parenting satisfaction, spouse support in parenting, parenting self-efficacy and infant temperament. The observational assessments measured couple communication and parent-child interaction (latter at post-intervention only). The results of the self-report measures of adult attachment, infant temperament, and the observation of parent-child interactions were not analysed or included in this thesis. The same measures of program engagement, usefulness of CCP activities and consumer satisfaction were administered at post-intervention as in
the preliminary investigation (details on these measures were presented in Chapter 4).

The self-report measures assessing couple functioning included the Dyadic Adjustment Scale (DAS; Spanier, 1976) and the Conflict Tactics Scale (short form). A full description of the DAS was provided in Chapter 4.

An abbreviated version of the Conflict Tactics Scale (CTS; Straus, 1979) was used to assess relationship aggression. The original CTS has been widely used in family violence research (Straus & Gelles, 1990; Straus, Gelles, & Steinmetz, 1980) and is the most widely used measure of physical abuse in intimate relationships (Heyman, Feldbau-Kohn, Ehrensaft, Langhinrichsen-Rohling, & O’Leary, 2001). The 78-item CTS has adequate reliability (Reasoning Cronbach’s α = .74, Psychological aggression Cronbach’s α = .59, Physical aggression Cronbach’s α = .60; Straus, Hamby, McCoy, & Sugarman, 1998), and test-retest reliability (3 week Reasoning $r = .80$; Psychological aggression $r = .79$; $r = .42$; McGuire & Earls, 1993). The abbreviated version of the CTS (short form) comprised of five of the most commonly endorsed items from the original CTS. One item asked about self and partner use of effective conflict management, for example, “I explained my side of a disagreement to my partner” (self-rating), and “My partner explained their side of a disagreement to me” (partner rating) and was included as a filler item since 99% of couples typically endorse the use of this strategy (Straus et al., 1998). Two items asked about self- and partner use of psychological aggression. Example items from this subscale included “I yelled at my partner” (self-rating)
and “My partner yelled at me” (partner rating). Two items asked about self- and partner use of physical aggression and included items such as “I pushed or shoved my partner” (self-rating), and if “My partner pushed or shoved me” (partner-rating).

The CTS (short form) was chosen over the original 78-item version because it reduced participant burden during completion of the self-report assessments. Items on the CTS (short form) were scored on a 4-point Likert scale which asked about the prevalence of each conflict management style in the last 12 months (0 = ‘never’, 1 = ‘once’, 2 = ‘twice’ and 3 = ‘more than twice’). The maximum possible score on each of subscale is 12 (higher scores on indicate higher psychological aggression and higher physical aggression). The CTS (short form) was also used to categorise the presence or absence of psychological or physical aggression. As aggression is believed to be under-reported I followed the convention of categorising aggression as ‘present’ if either partner endorsed aggression as occurring.

The Self-regulation for Effective Relationships Scale (SRERS; Wilson et al., 2005) measured the amount of effort and the couples’ use of strategies to maintain a satisfying relationship. A full description of the SRERS was provided in Chapter 4.

To assess individual adjustment the Depression-Anxiety-Stress Scale (Lovibond & Lovibond, 1995; measure description provided in Chapter 4) and Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985) were administered. The Satisfaction with Life Scale (SWLS) consisted of 5 items (1
= ‘strongly disagree’ to 7 = ‘strongly agree’) and measured an individuals quality of life according to his or her chosen criteria. Items on the SWLS include “The conditions of my life are excellent” and “So far I have the things I want in life”. The highest possible score on the SWLS is 35, with higher scores indicating higher life satisfaction. Normative data for the SWLS exists for diverse populations, including university students, older adults, individuals with alcohol abuse, and physical disabilities, psychotherapy clients and abused women (Pavot & Diener, 1993). Among non-clinical adult samples the mean score typically falls between 24 (SD = 6.1; Judge, 1990) and 25 (SD = 6.7; Arrindell, 1991). The SWLS has high internal consistency (Cronbach’s α = .87) and test-retest reliability (r = .89 across two weeks, Diener et al., 1985; and r = .82 across eight weeks; Pavot & Diener, 1993).

At post-intervention couples completed self-report measures of individual adjustment to parenthood. These questionnaires included the Parenting Stress Index (PSI; Abidin, 1983; 1990; measure description provided in Chapter 4), the Spouse Support in Parenting subscale from the Parenting Satisfaction Scale (SSS; Guidubaldi & Cleminshaw, 1985), the Parenting Efficacy subscale from the Parenting Sense of Competence Scale (PES; Gibaud-Wallston & Wandersman, 1978) and the Parenting Satisfaction Scale (PSS; Medora et al., 1996).

To assess satisfaction and availability of spouse support specific to shared parenting, the 10-item Spouse Support subscale (SSS) from the Parent Satisfaction Scale (Guidubaldi & Cleminshaw, 1985) was used. Items on the
SSS include “I wish my partner would do a better job parenting” and “I am satisfied with my partner’s parenting skills” and are rated on a 4-point Likert Scale (1 = ‘strongly agree’ to 4 = ‘strongly disagree’). The minimum possible score on the SSS is 10, and the maximum is 40, with lower scores reflecting greater satisfaction with spouse support. The SSS shows excellent reliability (Cronbach’s α = .93; Guidubaldi & Cleminshaw, 1985), appears relatively stable across a 2 year period (r = .81; Smith, 1990) and correlates significantly with measures of marital and life satisfaction (Guidubaldi & Cleminshaw, 1985).

The 7-item Parenting Efficacy subscale (PES) of the Parenting Sense of Competence Scale (Gibaud-Wallstone & Wandersman, 1978) measured parental self-esteem, familiarity, competence, and problem-solving capabilities. Items are rated on a 6-point Likert scale (1 = ‘strongly disagree’ to 6 = ‘strongly agree’) and included questions like “Being a parent is manageable” and “I meet my own personal expectations for expertise in caring for my child”. The total possible score on the efficacy subscale is 42 with population means of 26 (SD = 5.29) for females and 25 (SD = 5.63) for males (Johnston & Mash, 1989). Reliability for the Efficacy subscale is high (Cronbach’s α = .76; Johnston & Mash, 1989) and the subscale predicts differences in mothers’ behavior during parent-child interactions (Mash & Johnson, 1983).

The Parent Satisfaction Scale (Medora, Wilson, & Larson, 1996), a recently developed 4-item questionnaire showing high reliability (Cronbach’s α = .85; Medora, Wilson, & Larson, 2001) was employed to assess satisfaction in
the parenting role. Items are rated on a 4-point Likert scale (1 = ‘*strongly agree*’ to 4 = ‘*strongly disagree*’) and include items such as “*I like being a parent*” and “*I enjoy spending time with my child*”. The minimum possible score is 4 and the maximum is 16, with low scores reflecting high parenting satisfaction. It is noteworthy that while the scale is labelled the ‘Parenting Satisfaction Scale’, high scores equal dissatisfaction as a parent, so the scale is more accurately labeled as the ‘Parenting Dissatisfaction Scale’. No means have been published for this scale.

*Couple Communication*

Couple communication skills and affect were assessed three times. The first assessment was at pre-intervention (early third trimester), the second in a home visit after the CCP workshop for CCP couples, or 2 to 4 weeks after the pre-intervention assessment for BAP couples (which will be termed the post-workshop assessment), and the third at post-intervention (at 4 months postpartum). The purpose of the post-workshop assessment was to measure the immediate effects of CCP communication and conflict management skill-training.

Couples were asked to identify and discuss an issue that was a source of current conflict in their relationship. Problem-solving tasks have been widely used to assess couple conflict management (Heyman, 2001) and are more sensitive to short-term change in couple communication than self-report measures (Stanley, Markman, Saiz, Schumm, Bloomstrom, & Bailey, 2003). Whilst objective measures of observed communication in engaged couples do
not always correlate with self-reported relationship satisfaction (Markman &
Hahlweg, 1993; Sanders et al., 1999), there is some evidence that good couple
communication is more likely to sustain future relationship satisfaction than
self-reported relationship satisfaction sustains future relationship satisfaction
(Markman, 1981; Pasch & Bradbury, 1998).

All couple problem-solving discussions were recorded using a portable
camera on a tripod. The problem-solving discussions were coded using the
Brief KPI, which has been widely used in coding couple interactions (e.g.,
Halford et al., 2000, 2001). The six coding categories of the Brief KPI are
described in Table 5.1 and are marked as present of absent in each 30-second
time interval.

The derived scores on the Brief KPI were the percentage of 30-second
time intervals that contained each defined communication skill and affect for
both males and females. Previous studies have found that the Brief KPI scores
discriminate between distressed and non-distressed couples (Kelly, Halford, &
Young, 2002) and are sensitive to changes in communication skills occurring
from relationship education (Halford et al., 2001).

Problem-solving discussions were coded by one of two research
assistants who were blind to the couples’ group assignment. Coders received
approximately 15 hours of training using the Brief-KPI. Training included
memorizing code definitions, watching pre-coded videotapes and coding
practice.
<table>
<thead>
<tr>
<th>Summary Code</th>
<th>Specific Code</th>
<th>Code definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Speaker</td>
<td>Self disclose</td>
<td>Direct expression of own feelings and thoughts where self is revealed</td>
</tr>
<tr>
<td></td>
<td>Positive suggestion</td>
<td>Statements or questions that offer specific, realistic change possibility</td>
</tr>
<tr>
<td></td>
<td>Describe</td>
<td>Neutral statements or questions which describe event or issue</td>
</tr>
<tr>
<td>Positive Listener</td>
<td>Agree</td>
<td>Agreement with what the partner has previously said</td>
</tr>
<tr>
<td></td>
<td>Accept</td>
<td>Positive regard, acknowledgment and empathy for partner and their position</td>
</tr>
<tr>
<td>Negative Speaker</td>
<td>Criticise</td>
<td>Negative judgement, condemnation or devaluation of partner</td>
</tr>
<tr>
<td></td>
<td>Negative suggestion</td>
<td>Indicates need or desire for change in destructive or demanding way</td>
</tr>
<tr>
<td>Negative Listener</td>
<td>Disagree</td>
<td>Direct disagreement with partner</td>
</tr>
<tr>
<td></td>
<td>Justify</td>
<td>Defence of own behaviour or position through denial or justification</td>
</tr>
<tr>
<td></td>
<td>Withdraw</td>
<td>Verbal or nonverbal lack of participation in the conversation</td>
</tr>
<tr>
<td>Positive Affect</td>
<td></td>
<td>Excited or relaxed voice tone, expression, posture, movement</td>
</tr>
<tr>
<td>Negative Affect</td>
<td></td>
<td>Angry or depressed voice tone, expression, posture, movement</td>
</tr>
</tbody>
</table>
A random sample of 25% of the problem-solving discussion tapes were independently coded by both research assistants. The inter-coder reliability was assessed through a 2-way random effects model, using intra-class correlations (\(ICC_A, 1\)). Inter-coder reliabilities ranged from moderate (\(ICC = .71\) female positive listen) to high (\(ICC = .97\) male positive affect; Shrout & Fleiss, 1979). The intra-class correlations appear in Table 5.2.

### Table 5.2  Intra-class Correlation Co-efficients for Couple Communication Codes for Males and Females

<table>
<thead>
<tr>
<th>Gender</th>
<th>Positive Speak</th>
<th>Positive Listen</th>
<th>Negative Speak</th>
<th>Negative Listen</th>
<th>Positive Affect</th>
<th>Negative Affect</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>.84</td>
<td>.71</td>
<td>.86</td>
<td>.92</td>
<td>.95</td>
<td>.84</td>
</tr>
<tr>
<td>M</td>
<td>.93</td>
<td>.85</td>
<td>.92</td>
<td>.89</td>
<td>.97</td>
<td>.92</td>
</tr>
</tbody>
</table>

**Procedure**

Between July 2003 and May 2004 I attended the Royal Brisbane and Women’s Hospital (RB&WH) on approximately 2 days a month to liaise with midwifery staff and recruit the study sample. Midwives were approached individually or in small groups in the Birth Centre and Antenatal Clinic, informed of the purpose of the study and invited to refer couples to the study by distributing a brochure during antenatal appointments. I also collected the names and contact details of interested couples by attending antenatal clinics and classes and inviting couples to participate.
All pregnant women in 13 antenatal clinics and 6 antenatal classes were approached. Within 1 week of collecting the contact details of eligible couples, I telephoned each couple to check if they were still interested in participating. If the couple agreed, a home visit appointment was scheduled to review study procedure and seek informed consent. Couples providing informed consent then completed the pre-intervention assessment. Once couples returned their questionnaires to the university couples were randomly allocated to BAP or CCP. Randomisation was conducted using ‘yoked’ pairs of couples. Couples were assigned to pair on the basis of the order of return of the re-assessment questionnaires, and a coin toss (Heads = CCP; Tails = BAP) determined which program the first couple was allocated, with the second couple allocated to the other program. The yoking procedure ensured equal numbers of couples were allocated to each program at each coin toss. Couples were informed of their random assignment via telephone call and mail.

_Couple CARE for Parents Program (CCP)_

The Couple CARE for Parents program was developed specifically for this study and combined relationship education with parenting information and education. The CCP program aimed to help couples maintain high relationship satisfaction across the transition to parenthood by describing, modeling and encouraging them to adopt a variety of key relationship skills, and assist them in managing common infant care challenges by providing evidence-based parenting information and support. Couples commenced CCP in the 3rd
trimester of pregnancy and finished CCP at 12 weeks postpartum, receiving
three face-to-face sessions and three self-administered sessions. Major content
included communication, conflict management, self-directed change,
expectations, baby care, caring, intimacy, support, balancing individual and
couple needs, and planning for the future. Readers are referred back to Chapter
4 for a more detailed outline of the CCP program.

_Becoming a Parent Program (BAP)_

The BAP program served as a comparison condition for the evaluation
of the CCP program. The purpose of BAP was to provide a brief and
emotionally supportive intervention that focused on infant care and parenting
issues. The design of BAP was informed by the maternal distress prevention
studies that have found that individually tailored emotional support is more
effective than standard care in reducing rates of maternal postnatal depression
among low-risk women (Lavender & Walkinshaw, 1998; MacArthur et al.,
2002; Shields et al., 1997). Comparing CCP to a true control condition was not
chosen because of the belief that couples would be more interested in research
participation if both programs appeared equally appealing.

The content of BAP was chosen after consultation with a group of nursing and
midwifery professionals and researchers who each listed the top concerns
presented to them by expectant and first-time mothers. The topics included
expectations of the birth and information about infant feeding, managing
immediate demands after birth, managing infant needs (e.g., feeding, crying,
sleep), infant growth and development, getting support from others, and being a parent (e.g., self-care and time management). A review of the literature confirmed that these five topic areas reflect the key information mothers report as helpful aspects of good infant care services (e.g., Bryan, 2000; Hamilton-Dodd, Kawamoto, Clark, Burke, & Fanchiang, 1989; Nolan, 1997; Vehvilainen-Julkunen, 1995).

As is the case with the majority of existing perinatal services, infant care and parenting support and information in BAP was directed at the mother only. Discussion of the couple relationship, skill-training and self-regulation were not included in the BAP program. Despite the absence of those components (i.e., couple focus, skill-training and self-directed change) the BAP program was designed to be attractive to women and provide information and continuity of support from a professional, both of which are recommended as ‘best’ practice standards in perinatal care in Queensland, Australia.

In the BAP program women received one home visit and five telephone calls from the third trimester of pregnancy until 4 months postpartum. The first home visit occurred between 2 to 4 weeks after the pre-intervention assessment and reviewed maternal expectations of the birth and information about breastfeeding for those women who reported planning to breastfeed. During this home visit the couple completed the second 10-minute problem-solving discussion assessment task. Post-birth phone calls were scheduled to start 3 weeks postpartum and occurred every 3 weeks and ended when the infant was 12 weeks old. The five phone calls included one antenatal telephone call
focused on managing the immediate demands after birth, and four postnatal telephone calls focused on managing infant needs (e.g., feeding, crying, sleep), infant growth and development, getting support from others, and being a parent (e.g., self-care and time management).

In addition to the telephone support, each mother received a Parent Guidebook outlining the content of the BAP program. Women in BAP received the same parenting tip sheets and information provided to CCP couples. Suggestions for accessing existing maternity, parenting, and psychological support services were made when the facilitator identified an issue requiring a higher level of intervention or support than that offered in BAP. An educator’s notebook was also designed for the BAP program and listed the topics to discuss with women in each unit, a checklist of the overall objectives of each session, a list of the proscribed skills for the BAP program and note-taking space. Proscribed skills in BAP, included facilitator discussion about the couple relationship, skill-training and a self-regulation focus. The BAP program thus partially controlled for attention and professional contact but excluded skill-training and education on couple relationship issues.

Results

Sixty-four couples completed the pre- and post-intervention assessments. One female in CCP and one male in BAP did not return the post-intervention questionnaire. Self-report questionnaire data is therefore reported on 62 couples. Only 56 out of the original 71 couples (80%) completed the post-workshop communication assessment. Of the 15 couples who did not
complete the post-workshop communication assessment 3 couples had withdrawn (attrition is discussed at the end of the results section) and 12 couples declined the post-workshop assessment. At post-intervention 58 couples completed the problem-solving discussion. Couples’ stated reasons for declining the post-workshop communication assessment included ‘unable to think of a suitable topic’ and ‘not willing to discuss a conflict issue so close to the birth of their child’. One couple declined completing the video-taped couple communication task throughout the study because they disliked the idea of discussing a problem in their relationship in front of a video-camera. Due to a number of couples completing only two out of the three couple problem-solving communication tasks, a MCAR test was run to check that missing values were independent of other measured variables (Schafer & Graham, 2002). Missing data were found to be completely random, Little’s MCAR test, \( \chi^2(84, N = 63) = 80.66, p = .58 \), and missing values were imputed for one couple at the pre-intervention assessment, seven couples at the post-workshop assessment, and six couples at the post-intervention assessment. With the MVA, 64 couple communication discussions are evaluated.

Using Tabachnick and Fidell’s (2001) criterion of standardized scores greater than 3.29 to define possible univariate outliers, there was a small number of such outliers on some of the variables (one female on SRERS-effort subscale; two males and two females on CTS (short form) physical aggression subscale; two females on DASS). As recommended by Tabachnick and Fidell
(2001) these seven univariate outlier scores were changed to fit within 1SD of the next lowest (SREG) or highest (CTS, DASS) score. Despite addressing the univariate outliers, one multivariate outlier was identified among the self-report output (multivariate outliers were identified using a $p < .001$ criterion for Mahalanobis distance). As there were no substantive differences in the results when including or excluding the multivariate outlier, the results are reported with the multivariate outlier included.

During data screening the assumptions of normality were violated for the CTS (short form) physical aggression subscale, DASS and SWLS (females only). The pre-intervention means on the CTS (short form) physical aggression were low (Female $M = .40$, $SD = 1.04$; Male $M = .48$, $SD = 1.32$). Two-thirds of couples (48/64; 74%) reported no occurrence of physical aggression at the pre-intervention assessment, and the rate remained low at post-intervention (52/62; 84%). Since physical aggression occurred at such a low rate, analysis of the mean scores was not meaningful. No further analyses were performed on the physical aggression subscale of the CTS (short form). The Depression-Anxiety-Stress Scale (DASS) was negatively skewed and I transformed it with a square-root transformation. Analyses were run on the raw and transformed data. As there was no substantive difference in the results when using transformed data, analysis using the raw data is reported. Females reported very high satisfaction in life on the SWLS ($M = 28.79$, $SD = 5.55$) and these scores were positively skewed. A square root transformation acceptably reduced the skew. Analyses
were conducted on both the raw data and the transformed SWLS data and the pattern of results was similar so analyses on the raw data are presented.

A series of one-way ANOVAs showed no significant differences between BAP and CCP couples in baseline measurements of relationship satisfaction, self-regulation, psychological aggression, negative affect, satisfaction in life and five of the six couple communication codes. The one problem-solving communication code which did differ significantly between BAP and CCP couples was positive affect, with BAP males ($M = 64.29, SD = 26.31$) showing greater positive affect than CCP males ($M = 46.17, SD = 31.85$) at the baseline measurement, $F(1, 62) = 6.75, p < .05, d = .65$.

**Key Correlations among Relationship and Individual Well-being Self-report Measures**

Table 5.3 presents correlations among self-report variables at pre-intervention for females and males. As the large number of correlations inflates the chance of Type I error, I used a $p < .01$ level of significance as the criterion for determining statistical significance. Although correction of alpha, if too stringent, may increase the risk of Type II error and thus mask a true relationship between variables, if the correction is not made then Type I error is likely because of the large number of interrelated variables (Schmidt & Hunter, 2002). Even so, comments focus on patterns of associations across the table, and there is no emphasis upon any specific correlation (Wilkinson and the Task Force on Statistical Inference, 1999).
Table 5.3

*Correlation Co-efficients for Pre-assessment Self-report Variables for Females and Males*

<table>
<thead>
<tr>
<th>Self-report Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. DAS</td>
<td>(.55)*</td>
<td>-.34*</td>
<td>.42*</td>
<td>.20</td>
<td>-.30</td>
<td>.38*</td>
</tr>
<tr>
<td>2. CTS Psychological Aggression</td>
<td>-.25</td>
<td>(.60)*</td>
<td>-.15</td>
<td>.04</td>
<td>.20</td>
<td>.00</td>
</tr>
<tr>
<td>3. SRERS effort</td>
<td>.41*</td>
<td>-.04</td>
<td>(.20)</td>
<td>.17</td>
<td>-.20</td>
<td>.35*</td>
</tr>
<tr>
<td>4. SRERS strategies</td>
<td>.35*</td>
<td>.12</td>
<td>.30</td>
<td>(.47)*</td>
<td>-.06</td>
<td>.37*</td>
</tr>
<tr>
<td>5. DASS total</td>
<td>-.17</td>
<td>.04</td>
<td>-.08</td>
<td>.07</td>
<td>(.05)</td>
<td>-.10</td>
</tr>
<tr>
<td>6. Satisfaction in Life</td>
<td>.27</td>
<td>.06</td>
<td>.19</td>
<td>.13</td>
<td>.01</td>
<td>(.28)</td>
</tr>
</tbody>
</table>

*Note. Correlations for females are above the diagonal; correlations for males are below the diagonal. Correlations between females and males are in the diagonal. Correlations significant at the p < .01 level are asterisked *. |

The most noticeable pattern in Table 5.3 is that most correlations are not significantly different from zero. The largest correlations occurred between male and female partners DAS scores, between male and female psychological aggression CTS (short form) scores and between male and female SRERS strategies subscale scores. Within genders there were significant and moderate correlations between DAS and self-regulation. Women, but not men, showed significant and moderate correlations on self-regulation and satisfaction in life.
Given the relative independence of most of the self-report variables, intervention effects were analysed using a series of univariate ANOVAs.

**Intervention Effects on Self-Reported Couple Relationship Functioning and Individual-Well-being**

In order to assess for effects of the intervention, a series of three-way ANOVA’s of condition (BAP and CCP), by gender (male and female), by time (pre- and post-intervention), with gender and time as within-subjects factors, on the outcome measures of relationship satisfaction (DAS), relationship self-regulation effort, self-regulation strategies, psychological aggression subscale of the CTS (short form), negative affect (DASS total score) and satisfaction with life (SWLS) were conducted. This design follows Kraemler and Jacklin’s (1979) approach to viewing the couple as the unit of analysis and gender as a within-subjects variable. With a sample size of $n = 62$ I had adequate power of $\beta > 0.8$ to detect a medium effect size at alpha 0.05 (Cohen, 1992).

Overall relationship satisfaction, as measured by the DAS, decreased significantly over time (pre $M = 122.25$, $SD = 11.05$; post $M = 118.74$, $SD = 12.41$), $F(1, 61) = 9.92$, $p < .005$. A significant three-way interaction of condition by gender by time was also found, $F(1, 61) = 5.28$, $p < .05$. None of the remaining main or interaction effects were significant. As is evident from Table 5.4 mean pre-intervention DAS scores were above 120, which reflects high relationship satisfaction (Spanier, 1976). Across the course of the study, BAP females showed a reliable decline in relationship satisfaction, whereas
CCP females maintained stable relationship satisfaction across the period of the study, $d = .35$. Mean relationship satisfaction of males in CCP and BAP declined from pre- to post-intervention, $d = -.28$, but there was no difference between the conditions (see Figure 5.2).

![Figure 5.2. Change in relationship satisfaction (DAS) in CCP and BAP couples from pre-intervention (third trimester) to post-intervention (4 months postpartum).](image)

In addition to evaluating the change in mean relationship satisfaction, the variability of change in relationship satisfaction in the CCP and BAP conditions was examined using Jacobson and Truax’s (1991) index of statistically reliable change. Reliable change is defined as a change on a dependant measure that exceeds the 95% confidence interval around zero change, and therefore is likely at $p < .05$ to be a reliable change. Based on
normative data for the DAS, a change of 10 or more points on the DAS is a reliable change (Spanier, 1976). From the pre- to post-intervention 14 of 33 (42%) BAP females had a reliable decline in relationship satisfaction whereas only 4 of 30 (13%) CCP females showed a reliable decline. Few women in either condition showed a reliable increase in relationship satisfaction (4/30 or 13% of CCP females and 1/33 or 3% of BAP females). As males did not differ across condition, reliable change collapsed across conditions for males, is reported. Most men (49/63, 78%) showed no reliable change in relationship satisfaction, 11 of 63 (17%) showed reliable deterioration, and 3 of 63 (5%) showed reliable improvement in relationship satisfaction.

On the self-regulation effort subscale females ($M = 23.85, SD = 3.95$) reported making greater effort to maintain their relationships than males ($M = 22.29, SD = 3.05$), $F (1, 61) = 7.88, p < .01, d = .22$. There were no other significant main effects and no significant interaction effects on the relationship self-regulation effort subscale. No significant main effects or interaction effects were found on the self-regulation strategies subscale. However, there was a trend for time, $F (1, 61) = 2.89, p = .09$, with couples reporting a slight decline in their use of strategies to enhance their relationship across the transition to parenthood (pre $M = 36.75, SD = 5.54$; post $M = 35.75, SD = 6.09$). The couple SRERS scores on both the effort and strategies subscales in Table 5.4 were very similar to the means obtained by a previous study using a large sample of newlywed couples (Wilson et al., 2005). The relatively high and unchanging
SRERS scores on both subscales indicate that couples in both conditions maintained their efforts, and continued using similar strategies, to maintain their relationship across the transition to parenthood.

Psychological aggression on the CTS (short form) showed a statistically reliable decline across the course of the study (pre $M = 2.85$, $SD = 2.67$; post $M = 2.18$, $SD = 2.10$), $F(1, 61) = 11.80$, $p < .001$, $d = .28$ (refer to Table 5.4). No other main effects or interaction effects were significant.

There were no significant main effects or interactions on DASS total negative affect. As is evident in Table 5.4 the mean pre-intervention DASS scores were comparable to the mean scores of the normal population (Crawford & Henry, 2003; Lovibond & Lovibond, 1995) and remained low at post-intervention.

On the SWLS there were no significant main effects or interactions, however there was a trend for gender, $F(1, 61) = 3.54$, $p = .07$. As can be seen in Table 5.4 females reported slightly greater life satisfaction relative to males (Female $M = 28.80$, $SD = 5.31$; Male $M = 27.42$, $SD = 4.96$). Pre-and post-intervention couple scores on the SWLS were higher than population means reported by previous researchers among non-clinical adult samples (Arrindell et al., 1991).
Table 5.4

Means (Standard Deviations in parentheses) of Couple and Individual Adjustment Self-report Measures

<table>
<thead>
<tr>
<th>Self-report Measure</th>
<th>Gender</th>
<th>BAP Pre-intervention</th>
<th>BAP Post-intervention</th>
<th>CCP Pre-intervention</th>
<th>CCP Post-intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyadic Adjustment Scale</td>
<td>F</td>
<td>124.06 (12.12)</td>
<td>116.90 (15.53)</td>
<td>121.70 (10.30)</td>
<td>121.47 (9.50)</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>122.59 (12.55)</td>
<td>118.81 (12.03)</td>
<td>120.50 (8.73)</td>
<td>117.90 (11.63)</td>
</tr>
<tr>
<td>SRERS – strategies subscale</td>
<td>F</td>
<td>36.47 (36.47)</td>
<td>35.16 (8.06)</td>
<td>37.23 (5.16)</td>
<td>37.33 (4.81)</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>36.94 (6.56)</td>
<td>35.03 (6.17)</td>
<td>36.37 (5.02)</td>
<td>35.60 (4.66)</td>
</tr>
<tr>
<td>SRERS – effort subscale</td>
<td>F</td>
<td>23.28 (4.23)</td>
<td>23.38 (4.86)</td>
<td>23.93 (2.30)</td>
<td>24.37 (2.65)</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>22.75 (4.10)</td>
<td>22.03 (3.37)</td>
<td>22.53 (2.99)</td>
<td>22.57 (2.69)</td>
</tr>
<tr>
<td>Negative Affect (DASS total)</td>
<td>F</td>
<td>9.97 (8.26)</td>
<td>8.06 (5.40)</td>
<td>8.41 (4.44)</td>
<td>7.10 (7.58)</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>7.47 (4.60)</td>
<td>7.59 (6.97)</td>
<td>8.41 (6.10)</td>
<td>8.90 (9.08)</td>
</tr>
<tr>
<td>Satisfaction in Life Scale</td>
<td>F</td>
<td>28.78 (6.45)</td>
<td>28.75 (5.42)</td>
<td>28.80 (4.57)</td>
<td>28.87 (4.70)</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>28.28 (4.66)</td>
<td>27.53 (5.09)</td>
<td>26.73 (5.15)</td>
<td>27.07 (4.95)</td>
</tr>
</tbody>
</table>

Note: BAP n = 32; CCP n = 30.
Key Correlations among Parenting Self-report Measures

Table 5.5 presents the correlations between parenting self-report measures at the post-intervention assessment. Pre-intervention parenting measures were not collected as parenting adjustment could not be sensibly measured during pregnancy. As the large number of correlations inflates the chance of Type I error, a $p < .01$ level of significance was used as the criterion for determining statistical significance. As is evident in Table 5.5 the majority of correlations were not significantly different from zero.

Table 5.5

Correlation Coefficients for Parenting Self-report Variables for Females and Males

<table>
<thead>
<tr>
<th>Self-report Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Parenting stress</td>
<td>(.35)*</td>
<td>.33*</td>
<td>.16</td>
<td>-.23</td>
</tr>
<tr>
<td>2. Spouse support</td>
<td>.27</td>
<td>(.14)</td>
<td>.24</td>
<td>-.08</td>
</tr>
<tr>
<td>3. Parenting efficacy</td>
<td>-.21</td>
<td>-.35*</td>
<td>(-.25)</td>
<td>.21</td>
</tr>
<tr>
<td>4. Parenting satisfaction</td>
<td>.02</td>
<td>-.03</td>
<td>.10</td>
<td>(-.01)</td>
</tr>
</tbody>
</table>

Note. Correlations for females are above the diagonal; correlations for males are below the diagonal. Correlations between men and women are in the diagonal. Correlations significant at the $p < .01$ level are asterisked *. 
As shown in Table 5.5 most correlations were non-significant, showing the variables were independent of one another. The largest correlation in Table 5.5 was between female and male parenting stress (PSI). Females, but not males, had a moderate positive correlation between parenting stress and spouse support. Men, but not women, had a moderate negative correlation between spouse support and parenting efficacy. Given the relative independence of most variables, intervention effects were analyzed using univariate ANOVAs.

**Intervention Effects on Self-Reported Parenting Adjustment**

In order to test for intervention effects on parenting adjustment, a series of two-way ANOVAs of condition (CCP, BAP) by gender (female, male), was conducted, with the latter as a within-subjects factor, on parenting stress, spouse support in parenting, parenting efficacy, and parenting satisfaction. There was no time factor in these analyses as the assessment of parenting adjustment could only meaningfully be conducted after the birth of the couple’s first child. With a sample size of \( n = 62 \) I had adequate power of \( \beta > 0.8 \) to detect a medium effect size at alpha 0.05 (Cohen, 1992).

Contrary to predictions, there were no main effects of condition, or interactions of gender by condition, on any of the parenting measures. On all measures of parenting adjustment there was either a significant main effect for gender or a trend for gender. On the Parenting Stress Index (PSI) there was a trend for gender, \( F(1, 61) = 3.70, p = .06 \), with females reporting less parenting stress than males. As is evident in Table 5.6 mean scores on the
PSI were approximately 1 $SD$ below the population mean of 71, indicating that the current sample was experiencing very low levels of stress in the parenting role (Abidin, 1983).

As is evident from Table 5.6 satisfaction with spouse support on the SSS was high, with mean scores approaching ten (scores range from 10 to 40; $10 = \text{maximally satisfied}, \ 40 = \text{maximally dissatisfied}$). Males reported that their female partners were more supportive as a parent, than females reported their male partners being supportive as a parent, $F (1, 61) = 9.67, p < .005, d = .5$. For example, only 17% of females (11/62), but 48% of males (30/62) reported being maximally satisfied (score of 10) with the amount of assistance and involvement their partner had in sharing parenting responsibilities.

On the Parenting Efficacy subscale, females reported greater parenting efficacy than males (Female $M = 32.80, SD = 4.99$; Males $M = 30.54, SD = 5.44$), $F (1, 61) = 6.93, p < .05, d = .43$. Parenting efficacy in this sample was 1 $SD$ above the population mean reported by Johnston and Mash (1989) indicating that couples perceived parenthood as manageable (refer to Table 5.6 for means and standard deviations).

On the Parenting Satisfaction Scale (PSS) there was a trend for gender ($p = .06$), with males reporting slightly greater satisfaction as a parent than females. As can be seen in Table 5.6 mean parenting satisfaction approached the minimum possible scale score of four (low scores indicating higher parenting satisfaction), with 94% (58/62) of females, and 77% (48/62) of males
reporting a total score of four. The majority of the sample was therefore maximally satisfied in their role as parents.

Table 5.6

*Means (with Standard Deviations in parentheses) of Parenting Self-report Measures*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Gender</th>
<th>BAP</th>
<th>CCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parenting Stress Index</td>
<td>F</td>
<td>54.61 (11.02)</td>
<td>55.29 (10.24)</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>57.71 (10.71)</td>
<td>57.86 (11.65)</td>
</tr>
<tr>
<td>Spouse Support Subscale</td>
<td>F</td>
<td>15.22 (6.14)</td>
<td>15.03 (4.61)</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>12.05 (4.05)</td>
<td>12.86 (4.82)</td>
</tr>
<tr>
<td>Parent Efficacy Subscale</td>
<td>F</td>
<td>33.03 (5.71)</td>
<td>32.55 (4.12)</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>29.94 (5.83)</td>
<td>31.2 (5.00)</td>
</tr>
<tr>
<td>Parenting Satisfaction Scale</td>
<td>F</td>
<td>4.31 (1.12)</td>
<td>4.17 (0.47)</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>4.72 (1.17)</td>
<td>4.41 (0.87)</td>
</tr>
</tbody>
</table>

*Note:* Parenting self-report measures were collected at post-intervention only. BAP $n = 32$; CCP $n = 30$. 
Key Correlations among Problem-solving Communication Codes

Table 5.7 presents the correlations between observed couple communication codes and relationship satisfaction at pre-intervention. As with the correlations on the self-report measures, $p < .01$ was used as the criterion for determining statistical significance to account for the increased risk of Type I error due to the large number of correlations. Again, the patterns of associations across the table, rather than individual correlations, are noted.

Most correlations were not significantly different from zero. Large correlations were evident between male and female partner’s use of positive affect and negative affect, and moderate correlations were evident between male and female partner’s use of positive listen and negative listen. Within genders there were some significant, moderate correlations between negative speak and negative listen, and surprisingly, between negative speak and positive affect. Males, but not females, showed a significant, moderate correlation between positive listen and positive speak, and as expected a negative correlation between negative speak and positive speak. Females, but not males, showed a significant and moderate correlation between negative affect and negative listen. None of the problem-solving communication codes were significantly correlated with the self-report measure of relationship satisfaction. Given the relative independence of most couple communication codes, intervention effects were analyzed using a series of univariate ANOVAs.
Table 5.7

*Correlation Co-efficients for Brief KPI Communication Codes and self-reported relationship satisfaction (DAS) for Males and Females*

<table>
<thead>
<tr>
<th>Scale</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Relationship Satisfaction</td>
<td>(.56)*</td>
<td>-.01</td>
<td>.09</td>
<td>.15</td>
<td>-.07</td>
<td>-.09</td>
<td>-.22</td>
</tr>
<tr>
<td>2. Positive Speak</td>
<td>.21</td>
<td>(.06)</td>
<td>.25</td>
<td>.11</td>
<td>-.12</td>
<td>-.10</td>
<td>-.15</td>
</tr>
<tr>
<td>3. Positive Listen</td>
<td>.21</td>
<td>.37*</td>
<td>(.39)*</td>
<td>.09</td>
<td>-.03</td>
<td>-.16</td>
<td>-.09</td>
</tr>
<tr>
<td>4. Positive Affect</td>
<td>.11</td>
<td>-.01</td>
<td>.08</td>
<td>(.81)*</td>
<td>.50*</td>
<td>.14</td>
<td>-.01</td>
</tr>
<tr>
<td>5. Negative Speak</td>
<td>-.13</td>
<td>-.42*</td>
<td>-.27</td>
<td>.42*</td>
<td>(.30)</td>
<td>.42*</td>
<td>.17</td>
</tr>
<tr>
<td>6. Negative Listen</td>
<td>-.18</td>
<td>-.10</td>
<td>-.21</td>
<td>.07</td>
<td>.35*</td>
<td>(.37)*</td>
<td>.43*</td>
</tr>
<tr>
<td>7. Negative Affect</td>
<td>-.28</td>
<td>-.21</td>
<td>-.28</td>
<td>-.20</td>
<td>.09</td>
<td>.27</td>
<td>(.52)*</td>
</tr>
</tbody>
</table>

*Note*. Correlations for females are above the diagonal; correlations for males are below the diagonal. Correlations between females and males are in the diagonal. Correlations, significant at the *p* < .01 level, are asterisked*.

*Intervention Effects on Couple Communication*

Means and standard deviations of pre-intervention couple communication skills and affect are presented in Table 5.8. In order to test for the effects of the intervention, a series of three-way ANOVAs of condition (CCP and BAP), by gender (female and male), by time (pre-intervention, post-workshop and post-intervention), with gender and time as within-subjects factors, were conducted on the outcome measures of positive speak, positive
listen, positive affect, negative speak, negative listen and negative affect. There were three levels to the time factor in these ANOVAs because couples completed an additional couple communication assessment around 36 weeks gestation (1 to 2 weeks after attending the CCP workshop for CCP couples). With a sample size of $n = 64$ I had adequate power of $\beta > 0.8$ to detect a medium effect size at alpha 0.05 (Cohen, 1992).

Positive Speak. On the positive speak code there were no significant main effects or interactions. From Table 5.8 it is clear that positive speak occurred at high rates across both genders and conditions, and that this rate showed little variation over time.

Positive Listen. Two significant main effects were found for the positive listen code. There was a significant main effect for gender, $F (1, 62) = 4.13, p < .05$, and a significant main effect for time $F (2, 62) = 3.84, p < .05$. There was no significant main effect for condition, and no significant interaction effects. Males ($M = 60.52, SD = 21.26$) showed a greater incidence of positive listen compared to females ($M = 55.21, SD = 24.05$), $d = .23$.

As is evident in Table 5.8 couples initially used positive listener skills approximately half (56%) of all the pre-intervention time intervals. This pre-intervention rate of positive listen is slightly higher than the percentage reported by Halford et al. (2001; approximately 40% in low risk engaged couples) but comparable to the percentage reported by Kelly et al. (2002) among happily married couples (59%). Post hoc pair-wise comparison analyses on couple rate
of positive listen across time, using the unadjusted Least Significant Difference (LSD) post hoc for repeated measures (alpha set to .05), indicated that couple positive listen showed a reliable decline from post-workshop \((M = 61.75, SD = 20.72)\) to post-intervention \((M = 55.43, SD = 22.29)\), but showed no reliable change from pre-intervention to post-workshop, or from pre-intervention to post-intervention. The effect size for the decline in positive listen from post-workshop to post-intervention was small, \(d = .29\).

**Positive Affect.** There was a significant main effect for time, \(F(2, 62) = 4.25, p < .05\) and a significant time by gender interaction, \(F(2, 62) = 3.47, p < .05\), on the positive affect code. The main effects for gender and for condition were not significant. No other interaction effects were significant. Since gender was a within-subjects variable I ran three separate paired-sampled t-tests to examine differences between male and female positive affect at each assessment point.

As is evident in Table 5.8 female positive affect was reliably higher at pre-intervention than male positive affect, \(t (63) = -2.18, p < .05\), but was not reliably different at post-workshop and post-intervention. Post-hoc pair-wise comparison analyses on male and female rate of positive affect across time, using the unadjusted LSD post hoc for repeated measures (alpha set to .05), indicated that male positive affect was reliably higher at pre-intervention \((M = 57.17, SD = 31.21)\) than at post-intervention \((M = 47.21, SD = 28.80)\) \(d = .33\), and significantly higher at post-workshop \((M = 56.46, SD = 29.15)\) than at post-intervention \((M = 47.21, SD = 28.80)\), \(d = .32\). There was no reliable change in
male positive affect from pre-intervention to post-workshop. Female rate of positive affect was reliably higher at pre-intervention ($M = 62.18, SD = 32.44$) than at post-intervention ($M = 50.86, SD = 30.14$), $d = .36$, but was not reliably different between pre-intervention and post-workshop, or between post-workshop and post-intervention.

**Negative Speak.** A significant condition by time interaction was found for the negative speak code, $F(2, 62) = 7.08, p < .001$. There were no other significant main effects or interactions. From Table 5.8 it can be seen that couples in both conditions evidenced similar amounts of negative speak during the pre-intervention discussion. The rate was comparable to that found in other observational studies of communication in satisfied committed couples which were also coded with the Brief KPI (e.g., Halford et al., 2000, 2001, 2004).

As is evident in Figure 5.3, CCP couples used significantly less negative speak than BAP couples at the post-workshop assessment (CCP $M = 5.61, SD = 17.94$; BAP $M = 28.49, SD = 26.05$), $F(1, 62) = 22.49, p < .001$, and also at the post-intervention assessment (CCP $M = 12.66, SD = 15.87$, BAP $M = 28.47, SD = 25.02$), $F(1, 62) = 11.98, p < .001$. The effects sizes for the differences in rates of negative speak between CCP and BAP were large, both at the post-workshop, $d = 1.02$, and at the post-intervention $d = .75$. Figure 5.3 also illustrates how Couple CARE for Parents couples showed a reliable decline in negative speak across time, $F(2, 30) = 7.26, p < .001$. By contrast, BAP couples rate of negative speak remained relatively unchanged across the course of the study. Post hoc pair-wise comparison analyses on CCP rate of negative
speak across time, using the unadjusted LSD post hoc for repeated measures (alpha set to .05), indicated that CCP negative speak was reliably lower at the post-workshop assessment than at pre-intervention ($d = .42$), but showed no reliable change from post-workshop to post-intervention, or from pre-intervention to post-intervention.

*Figure 5.3.* Mean rate (in percentages) with confidence intervals, of negative speak among CCP and BAP couples at pre-intervention, post-workshop and post-intervention.
Table 5.8

*Means (Standard Deviations in Parentheses) on Couple Problem-solving Communication Codes as Measured by the Brief KPI*

<table>
<thead>
<tr>
<th>Communication Code</th>
<th>BAP Pre-intervention</th>
<th>BAP Post-workshop assessment</th>
<th>BAP Post-intervention</th>
<th>CCP Pre-intervention</th>
<th>CCP Post-workshop assessment</th>
<th>CCP Post-intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
</tr>
<tr>
<td>Positive Speak</td>
<td>M</td>
<td>72.12</td>
<td>74.04</td>
<td>74.04</td>
<td>68.94</td>
<td>71.00</td>
</tr>
<tr>
<td>Positive Listen</td>
<td>M</td>
<td>55.65</td>
<td>61.18</td>
<td>52.24</td>
<td>56.00</td>
<td>50.72</td>
</tr>
<tr>
<td>Positive Affect</td>
<td>M</td>
<td>68.11</td>
<td>64.60</td>
<td>60.38</td>
<td>57.07</td>
<td>55.86</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>(26.63)</td>
<td>(29.50)</td>
<td>(30.60)</td>
<td>(30.36)</td>
<td>(37.80)</td>
</tr>
<tr>
<td>Negative Speak</td>
<td>M</td>
<td>22.08</td>
<td>21.26</td>
<td>27.82</td>
<td>29.11</td>
<td>22.52</td>
</tr>
<tr>
<td>Negative Listen</td>
<td>M</td>
<td>53.86</td>
<td>59.82</td>
<td>60.75</td>
<td>67.72</td>
<td>54.97</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>(27.81)</td>
<td>(23.54)</td>
<td>(24.98)</td>
<td>(19.55)</td>
<td>(27.56)</td>
</tr>
<tr>
<td>Negative Affect</td>
<td>M</td>
<td>44.10</td>
<td>24.93</td>
<td>46.32</td>
<td>33.45</td>
<td>46.19</td>
</tr>
</tbody>
</table>

*Note: BAP n = 33; CCP n = 31.*
Negative Listen. For the negative listen code there was a significant main effect of time, \( F(2, 62) = 10.90, p < .001 \), and an interaction effect of condition by time \( F(2, 62) = 15.99, p < .001 \). The main effects for gender and condition were not significant. No other interactions were significant. The pre-intervention rate of negative listen was higher among this sample of pregnant couples (57%) than that observed in previous studies of committed and satisfied couples (e.g. 45% in Halford et al., 2004; 38% in Halford et al., 2000; 10% in Kelly et al., 2002). This high rate compares to couples classified as high risk of future relationship problems based on parental divorce (Sanders et al., 1999) or a combination of parental divorce and parental aggression (Halford et al., 2001).

As is evident in Figure 5.4 both conditions evidenced similar amounts of negative listen at pre-intervention, but CCP couples used significantly less negative listen than BAP couples at the post-workshop assessment (CCP \( M = 31.10, SD = 20.74 \); BAP \( M = 61.71, SD = 23.77 \)), \( F(1, 62) = 29.97, p < .001 \), and also at the post-intervention assessment, (CCP \( M = 51.97, SD = 25.52 \); BAP \( M = 64.24, SD = 19.07 \)), \( F(1, 62) = 4.79, p < .05 \). The effect sizes for these differences were large at the post-workshop assessment \((d = 1.37)\) and moderate at the post-intervention assessment \((d = .54)\). Couple CARE for Parents couples showed a significant reduction in the use of negative listen across time, \( F(2, 30) = 29.93, p < .001 \). By contrast, BAP couples’ rate of negative listen remained unchanged across the course of the study. Post hoc pair-wise comparison analyses on CCP rate of negative listen across time, using the unadjusted LSD post hoc for
repeated measures (alpha set to .05), indicated that CCP negative listen was significantly lower at the post-workshop assessment \((M = 31.10, SD = 20.74)\) than at pre-intervention \((M = 57.68, SD = 23.98)\), \(d = 1.19\), and significantly higher at post-intervention \((M = 51.97, SD = 25.52)\) than at post-workshop \((M = 31.10, SD = 20.74)\), \(d = .90\).

Figure 5.4. Mean rate (in percentages) with confidence intervals, of negative listen among CCP and BAP couples at the pre-intervention, post-workshop, and post-intervention.

The post-hoc showed no statistically significant change on CCP rate of negative listen from pre-intervention to post-intervention. Figure 5.4 shows the initial decrease in negative listen and the rebound increase in CCP couple negative listen, compared to the relatively stable negative listen
scores among BAP couples. Despite the rebounding increase in CCP negative listen from post-workshop to post-intervention it is important to remember that CCP couple rate of negative listen remained reliably lower the post-intervention than BAP negative listen.

**Negative Affect.** On the negative affect code there were significant main effects for gender, $F(1, 62) = 19.81, p < .001$, and time, $F(2, 62) = 4.05, p < .05$. The main effect for condition was not significant. There was a significant interaction between condition and time, $F(2, 62) = 7.08, p < .001$. No other interaction effects were significant. From Table 5.8 it is clear that females showed reliably higher rates of negative affect compared to males (Females $M = 42.66, SD = 28.5$; Males $M = 31.68, SD = 28.47$). Pre-intervention negative affect was higher in this sample of pregnant couples (37%) compared to previous investigations of couple negative affect as measured by the Brief KPI (e.g. 9% in Halford et al., 2000; 15% Halford et al., 2001; 13% in Sanders et al., 1999).

As is evident in Figure 5.5, CCP couples used significantly less negative speak than BAP couples at the post-workshop assessment (CCP $M = 22.48, SD = 24.19$; BAP $M = 39.89, SD = 27.36$), $F(1, 62) = 7.23, p < .01, d = .67$, but there was no difference between conditions in rates of negative affect at post-intervention. Couple CARE for Parents couples showed a reliable reduction in the use of negative affect across time, $F(2, 30) = 8.49, p < .001$. By contrast, BAP couples rate of negative affect remained unchanged across the course of the study. Post hoc pair-wise comparison analyses on CCP rate of negative affect across time, using the
unadjusted LSD post hoc for repeated measures (alpha set to .05), indicated that CCP negative affect was reliably lower at the post-workshop assessment \((M = 31.41, SD = 27.73)\) than at pre-intervention \((M = 39.27, SD = 27.42)\), \(d = .29\), and reliably higher at post-intervention \((M = 40.86, SD = 30.29)\) than at the post-workshop assessment \((M = 31.41, SD = 27.73)\), \(d = .33\). The post-hoc showed no reliable change on CCP rate of negative affect from pre-intervention to post-intervention. Figure 5.5 shows this initial decrease, followed by the rebound increase in CCP couple negative affect, compared to the unchanging negative affect scores among BAP couples across time.

*Figure 5.5.* Mean rate (in percentages) with confidence intervals, of negative affect among CCP and BAP couples at the pre-intervention, post-workshop, and post-intervention.
**CCP Program Completion and Evaluation**

All BAP couples, and most (20/31, 65%) CCP couples, completed their program and the post-intervention by 4 months postpartum. However, seven CCP couples (23%) took until 5 months postpartum, and four CCP couples (13%) took until 6 months postpartum to complete the CCP program and post-intervention assessment. Almost all CCP couples \( n = 27, 87\% \) requested extra time to complete at least one of the three self-administered units (units 4, 5, and 6). Delays in CCP program completion were attributed to the competing time demands of new parenthood.

Unit completion was defined as at least partial completion of CCP the activities in each of the six units. Twenty-seven couples completed all six units of the Couple CARE for Parents program (87%). Three couples completed five CCP units (10%), and one couple completed only four CCP units (3%). Unit 6 ‘Adapting to Change’ was the unit not completed by these four couples, and unit 4 ‘Caring, affection and sexuality’ was also not completed by one of these couples. Reasons for not completing a CCP unit included lack of time and lack of relevance of unit activities. These four couples completed the post-intervention assessment despite not completing one or two CCP units.

Table 5.9 presents mean CCP activity and self-directed change plan (SDCP) completion. There was no significant difference between females and males on the completion of CCP activities. The mean score of activity completion was high (88%), but not as high as in the original Couple CARE
program (96%; Halford et al., 2004). Females completed more SDCPs than males, $t(30) = 2.38, p < .05.$

Table 5.9

The Percentage, Mean (Standard Deviations in Parentheses) of CCP Activities and Self-Directed Change Plans Completed by Couple CARE for Parents Participants

<table>
<thead>
<tr>
<th>Task</th>
<th>Percent</th>
<th>M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female CCP Activities</td>
<td>91%</td>
<td>44 (5)</td>
</tr>
<tr>
<td>Self-directed change plans</td>
<td>79%</td>
<td>5 (1)</td>
</tr>
<tr>
<td>Male CCP Activities</td>
<td>86%</td>
<td>41 (8)</td>
</tr>
<tr>
<td>Self-directed change plans</td>
<td>70%</td>
<td>4 (2)</td>
</tr>
<tr>
<td>Couple CCP Activities</td>
<td>88%</td>
<td>84 (11)</td>
</tr>
<tr>
<td>Self-directed change plans</td>
<td>74%</td>
<td>9 (3)</td>
</tr>
</tbody>
</table>

Note: The maximum number of individual activities was 24. Activities were rated on a scale of 0 = not completed, 1 = partially completed, 2 = fully completed. Therefore the maximum individual activity score was 48 and for the couples was 96. The total number of self-directed change plans (SDCPs) for an individual was 6, and for a couple was 12. Only fully completed self-directed change plans are included in the table. Partially completed SDCPs occurred for 35% of couples.

Reasons for not enacting a SDCP varied, with the most common reason being lack of time and energy. Only three couples (10%) completed all twelve possible SDCPs, and only one of these couples was also a couple
who completed all of the CCP activities in the six units. One male completed only five CCP units, 29% of the CCP activities and zero SDCPs. This male reported being very busy with work and unable to find the time to engage in the CCP program. Despite this, his female partner engaged in CCP and completed 85% of the CCP activities and 50% of SDCPs.

Consumer Satisfaction. All CCP women and men stated that they would recommend the CCP program to other first-time parents and 92% of BAP women and 77% of BAP men stated that they would recommend the BAP program to other couples. Consumer satisfaction ratings were analysed in a two-way ANOVA of condition (CCP and BAP) by gender (male and female), with gender being a within-subjects factor. Couple CARE for Parents participants were reliably more satisfied with the program they received than BAP couples (CCP M = 44.7, SD = 3.55; BAP M = 38.36, SD = 5.89), F (1, 61) = 4.00, p < .05, d = 1.30. Women in both conditions were more satisfied with the programs than men (Female M = 42.37, SD = 5.56; Male M = 40.36, SD = 6.19), F (1, 61) = 8.51, p < .005, d = .34.

CCP Program Evaluation. Three CCP couples did not return evaluations of the CCP activities, giving 28 couples who provided data. The mean usefulness rating of all CCP activities fell between ‘useful’ and ‘extremely useful’ (M = 2.1, SD = 0.27). Couples rated the communication skills, giving effective feedback and conflict management activities (a total of eight activities across CCP units 1 and 2) as the most useful part of the CCP program. The ‘Sex myths’ (unit 4), ‘Support circle’ (unit 5) and ‘What
to do if things go wrong’ (unit 6) activities were rated as the least useful (mean ratings below 2).

While CCP couple responses to the post-intervention interview question “What was the most helpful part of the CCP program?” most frequently referred to the couple relationship material (e.g., the two most common participant responses were: (1) communication and learning to manage differences, and (2) general tips on how to keep a strong relationship), the stated pre-intervention reason couples gave for joining the research project rarely referred to relationship issues. For example, in response to the pre-intervention interview question of “What attracted you to this study?” the two most common responses by all couples at pre-intervention were: (1) to get information about parenting and baby care, and (2) to receive extra support from a professional. The contrast in couple responses for those couples who then received CCP suggests that couples in CCP enjoyed, or found useful, the couple relationship material over and above the infant care and parenting information and support. This interpretation is supported by post-intervention interview feedback from BAP couples which was very similar to the stated reasons for joining the study (e.g., the two most common BAP participant responses to the question “What was the most helpful part of the BAP program?” were: (1) knowing someone was there to help, and (2) breastfeeding information.

Program Contact Hours

Excluding the time to complete assessments, the average hours of educator contact with each couple in CCP was approximately 13 hours per
couple, and with BAP women was approximately 4 hours per woman. Couples in CCP also completed on average 4 hours of homework tasks in addition to the 13 hours of educator contact, giving a total of approximately 17 hours for CCP program completion. Women in BAP had no additional homework tasks.

Attrition

No post-intervention questionnaires or video-tape data were collected from seven of the original 71 couples (10% attrition rate). Attrition was similar across both programs (four couples allocated to CCP, three couples allocated to BAP). Couples gave a variety of reasons for withdrawing from the study; one man had to go overseas for active duty (CCP), one couple found the study too time consuming (CCP), one couple moved interstate (BAP), and another withdrew without stating a reason (BAP). Furthermore, two couples delivered their baby before attending the CCP workshop which made them ineligible for the study and one couple had a still-born baby (BAP). These seven couples were not included in the analyses.

Discussion

The current study evaluated, within a randomized controlled trial, the effects of Couple CARE for Parents (CCP) on relationship functioning, individual well-being, parenting adjustment and couple communication among couples becoming parents. It was hypothesised that CCP, relative to the comparison condition (Becoming a Parent Program; BAP), would assist couples across the transition to parenthood to maintain or even
enhance their couple, individual and parenting adjustment to parenthood. Hypothesis one was partially supported. Relative to BAP, CCP prevented a decline in female, but not male, relationship satisfaction, and had no differential effect on relationship aggression and self-regulation. The second and third hypotheses, that participating in CCP would lead to higher individual well-being and parenting adjustment in comparison to BAP, were not supported. All couples, irrespective of condition, reported high individual well-being and parenting adjustment. The fourth hypothesis was partially supported. Communication and conflict management skill-training in Couple CARE for Parents was associated with immediate improvements in rates of negative communication skills and affect, but not with improvements in rates of positive communication skills and affect. Furthermore, compared to BAP, CCP couples continued to show lower rates of negative communication skills (but not affect) at 4 months postpartum.

*Intervention Effects on Couple Relationship Satisfaction*

This study replicates and extends previous research on the beneficial effects of a couple-focused transition to parenthood intervention on couple relationship satisfaction. Couple CARE for Parents (CCP) prevented a decline in relationship satisfaction among intervention females relative to BAP females, a finding which replicates the 3 month intervention effects reported by Shapiro and Gottman (2005). Including this study, four randomized controlled couple-focused interventions for the transition to parenthood have now reported that relationship psycho-
education has positive effects on relationship satisfaction, relative to a control group, for couples becoming parents (Cowan & Cowan, 1992; Midmer et al., 1995; Shapiro & Gottman, 2005).

The current study extends previous research by showing that declines in relationship satisfaction can be prevented in the case of females, with a flexible delivery and self-regulation approach to couple psycho-education. These two features have not been included in previous intervention trials across the transition to parenthood. The flexible delivery nature of CCP is a particular strength of this intervention as it potentially makes couple psycho-education more cost-effective, attractive (due to couple privacy, self-pacing and self-scheduling) and more widely available to couples who live geographically far from providers of relationship education. The benefits of flexible delivery programs are reviewed in more detail later in the discussion.

While CCP prevented declines in female relationship satisfaction, men in both CCP and BAP reported a small decline in relationship satisfaction from pregnancy to 4 months postpartum. Shapiro and Gottman (2005) found a similar gender difference in response to their couple-focused intervention. In contrast, Schulz et al. (2006) reported no gender differences in relationship satisfaction scores as a result of the ‘Becoming a Family’ intervention. Midmer et al. (1995) did not report intervention effects by gender and as such do not assist in furthering our understanding of the potential gender differences resulting from couple-focused psycho-education across the transition to parenthood. The conflicting findings
regarding gender differences as a result of couple-focused psycho-education across the transition to parenthood will require future intervention trials of similar nature in order to assess whether gender differences are a robust finding or spurious.

When speculating on the possible reasons for the gender differences in response to CCP the following reasons are offered. Women tend to be more profoundly affected by pregnancy, birth and early parenting than men (Cowan et al., 1985; McHale & Huston, 1985; Pancer et al., 2000; Thompson & Walker, 1989). Furthermore, female relationship satisfaction shows greater declines (Twenge et al., 2003), and declines sooner after the birth, than male relationship satisfaction (Belsky et al., 1983; Cowan & Cowan, 1992; Waldron & Routh, 1981). Therefore, couple-focused psycho-education might be more effective, at least initially, in preventing female, but not male declines in relationship satisfaction.

While no immediate intervention effects were observed on male relationship satisfaction, there is the possibility that male relationship satisfaction will follow the same pattern as that of their female partners from post-intervention to 1 year postpartum. Support for this future pattern comes from several studies. For example, a recent longitudinal study of 97 couples across the first 3 years of parenting, where O’Brien and Peyton (2002) found a high correlation ($r = .73$) between initial decline in one partner’s relationship satisfaction and subsequent decline in the other partner’s relationship satisfaction.
Further support for a ‘lag effect’ in relationship satisfaction change comes from studies of distressed couples, where it is often the woman who initiates separation (Kincaid & Caldwell, 1995; Wadsby & Svedin, 1992; Wolcott & Hughes, 1999), while the man is often unaware of his partner’s distress until the separation begins, at which time he also becomes distressed (Jordan, 1996). Shapiro and Gottman (2005) found that while intervention men initially reported a decline in relationship satisfaction from pre-intervention to post-intervention, they subsequently reported an increase in relationship satisfaction from 3 months to 12 months postpartum. In contrast, from 3 months to 12 months postpartum control men reported a severe decline in relationship satisfaction. Male relationship satisfaction thus appears to be strongly influenced by female relationship satisfaction. A 12 month postpartum follow-up assessment of the couples in this current study is underway, unfortunately the scope of a PhD study did not allow the long-term follow-up data to be collected and analyzed for this thesis.

**Intervention Effects on Couple Communication**

The current study replicates and extends previous research on the effects of relationship education on couple communication. Couple CARE for Parents produced an immediate decrease in rates of negative speaker skills, negative listener skills and negative affect during couple problem-solving discussions, which replicates previous skill-training couple interventions with engaged couples (e.g., Halford et al., 2001; Hahlweg et al., 1998; Stanley et al., 1995). This study extends previous research by demonstrating that couples who are becoming parents also show reduced
rates of negative communication skills and affect immediately after communication and conflict management skill-training.

Traditionally pregnancy is seen as a time of pre-occupation with the birth, possibly preventing women from engaging effectively in postnatal issues and couple-focused discussion and education (Midmer et al., 1995; Ockenden, 2002). However, the current study clearly demonstrates that men and women are highly engaged in, and show immediate improvements in negative couple communication skills and affect as a result of communication skill-training during pregnancy. Although there was a rebound increase from the post-workshop assessment to post-intervention in negative listen and negative affect among intervention couples, the CCP couples maintained reliably lower rates of negative speak and negative listen at 4 months postpartum relative to BAP couples suggesting that communication gains can be maintained short-term for negative speaker skills and partially maintained for negative listener skills.

The attenuation of intervention effects on couple communication skills over time is typical (Butler & Wampler, 1999; Stanley & Markman, 1997). Thus, the immediate and large effect of communication skill-training on CCP negative communication at post-workshop assessment is likely to be due to CCP couples having had very recent exposure to the communication skills taught to them in the antenatal workshop. By post-intervention couples had had 4 months in which to ‘forget’ some of the effective communication and conflict management skills, because in the latter units, CCP focused more on other couple adaptive processes. It is also
possible that the attenuation of negative affect and partial attenuation of negative communication listen skills are a function of the high demands of early parenthood which may lessen motivation to apply good couple communication skills. Finally, while it is possible that CCP couples ‘faked good communication’ at the post-workshop assessment, studies which have instructed couples to ‘fake good’ often find that distressed couples show enough negativity to distinguish them from happy couples (Vincent, Friedman, Nugent, & Messerly, 1979).

The only other couple-focused psycho-education program for the transition to parenthood that assessed the effects of communication skill-training found detrimental intervention effects on couple communication at 3 months postpartum (Shapiro & Gottman, 2005). Both Shapiro and Gottman’s (2005) intervention and CCP provided communication skill-training in an antenatal group workshop and total program hours were comparable (17 hours in CCP; 16 hours in Shapiro & Gottman, 2005). Several explanations are offered for the contrasting outcomes between these two studies.

First, the continuity of antenatal and postnatal education and support in CCP may have better supported couples’ practice of effective communication and conflict management than the 2 day intervention. For example, the postpartum CCP units included two homework tasks that encouraged couples to continue practising their communication skills and report their strengths and areas to work on to their facilitator in the telephone review. These scheduled practice and review sessions may have
assisted couples to continue to incorporate new skills into their everyday interactions. Furthermore, CCP couples received ongoing education and skill-training in positive relationship behaviours that enhance couple relationships. When the ratio of positive to negative couple interactions is high (e.g., five to one), couples are more likely to report satisfying couple relationships (Gottman, 1998), which may in turn assist the partners to continue utilizing low rates of negative communication skills.

Second, the self-regulation approach to relationship change may have contributed to CCP couple communication improvements relative to a 2 day workshop because couples could self-identify their goals for communication change. The self-regulation approach may have increased couple motivation to practice new communication skills and decreased the potential distress couples felt during the practice of new communication and conflict management skills because they felt a sense of control and ownership of new skills. This contrasts with what typically occurs in communication skill-training where a universal reduction in negative communication skills is encouraged.

Third, the different communication coding systems may partially explain the contrasting results of the CCP intervention in comparison to Shapiro and Gottman (2005). Shapiro and Gottman (2005) examined intervention effects on a global negative affect score which was derived by collapsing scores on a variety of behaviors, including negative speaker (e.g., criticism) and negative listener skills (e.g., defensiveness), as well as negative affect (e.g., contempt), whereas in the current study couple
communication was analyzed with the Brief KPI on three separate negative communication codes. The finding that CCP communication skill-training had greater and longer lasting effects on negative speaker skills than negative listen skills, and the least lasting effect on negative affect, suggests that analyzing the subcategories of communication negativity provides more detailed information about the types of effects communication skill-training may have on couple communication. The collapsing of scores by Shapiro and Gottman (2005) did not permit the separate analyses of intervention effects on different communication categories which may have shown short-term intervention effects on some communication behaviors, but not all communication behaviors.

Some unexpected findings came from the communication observational data. First, there was a positive and moderate correlation between negative speak and positive affect for both genders, suggesting that as couples increased their use of criticism they also increased their use of affection and humor. Some researchers suggest that positive affect buffers the detrimental effects of negativity in communication such that couples who have high negative and high positive affect are indistinguishable from couples who have low negative affect (Johnson et al., 2005). Happy couples typically show higher rates of positive affect during conflict discussions than distressed couples and high levels of positive affect among stable couples predicts later relationship satisfaction (Gottman et al., 1998). Since couples in this study almost universally reported high relationship satisfaction (above the mean relationship satisfaction reported by Spanier,
it is probable that the correlation between negative speak and positive affect replicates the relationship found by these previous researchers.

Second, rates of positive speaker and listener skills, and positive affect, did not increase among CCP couples. An increase in positive communication and affect was expected because CCP encouraged couples to replace negative communication with positive communication skills. For example, PREP, which provides communication skill-training in a similar format and similar number of hours as CCP, has found decreased communication negativity along with increased positive communication skills after communication skill-training (Markman et al., 1993). While the expected decrease in CCP negative speak, listen and affect occurred (at least immediately), along with sustained relationship satisfaction (at least among women), no corresponding increase in rates of positive communication skills and affect were noted. The Brief KPI coding system may not have been sensitive to the gains made by CCP couples in their use of positive speaker and listener skills. For example, using the Brief KPI with couples early in committed relationships, Halford et al. (2004) also failed to find positive intervention effects on couple communication after completing the Couple CARE program despite finding intervention effects on relationship satisfaction.

The lack of increase in CCP positive communication skills may also have occurred because many happy couples do not naturally use positive communication skills such as paraphrasing, summarising and validation (Heyman, Weiss, & Eddy, 1995), even when taught these active listening
skills during relationship education (Gottman et al., 1998). Furthermore, in at least one study, positive listener skills did not predict current or future relationship satisfaction and stability (Gottman et al., 1998). In contrast, couples do increase their use of positive speaker skills such as self-disclosure and positive problem-solving after communication skill-training and these increases are associated with current and future relationship satisfaction (e.g., Hahlweg et al., 1998; Markman et al., 1993; van Widenfelt et al., 1996). Increasing positive listener skills may therefore not be necessary or important in order to improve couple relationship functioning or to prevent relationship deterioration. Increasing positive speaker skills may have been difficult among this cohort of couples because of the already high pre-intervention rates of positive speaker skills.

In sum, there seems to be some inconsistency in the effects of communication-skill training on couple use of positive and negative communication skills and affect with some intervention studies reporting findings in the predicted direction (e.g., Markman et al., 1993), some no effect (Halford et al., 2004; van Windenfelt et al., 1996), others reporting short-term detrimental effects but long-term positive intervention effects (Shapiro & Gottman, 2005), and still others, such as CCP, reporting a combination of effects. These different outcomes are not easily interpreted. A combination of reasons, such as diverse samples of couples (distressed, happy, newlywed, long-term relationships), variations in baseline levels of communication skills, the use of different coding systems, and sometimes
dissimilar program content and delivery may all contribute to these inconsistent outcomes.

*Significance of Intervention Effects*

It is important to note that the intervention effects observed on female relationship satisfaction and negative couple communication occurred in a sample of couples who reported high relationship satisfaction, low rates of relationship aggression, and high individual well-being at pre-intervention. Furthermore, post-intervention relationship aggression remained low, and individual well-being and parenting adjustment were all high. It is therefore striking that even among such a highly satisfied group of couples a substantial decline in relationship satisfaction was observed among BAP women in a period of only 7 months. If the mean rate of decline in BAP female relationship satisfaction continued at the same rate as that observed in the first 4 months of parenthood (mean DAS change score of -7), then mean BAP female relationship satisfaction scores would be half a standard deviation below the population mean by 12 months postpartum and fall in the distressed range of relationship functioning by 24 months postpartum. An anticipation of continued decline in relationship satisfaction is not unrealistic considering that researchers have noted the lowest point in relationship satisfaction ratings tend to occur among women 12 months postpartum (Shapiro et al., 2000). Although this outcome is yet to be investigated, if CCP continued to prevent severe decline in female relationship satisfaction, and demonstrated a similar intervention effect on male relationship satisfaction at the 12 month postpartum follow-up, then
CCP has the potential to significantly and positively enhance a couple’s experience of becoming a parent.

The significance of the intervention effects on observed couple communication are harder to summarize. The transient effects of CCP communication skill-training on negative listen and negative affect may indicate that long-term and sustained improvements on these two negative communication codes are unlikely. While the results of Shapiro and Gottman (2005) suggest that even when initial intervention effects are detrimental, longer-term (12 months post-intervention) improvements in couple negative affect are possible, it is more commonly found that once intervention effects on communication are lost they do not return in later follow-up assessments. However, considering the high number of changes and stressors associated with the transition to parenthood and the evidence that half of all couples struggle with these strains across the first postpartum year, it may be possible that couple communication does improve 12 to 24 months postpartum, when couples have had some time to adjust to the demands of parenthood. Future randomized controlled studies are needed to examine what follow-up effects couple communication skill-training has on new parent couples.

Although low rates of communication negativity are reported by many studies to correlate and predict future relationship satisfaction and stability (e.g., Christensen & Shenk, 1991; Gottman & Kokoff, 1989; Gottman, 1994; Halford et al., 1990; Heavey et al., 1995; Notarius & Markman, 1993), there were no cross-sectional correlations between couple
communication codes and relationship satisfaction at pre-intervention in the current study. The restricted range of relationship satisfaction scores at pre-intervention, with almost all couples scoring in the satisfied range, might have eliminated possible associations. Even without a cross-sectional association of couple communication with relationship satisfaction it is still possible that communication might predict satisfaction longitudinally.

Even though communication skill-training which reduces communication negativity is associated with better relationship satisfaction and stability in comparison to couples who do not receive intervention (e.g., Markman et al., 1993), there are some studies that do not find negative communication (e.g., anger) predictive of future relationship problems (Gottman et al., 1998). There is also no clear evidence that changes in couple communication is the mechanism that mediates the effects of relationship education on couple relationship satisfaction. It is uncertain whether the reliably lower rates of negative speak and negative listen observed among CCP couples, relative to BAP couples at post-intervention, mediated the sustained relationship satisfaction in the intervention group. Given the importance of establishing the mediators of long-term sustained relationship satisfaction, it would be useful in future research to test this mediation of relationship satisfaction some years after education.

Explanations for the Lack of Intervention Effects on Individual Well-Being and Parenting Adjustment

Although CCP did not result in more favorable outcomes on relationship aggression, individual depression, anxiety and stress,
satisfaction with life, or on any of the four parenting measures compared to BAP, the lack of intervention effects may be due to the low base rates of relationship and individual problems at pre-intervention. For example, physical aggression scores and individual depression, anxiety and stress scores were universally low among all couples at pre-intervention and this floor effect meant that even if CCP produced benefits in couple conflict management and individual negative affect states the self-report measures would be unable to note anything but a continued low rate of these problem outcomes. There is also the possibility that a ‘lag effect’ will occur from initial declining relationship satisfaction among BAP women at 4 months postpartum to subsequent decline in female well-being and parenting adjustment at 12 months postpartum because of the correlation between relationship satisfaction and maternal well-being (e.g., Diener et al., 1999; Waite & Gallagher, 2000), and relationship satisfaction and parenting adjustment (e.g., Pauli-Pott et al., 2000; Rogers & White, 1998).

Alternatively, the lack of CCP intervention effects on individual well-being and parenting adjustment measures may be due to the BAP program being as effective as CCP in preventing individual and parenting problems (at least among couples without elevated symptoms of individual distress during pregnancy). Universal interventions aimed at reducing maternal distress report that individually tailored emotional support, focusing on parenting issues and personal coping, reduce rates and severity of postnatal depression (Lavender & Walkinshaw, 1998; MacArthur et al., 2002; Shield et al., 1997). Furthermore, according to research into the
factors associated with individual well-being and parenting adjustment, good support (particularly good informative support) in the early weeks of parenthood is highly desired by women (McPherren-Stover & Griffith-Marnjon, 1995; von Sydow, 1999), and correlates with maternal well-being (Levy-Schiff et al., 1998), parenting self-efficacy (Cutrona & Troutman, 1986; Teti & Gelfand, 1991) and adaptation to parenthood in general (Terry, 1992). The negative correlation between male report of partner support and parenting self-efficacy contradicts the findings of these previous studies. In this study men reported lower parenting self-efficacy as they received higher levels of support from their female partner’s in the parenting role suggesting that female support may inadvertently reduce the male’s perception of his parenting competence. The low to moderate correlation between these two variables needs to be replicated, but it does suggest that while male partner support in parenting increases female parenting self-efficacy, it does not have the same implications for male parenting self-efficacy.

Due to the overlapping parenting information in CCP and BAP it is difficult to ascertain whether high individual well-being and high parenting adjustment were due to the shared infant care content of the two programs, high levels of emotional support provided by the facilitator to BAP and CCP participants, the overall high consumer satisfaction with both programs, or because the intervention was trialled with a relatively low-risk sample. These factors could be modified in future intervention studies during the transition to parenthood in order to ascertain whether any one of these
factors may have contributed to the lack of CCP intervention effects on individual well-being and parenting adjustment.

Mechanisms of Intervention Effects

The Couple CARE for Parents program aimed to prevent relationship distress by educating and training couples in key couple relationship skills typically covered in relationship enhancement and education programs for couples early in their relationships. These skills included effective couple communication, conflict management, demonstrations of affection, mutual support, and intimacy. In CCP, parenthood-specific factors such as shared and realistic parenting expectations, parenting self-efficacy and parenting competence were added because of the strong evidence that these factors are also modifiable and predict adjustment to parenthood.

Research from the broader relationship enhancement interventions for newlywed couples supports the argument that skill-training is an important component of effective couple relationship education (Giblin et al., 1985; Halford, 1999). Improvement or maintenance of relationship skills may increase adaptive couple processes, which then increase relationship satisfaction (refer to Figure 2.1, Chapter 2). However, because of the multifaceted nature of the CCP intervention – as with most other skill-training couple relationship programs (e.g., Couple CARE, Halford et al., 2004; PREP, Markman et al., 1994) - it is hard to isolate the mechanisms mediating intervention effects. For example, it is not known if skill-training in all the key relationship processes, or only specific relationship processes,
accounts for the higher rates of stable relationship satisfaction scores observed among intervention females relative to comparison females.

Markman et al. (1994) argue that negative communication skills erode couple relationship satisfaction and that the effects of PREP are in part due to the improvements PREP has on communication behaviors. There is some limited support from the current intervention study for Markman et al.’s (1994) hypothesis because the intervention changed both couple communication and self-reported relationship satisfaction. However, couple-focused psycho-education which reduces negative couple communication behaviors is not always associated with increased relationship satisfaction longitudinally (e.g., Schilling et al., 2003).

Alternate mediators of intervention effects have thus been proposed. For example, Halford et al. (2004) reported some initial evidence that couple self-regulation, or self-directed change, increases after participation in relationship education and that high self-regulation correlates with high relationship satisfaction (Wilson et al., 2006). Relationship self-regulation may thus be a key mechanism mediating the effects of relationship education on relationship satisfaction (Halford et al., 2004). In earlier chapters I argued that self-regulation may explain the effects observed by flexible delivery programs. Unlike Halford et al. (2004) the current study did not find that self-regulation increased after participation in CCP. The Couple CARE and CCP programs both covered key relationship skills shown in previous investigations to predict relationship outcomes and to be modifiable. Both programs also included the self-directed change approach.
However, in CCP, couples could focus their self-change efforts on either their relationship or parenting. Overall CCP also had slightly fewer relationship focused activities because of the added parenting content. The addition of the parenting content may have diluted the strength of the original Couple CARE program and the ability of the relationship self-regulation measure to record differences between BAP and CCP couples. There was no assessment of the amount of relationship effort and strategies that couples directed at being an effective parenting team and this may be an area for future studies of self-regulation among couples becoming parents.

It is also possible that subtle differences in participant characteristics explain why self-regulation did not increase among CCP couples but did in Couple CARE (Halford et al., 2004). Couples in the current study were younger, had been in their relationships for longer, were more likely to be married, and had higher mean pre-intervention self-regulation and relationship satisfaction scores than couples in Couple CARE. These differences in sample characteristics suggest that couples in the current study evidenced higher relationship stability, satisfaction and relationship effort prior to random allocation and these differences may have made it more difficult for CCP to produce increases in self-regulation.

Although the current study does not support Halford et al.’s (2004) proposition that relationship self-regulation is a key mechanism mediating the effects of relationship education on relationship satisfaction, this study does contribute to the couple self-regulation literature in a number of important ways. First, what is evident from this study is that there is a
moderate correlation between self-regulation effort and relationship satisfaction among couples across the transition to parenthood. Second, all couples in the current study, regardless of condition, reported exerting a similar rate of relationship effort, and this rate remained slightly higher than the means reported by Halford et al. (2004). Third, women direct more effort at their relationships than men, a finding which replicates the results of Halford et al. (2004), and may support the contention that women notice and report subtle changes in couple interactions more so than men (Carels & Baucom, 1999; Fincham, Garnier, Gano, Phillips, & Osborne, 1995). Fourth, becoming a parent decreased relationship self-regulation strategies, but did not alter the amount of relationship effort made by couples in the current study.

In sum, the mechanisms to explain intervention effects in this study are unknown. Communication and self-regulation have both been offered as possible mechanisms mediating intervention effects on relationship satisfaction in previous studies of couple-focused psycho-education. Sustained relationship satisfaction is probably influenced by a number of factors, rather than change in one single factor, and these factors may not be the same for all couples receiving the same intervention. For example, although good couple communication is generally related to relationship satisfaction, not all couples perceive good communication as an important determinant of their relationship functioning (Coop Gordon, Baucom, Epstein, Burnett, & Rankin, 1999). Among couples who think good couple communication is important, the mechanism mediating intervention effects
on relationship satisfaction may be skill-training in couple communication. However, for couples who place little importance on effective communication, skill-training in couple communication may have no effect on relationship satisfaction and therefore not show up as a mechanism for change.

Future studies could investigate the influence of different proposed mechanisms of change by providing couples with only one ‘active’ ingredient. An active ingredient may be communication skill-training or education in self-regulation, without the addition of training in other skills (e.g. support, intimacy, etc.). By isolating potential mechanisms of change and studying the effects on short- and long-term relationship satisfaction and stability on different types of couples (high-risk versus low-risk) the couple intervention field may advance its understanding of mechanisms of change in couple-focused psycho-education.

The Present Study Involved the First Couple-Focused Transition to Parenthood Intervention That Has Included a Flexible Delivery Approach to Engage Couples in Program Material. One of the Major Obstacles of Working with Couples Becoming Parents Is the Fact That Almost All Couples Must Invest Significant Time and Energy in Baby Care Tasks with Associated Decreases in Individual and Couple-Focused Time. It Is Probably Because Young Infants Demand Such High Levels of Adult Caretaking Time and Energy That Transition to Parenthood Intervention Studies Often Report Difficulty in
engaging new parents in postpartum group sessions. Non-attendance and high attrition from transition to parenthood interventions are thus common problems in early postpartum group psycho-education programs (e.g. Brugha et al., 2000; Constantino et al., 2001; Quint et al., 1997; Reichman & McLanahan, 2001, Reid et al., 2002; Stamp et al., 1995).

To overcome these problems CCP delivered only one unit in a group session, and that session was scheduled antenatally. The high workshop attendance and workshop consumer satisfaction ratings suggest that a 1 day antenatal workshop is appealing to couples. However, some workshop scheduling difficulties were encountered. For example, four couples did not attend a workshop until close to their baby’s due date of birth (e.g., 39 weeks gestation), usually because they were busy and unable to attend an earlier workshop date, and two couples delivered their baby before attending their scheduled workshop, which made them ineligible for the study. Possible solutions to these scheduling problems include recruiting and delivering the workshop earlier in pregnancy (i.e., second trimester), and offering to deliver CCP unit 1 material in a condensed format in a home visit or as a self-administered unit.

As expected, couple engagement was high for the home-visiting components of CCP. Furthermore, since home visits could be scheduled for times that were convenient for the couple, no couple withdrew from the program because of difficulty in completing unit 2 and 3. Although the decision to deliver CCP units 4, 5 and 6 as self-administered units was made in order to minimize the high costs of home delivery as well as reduce
participant burden to travel with a young infant, there were some difficulties associated with the completion of the self-administered CCP units. For example, the four couples who did not complete a CCP unit did not complete one of the self-administered units. Fatigue and lack of time were commonly cited barriers to completion of CCP units 4, 5 and 6. Rescheduling of these units occurred at least once for most couples. The greater time constraints that new parent couples experience is likely to explain the slightly lower CCP activity completion rate found in this randomized controlled trial compared to the activity completion rate found in the original Couple CARE program (Halford et al., 2004).

Despite the need to reschedule some of the self-administered CCP units and a small number of couples not completing one of the six CCP units, couples overall maintained high engagement in the program. The high level of CCP activity and self-directed change plan completion in the randomized controlled trial of CCP disconfirms the concern of modest engagement in the pilot evaluation of CCP. In particular it is reassuring that only one couple withdrew from the CCP program because the study was too time-consuming. Providing the flexibility of home visits and self-directed learning may enhance couple commitment to relationship education because it can be completed at times that most suited the couple. Without the flexible delivery component, a program like CCP may have experienced greater attrition rates because of the relatively low educator-couple contact time across the 7 month intervention.
One of the major benefits of a flexible delivery program like CCP is its potential to reach a wide audience in a cost-effective manner. Although couple engagement was high and attrition low in two previous couple-focused transition to parenthood trials (Cowan & Cowan, 1992; Midmer et al., 1995), the wide-scale dissemination of both programs may be problematic because each required couples to travel to access the service. Couples living in geographically large countries, such as Australia and the USA, are often unable to access such programs because of the travel time involved in reaching the nearest main city where relationship services are provided (Halford et al., 2004; Halford & Simons, 2005). Furthermore, a long-term, weekly support group, such as that offered by Cowan and Cowan (1992) is unlikely to be attractive to many couples because of the time required to commit to such frequent and numerous sessions.

The cost of couple-focused psycho-education is a key determinant in dissemination. Although it is beyond the scope of this thesis to do a thorough analysis of the costs involved in delivering this version of CCP, an estimate of delivery costs, compared to the costs of providing the same program as home visits without the self-administered components was undertaken. The current CCP costing compared to home visiting was chosen because a group program would not provide the individual tailoring and support that CCP is designed to offer. For example, the estimated costs of delivering the current version of CCP to a couple is AUS$1760.00 per couple (US$1317.00). This rate is for a psychologist ($80.00/hour) and includes the costs of delivering the CCP program as described in this thesis.
(program delivery = 13 hours), plus 6 hours in preparation and note-taking (1 hour per CCP unit) and 3 hours travel time (1 hour travel for each of the first three units). If CCP was provided as a series of home visits, an additional 4 hours of program delivery (total CCP delivery = 17 hours) and an extra 3 hours of travel time (total travel time = 6) would be required (preparation and note-taking would remain the same). A home-visiting version of CCP would therefore cost AUS$2320.00 per couple (US$1736.00). These costings do not take into consideration initial training, supervision and ongoing administration costs but nevertheless illustrate the potential savings of flexible delivery programs over traditional home-visiting programs. Program costs could be decreased even more if the entire CCP program was delivered as self-administered units like Couple CARE was originally designed for (Halford et al., 2004).

In sum, even though CCP was not associated with an increase in self-regulation, couples engaged well in the program, reported stable female relationship satisfaction, showed reliably lower levels of couple negative speak and listen, and reported higher consumer satisfaction, at post-intervention relative to BAP couples. The flexible delivery approach also allowed for increased privacy, self-pacing and self-scheduling, and substantially reduced the costs associated with program delivery. If the level of problems in couples becoming parents can be reduced across the transition to parenthood with a relatively brief, low-cost, and flexible delivery couple education program such as CCP, then widespread adoption
of such a program could produce large scale individual, social and economic benefits for Australia.

**Limitations**

One of the most obvious limitations of the current study concerns the recruitment success rate. Between half and two-thirds of all couples invited to participate in the study declined. Since no demographic information was able to be collected from the women and couples who declined participation, it is not possible to determine what self-selection occurred into the study from those. Low SES and ethnic minority groups are less likely to attend antenatal clinic and classes compared to white, middle class highly educated groups (Kalmuss & Fennelly, 1990) and it is likely that a disproportionately low number of low SES and minority ethnic group women were at the clinics and classes from which participants were recruited.

The rate of participation in the current study is comparable to the rate of uptake of relationship education at the time of marriage (e.g., 30%; House of Representatives Standing Committee on Legal and Constitutional Affairs, 1998; Simons, Harris, & Willis, 1994; Sullivan & Bradbury, 1997). However, 30% uptake is substantially lower than women’s rate of attendance at antenatal education.

Possible reasons for the two third participation refusal rate in this intervention trial are numerous. For example, many of the couples approached to participate in the study declined because they ‘lacked the time’ or ‘did not need a support or parenting program’. These reasons are
slightly different from those reported by researchers examining uptake of
pre-marital education. Characteristics of couples who do not attend
premarital relationship education include: couples with relationship
problems (Sullivan & Bradbury, 1997), couples who are less religious, and
couples concerned that relationship education may raise new problems in
their relationship or perceive their relationship as private (Simons et al.,
1994). Demographic characteristics, including low income or minority
ethnic status also lower the likelihood of couple attendance at relationship
education (Halford, 1999; Ooms & Wilson, 2004) and women who are
unemployed, unmarried, from a minority ethnic group and with lower
educational attainment are also more likely to decline attending antenatal
education (Fabian et al., 2004; Lee & Shorten, 1999; Lu et al., 2003). Part of
the under-representation of high-risk couples in this study was also probably
attributable to the exclusion criteria which screened out couples who had
relationship problems (i.e., low relationship satisfaction). There are no
available studies examining the attendance rate of men at antenatal
education or the reasons why men do not attend antenatal education, but this
information could be useful in understanding couple barriers to participation
in psycho-education across the transition to parenthood.

In this study there was an under-representation of couples with high-
risk socio-demographic factors and relationship problems, and a slight over-
representation of middle class and educated couples. White, middle-class,
and well-educated groups are often over-represented in couple-focused
psycho-educational interventions (e.g., Carroll & Doherty, 2003; Halford, O’Donnell, Lizzio, & Wilson, 2006; Sullivan & Bradbury, 1997).

Couples with low educational attainment may not perceive a benefit from couple-focused psycho-education. Couples from low educational backgrounds and ethnic origins may also struggle with the paperwork involved in assessments and self-administered programs such as CCP which may make participation less attractive. If such reasons for lack of participation were found, future interventions may need to provide couples with more relevant and convincing arguments and advertisements on the benefits of program participation, lessen the assessment paperwork, and provide flexibility in level of facilitator guidance versus self-administration. The goal of making interventions more attractive to working and lower class couples remains a challenge for the field.

A second limitation of this study was that no independent observation of program adherence was conducted. Given that one female psychologist implemented both programs it is possible that some contamination occurred between the two programs. The development of a detailed leader manual and parent guidebooks for both conditions was designed to increase quality assurance. The differential intervention effects on relationship satisfaction and couple communication support the distinctiveness of the CCP program from the BAP program. In future research it would be best to monitor program adherence more closely, and provide regular supervision and review meetings.
A third limitation relates to the assessment of relationship aggression. Although the CTS (short form) reduced participant burden the measure may not have been sensitive enough to record intervention effects on aggressive acts. Since no intervention effects were observed on the psychological aggression and physical aggression subscales of the CTS (short form), both CCP and BAP may be similarly effective in reducing psychological and physical aggression. Alternatively psychological and physical aggression rates may both decline in early parenthood compared to pregnancy regardless of intervention. Future couple-focused intervention studies would benefit from using the 78-item CTS in order to adequately answer whether couple-focused psycho-education reduces rates of couple aggression.

Lastly, the lack of long-term follow-up data on the outcomes of CCP limits the generalisation of these results to the immediate postpartum period. The 12 month postpartum follow-up data on self-reported couple, individual and parenting adjustment was not analysed for this thesis but will contribute to our understanding of longer-term outcomes of relationship education. However, since the ultimate aim of couple-focused interventions is to prevent future relationship distress, dissolution and poor family outcomes, long-term follow-ups of 5 and 10 years post-intervention would be most useful and informative (Carroll & Doherty, 2003). Such long-term follow-ups would identify whether intervention minimises the 20% divorce rate seen in couples in the first 10 years of marriage (Australian Institute of Family Studies, 2001), and would also allow an examination of intervention effects on long-term adult well-being, parenting practices (e.g. discipline,
supportiveness, sensitivity) and child outcomes (mental, physical, education and peer-related adjustment). Developing a relationship education program that demonstrates long-term efficacy (i.e., in terms of maintaining or increasing couple relationship satisfaction) is crucial if relationship education programs are to become widely recommended by governments and adopted by the public. The great cost of conducting long-term follow-ups is one of the main drawbacks of longitudinal follow-up research. Despite the costs only such long-term outcome studies will yield the necessary data on the impact of couple relationship education during the transition to parenthood on couple and family outcome variables.

The Transition to Parenthood as a Window of Opportunity

The transition to parenthood is a key window of opportunity to provide relationship education to couples. Although only a third of all approached and eligible couples were interested in extra support during late pregnancy and early parenthood a substantially higher number of couples initially indicated their interest in receiving the support programs (50%; Refer to Figure 5.1). Some of these couples later declined participation. Greater agreement to participate may have occurred for offering a service, rather than participation in research. For example, study participation required couples to complete assessments, and the time and tasks involved in these assessments were probably a barrier to participation for some couples. A second potential barrier to participation may have been the randomization procedure. Some couples may not feel comfortable entering a study without having control of the choice of program they receive. Third,
research conducted through universities may not appeal to couples from lower educational levels because of the unfamiliarity with the institution of higher education. A fourth potential barrier to participation may have been the use of a psychologist to deliver the programs. During pregnancy, couples are more familiar with speaking to nurses and midwives and they may therefore perceive nurses and midwives as having more of the necessary qualifications to support them in the transition to parenthood. In contrast, couples may have perceived a psychologist as more qualified for assisting people who are experiencing distress, but not for everyday issues associated with becoming a parent.

Despite these potential barriers, once couples engaged in either program they were unlikely to withdraw (10% attrition). The attrition rate in this study was comparable or lower than that found by researchers offering relationship education to marrying or committed couples (e.g. 10 % in Halford et al., 2004; 24% in Renick et al., 1992) and to pregnant couples (e.g. 20% Midmer et al., 1995; more than 11% Shapiro & Gottman, 2005). Considering the extended length of the CCP program (7 months) in comparison to most other relationship education programs (weekend programs such as Shapiro & Gottman, 2005; or 6 week program in Halford et al., 2004) the low attrition rate suggests that couples valued the program and that the ability to complete the units at home reduced participation burden.

By offering couple-focused psycho-education at the transition to parenthood a slightly different cohort of couples appears to have received
the CCP program from those who would otherwise attend premarital relationship education. For example, this study recruited a large number of cohabiting couples (30%) and these couples are unlikely to be offered relationship education unless planning to marry. Since cohabitation is considered a potential risk indicator for relationship distress and instability, an intervention such as CCP may significantly improve the outcomes for cohabiting couples. Overall, only 20% of couples in this study had attended some form of relationship education in the past. Therefore, by utilizing the transition to parenthood as an additional entry window to relationship education, couples who would otherwise not attend premarital education have the opportunity to access couple relationship education.

By using the transition to parenthood as another time to offer relationship education, existing health care and education systems currently in place to support pregnant couples are maximized. Antenatal education is well recognized, widely available and attended by the majority of primiparous women (Gagnon, 2001). Thus, antenatal services provide another kind of setting (aside from the time of marriage) with excellent access to couples who could benefit from relationship education (Stanley et al., 1995).

**Implications for Supporting Couples across the Couple Life-Span**

Although there have been numerous well-conducted transition to parenthood intervention studies, almost all focus on the mother and infant. There is a growing recognition among health professionals, researchers and governments that supporting the couple relationship is important in
preventing relationship distress, family breakdown and poor child outcomes (Markman & Halford, 2005). Traditionally, relationship education has been provided to couples at the time of marriage (Halford, 1999; Halford et al., 2003; Markman, Stanley, Blumberg, Jenkins, & Whiteley, 2004; Simons & Parker, 2002), and although such studies show that skill-training in key relationship processes enhances adaptive couple relationship processes and relationship satisfaction and stability, there are calls for more flexibility in mode of delivery and for more points of access to relationship education (e.g., Halford, 1999; Halford & Simons, 2005; Hawkins et al., 2002). These two intervention fields, the one for the transition to parenthood, and the one for the transition into marriage have been studied relatively separately (Hawkins et al., 2002), but the merging of these two fields optimally informs research on supporting couples across the transition to parenthood. This thesis extended the research in both fields by developing a program that combined the strengths of each intervention field into a single flexible delivery universal intervention and by analyzing the effects of that program on short-term couple, individual and parenting outcomes.

Because longitudinal studies have consistently found that there are a high percentage of relatively low-risk couples who experience declining relationship satisfaction across the transition to parenthood, universal relationship education may be warranted. However, cost-effectiveness is an important determinant of whether or not universal, selective or indicated prevention programs for the transition to parenthood are funded and disseminated. Universal preventions are cost-effective only if there is
enough evidence that most couples experience relationship problems without intervention and that any improvements in the trajectory of relationship functioning are maintained over several years.

Consistent with the aims of universal interventions, couples were excluded if they were already experiencing relationship distress (because these couples would be more suited to couple therapy). However, the presence of any of the other risk variables (presented in Table 2.1, Chapter 2) did not influence whether or not the couple were included in the study. Thus, it is probable that at least some of the couples in this study had other risk variables that put them at high-risk for future relationship distress and parenting problems. In fact, 8% of this cohort had a history of divorce, 20% had an unplanned pregnancy, 30% had a caesarean section and 40% stated that they had sought help for psychological distress at some time in their life.

It is probable that relationship education offered to high-risk couples may be more likely to be effective than for low-risk couples (Sullivan & Bradbury, 1997). Previous research within the field of premarital education has shown that relationship education provided to high-risk engaged couples is effective in enhancing relationship satisfaction and stability. For example, couples classified as high-risk because of hazardous alcohol intake (Bouma, Halford, & Young, 2004), or history of divorce or violence in the family of origin (Halford et al., 2001) show improved relationship satisfaction post-intervention compared to couples without relationship education. Furthermore, in one study, providing relationship education to low-risk
couples led to erosion of relationship satisfaction (Halford et al., 2001), possibly because the intervention increased relationship monitoring for problems or because it suggested couples replace their currently effective relationship interactions with the strategies taught in the program. At the time of marriage relationship education needs to target couples who have initially low relationship satisfaction – but are not already distressed (Giblin et al., 1985) and at couples who are at high-risk of future relationship distress (Halford et al., 2001) because these couples are the ones most likely to benefit from relationship education (Halford et al., 2005). Thus, at the time of marriage, selective prevention programs have more evidence of effectiveness. Since the study of early relationship education intervention with expectant couples is still in its infancy, it is yet to be determined if universal or selective prevention is the most effective prevention strategy for couples becoming parents.

Although high-risk couples receive the most benefit from relationship education at the time of marriage and probably also during the transition to parenthood, couples who have several high-risk indicators, may need more intensive, face-to-face relationship support than that which was provided in CCP. For example, one CCP couple separated at 3 months postpartum, despite pre-intervention relationship satisfaction scores close to the population mean. The risk indicators for this couple included young age (very early 20’s), history of illegal drug use, history of psychological disorder requiring treatment, unmarried, the female reported a parental history including divorce and drug use, and they had an unplanned
pregnancy. A 6-session flexible delivery program that relies heavily on self-administration of learning objectives and relationship skills is probably insufficient for couples who have multiple high-risk indicators for developing future relationship difficulties.

Stratifying couples into high and low-risk groups and investigating the effects of relationship education on couple, individual, parenting and child outcomes as a function of risk status is an important next step in future studies of couple-focused psycho-education across the transition to parenthood. Stratifying couples according to static risk indicators is relatively easy and quick. Furthermore, static risk indicators are reliably associated with dynamic risk factors (Halford, 2004). For example, parental divorce and violence in the family of origin is associated with negative communication in engaged couples (Halford et al., 2000; Sanders et al., 1999). Such a study would allow the targeting of suitable levels of intervention to those couples who are most at risk of experiencing future relationship distress and most likely to benefit from relationship education at this point in their life.

Conclusion

This is the first randomized controlled trial evaluating the effectiveness of a flexible delivery relationship education intervention for couples across the transition to parenthood. Couple CARE for Parents included skill-training in key relationship processes predictive of couple relationship quality and added a parenting and baby care focus to address the needs of new parents. The CCP program was unique in the field of
couple-focused psycho-education across the transition to parenthood because it included self-administration of some program content and was based on the principles of self-regulation. The typical decline in female relationship satisfaction was prevented. Rate of negative couple communication declined immediately after communication skill-training, and CCP couples showed reliably lower rates of negative listen and negative speak at post-intervention, relative to BAP. Couples were highly engaged in CCP and there was a low drop out rate across the 7 month intervention. These findings are promising and add to the growing body of early intervention studies showing positive effects of couple-focused interventions across the transition to parenthood. Providing cost-effective couple relationship education to expectant and new parent couples opens another window of opportunity for health professionals and governments to minimize rates of relationship distress and divorce and their associated negative effects on individual, couple and family functioning.
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Appendix A

List of Abbreviated Measures and Full Titles from Measures listed in Tables 3.1, 3.2, and 3.3 in Chapter 3 ‘Transition to Parenthood Interventions’

AAI = Attachment Interview;
AAPI = Adult-Adolescent Parenting Inventory;
ADAS = Abbreviated Dyadic Adjustment Scale;
ASI = Addictions Severity Index;
Bates ICQ = Bates Infant Characteristics Questionnaire;
BDI = Beck Depression Inventory;
BSI = Brief Symptom Inventory;
CAPI = Child Abuse Potential Inventory;
CBCL = Child Behaviour Checklist;
CCEI = Crowne Crisp Experiential Index (subclinical mood items);
CES = Centre for Epidemiological Studies - Depression subscale;
CHQ = Child Health Questionnaire;
Coopersmith SEI = Coopersmith Self-Esteem Inventory;
CPS = Child Protection Reports;
CTS = Conflict Tactics Scale;
DAS = Dyadic Adjustment Scale;
Derogatis SCL-90 = The Symptom Checklist 90-item;
DIS = Diagnostic Interview Schedule;
DPII = Development Profile II;
Duke FSSS = Duke Functional Social Support Scale;
DSM – IV = Diagnostic and statistical Manual of Mental Disorders (4th Edition);
EPDS = Edinburgh Postnatal Depression Screen;
EPI = Eysenk Personality Inventory;
GHQ-D = General Health Questionnaire – Depression;
HADS = Hospital Anxiety and Depression Scale;
HOME = Home Observation for Measurement of the Environment;
IES = Impact of Events Scale;
LES = Life Events Scale;
MAT = Marital Adjustment Test;
MHI – 5 = Mental Health Index;
NCAFS = Nursing Child Assessment Feeding Scale;
NCAST = Nursing Child Assessment Scale Teaching;
Norbeck SSQ = Social Support Questionnaires;
PAQ = Parental Attitudes Questionnaire;
PC-CTS = Parent-child Conflict Tactics Scale;
PDI = Pitt Depression Inventory;
POMS = Profile of Mood States;
PPAQ = Postpartum Adjustment Questionnaire;
PSCS = Parenting Sense of Competence Scale;
PSE = Psychiatric Symptom Examination;
PSE = Present State Examination for psychiatric diagnosis;
PSI = Parenting Stress Scale;
Rosenberg SEI = Self-Esteem Inventory;
Saranson SSQ = Social Support Questionnaire;
SCID = Structured Clinical Interview for DSM-IV;
SF-36 = 36-item short-form Health Survey Questionnaire;
SOS = Significant Others Support;
Speilberger STAI = State/Trait Anxiety Inventory;
SSQ6 = Saranson Social Support Questionnaire short version;
SRQ = Self Rating Questionnaire;
SSP = Strange Situation Procedure;
STAI = Spielberger State/Trait Anxiety Inventory;
WDW = Who Does What/ Who will Do What Scale.
Appendix B

CCP ANTENATAL EVALUATION

This questionnaire asks you to give some feedback on the antenatal components of Couple CARE for Parents (CCP units 1 and 2). Your feedback is valuable as it will help us assess this program and make improvements to the program. Please answer each question and make any comments you think would be useful.

**Unit 1 and 2 Session Content:** Tick the box indicating whether or not you found the following workshop activities useful

<table>
<thead>
<tr>
<th>Activity</th>
<th>Extremely useful</th>
<th>Useful</th>
<th>Okay</th>
<th>Not useful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploring infant care expectations</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
</tr>
<tr>
<td>Communication skills</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
</tr>
<tr>
<td>Giving and receiving feedback</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
</tr>
<tr>
<td>Exploring gender role expectations</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
</tr>
<tr>
<td>Conflict patterns</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
</tr>
<tr>
<td>Conflict Management</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
</tr>
<tr>
<td>Self-directed change plans</td>
<td>π</td>
<td>π</td>
<td>π</td>
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</tr>
</tbody>
</table>
The strengths of the program include:

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The weaknesses of the program include:

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I think the following changes would be useful

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____________________________________________________________________
CCP POSTNATAL EVALUATION

This questionnaire asks you to give some feedback on the four post-birth units of the Couple CARE for Parents program. Your feedback is valuable as it will help us assess this program and make improvements for the future. Please answer each question and make any comments you think would be useful.

**Unit 3 BABY CARE:** Tick the box indicating whether or not you found the following activities useful.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Extremely useful</th>
<th>Useful</th>
<th>Okay</th>
<th>Not useful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Playing with you baby</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
</tr>
<tr>
<td>Managing babies sleep, feeding and crying</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
</tr>
<tr>
<td>Managing stress</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
</tr>
<tr>
<td>Self-directed change</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
</tr>
</tbody>
</table>

The strengths of unit 3 included:

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The weaknesses of unit 3 included:

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I think the following changes would be useful for unit 3


Unit 4 CARING AND SEXUAL INTIMACY:

Tick the box indicating whether or not you found the following activities useful.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Extremely useful</th>
<th>Useful</th>
<th>Okay</th>
<th>Not useful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caring behaviours checklist</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
</tr>
<tr>
<td>Self-directed change plan (caring)</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
</tr>
<tr>
<td>Myths about sex and sex after childbirth</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
</tr>
<tr>
<td>Communicating about sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- how often we have sex</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
</tr>
<tr>
<td>- likes and dislikes</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
</tr>
<tr>
<td>Self-directed change plan (sex)</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
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</table>

The strengths of unit 4 included:
The weaknesses of unit 4 included:

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I think the following changes would be useful for unit 4

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Unit 5 SUPPORT and COUPLE TIME:

Tick the box indicating whether or not you found the following activities useful.

<table>
<thead>
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<th>Activity</th>
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<th>Useful</th>
<th>Okay</th>
<th>Not useful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning about the different types of support</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
</tr>
<tr>
<td>Knowing what type of support is needed</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
</tr>
<tr>
<td>Support Circle activity</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
</tr>
<tr>
<td>Self-directed change (support)</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
</tr>
<tr>
<td>Assessing my current balance of activities</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
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<tr>
<td>Evaluating my happiness with balance of activities</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
</tr>
<tr>
<td>Self-directed change plan (activities)</td>
<td>π</td>
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<td>π</td>
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</table>
The strengths of unit 5 included:

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The weaknesses of unit 5 included:

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I think the following changes would be useful for unit 5

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Unit 6 PLANNING FOR THE FUTURE:

Tick the box indicating whether or not you found the following activities useful.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Extremely useful</th>
<th>Useful</th>
<th>Okay</th>
<th>Not useful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning for change</td>
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<td>π</td>
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<td>π</td>
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<tr>
<td>What if things go wrong?</td>
<td>π</td>
<td>π</td>
<td>π</td>
<td>π</td>
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The strengths of unit 6 included:

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The weaknesses of unit 6 included:

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I think the following changes would be useful for unit 6

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Thank-you for your responses to this evaluation.
Appendix C
Detailed outline of Content and Activities for the Couple CARE for Parents Program

Unit 1 CCP

Unit 1 was delivered as an antenatal group workshop and focused on expectations, communication, conflict management and self-directed change. An antenatal workshop format was chosen for the first unit of CCP because it represented a delivery method that couples were familiar with as most first-time parents attend antenatal education classes. It also allowed a great deal of relationship and parenting information to be shared with several couples in the one session. Couples had the opportunity to see other couples attending to their relationship which is likely to enhance their motivation and engagement in later units of CCP. Couples may especially benefit from a small group format during discussions of expectations since a group produces more varied and stimulating ideas compared to a discussion between the couple alone.

Expectations. The literature covered in chapter 2 suggests that parenting beliefs and expectations influence parenting adjustment, and that couples who hold unrealistic or divergent expectations of parenthood and baby care are at risk of experiencing erosion of relationship satisfaction, increased couple conflict, individual stress (especially maternal emotional distress), decreases in affectionate parent-child interactions, and less father involvement in parenting. What is particularly salient in the studies
reviewed in chapter 2 is the finding that many first-time parents were unprepared for the reality of the 24 hours a day 7 days a week care of a newborn. The expectations component in unit 1 therefore focused couples on identifying their individual expectations on the demands of a newborn and the topic of anticipated role responsibilities (in the domains of childcare, housework, and employment). The objectives of the expectations activities were to: (a) assist couples’ understanding that there are no absolute relationship and parenting standards and expectations, but rather such standards are learned and can therefore be negotiated by the couple to reach a mutual compromise, and (b) assist couples in developing a list of their shared and realistic expectations on baby care and role responsibilities.

Communication. As chapter 2 highlighted, communication is an aspect of couple relationships that partners rate as extremely important in influencing their overall relationship satisfaction. Couples who have good communication skills demonstrate low levels of hostility and criticism, high levels of active listening skills, self-disclosure, and positive affect, and they remain calm and engaged in the conversation. In contrast, the communication style of distressed couples tends to be characterised by high levels of negative affect (e.g., contempt, disgust, fear, hostility, emotional withdrawal), and negative reciprocity (e.g., increased likelihood of negative behaviour following negative partner behaviour). Therefore, it is not surprising that problems with communication are established risk factors for relationship dissatisfaction, instability and divorce.
In working on communication couples were assisted to learn a system of classifying speaker and listener skills. Couples were encouraged to practice using the skills within this system and then to self-evaluate their communication. The objectives of the communication activities were to: (a) teach participants key communication skills, (b) assist couples to identify their own communication strengths, (c) teach couples how to give appropriate feedback to each other, (d) give couples appropriate feedback about their communication, (e) problem-solve communication difficulties with couples, and (f) assist individuals choose at least one positive communication strategy to implement in a discussion with their partner over the next week.

Conflict Management. Couples who manage differences well are more likely to sustain long-term mutually satisfying relationships. With the increasing level of couple conflict both observed by researchers and reported by couples during the transition to parenthood, a major task for new parents is in learning effective conflict management skills. The demand-withdraw pattern, in which one partner attempts to engage the other in a discussion through demand and pressure (or nagging, blaming, criticizing), whilst the other partner attempts to avoid the discussion by withdrawing (or any other physical distancing behaviour like silence, defensiveness, joking and not taking the discussion seriously, changing the topic), is particularly common during the transition to parenthood, with women often assuming the demanding role and men assuming the withdrawing role. The demand-withdraw pattern has serious, negative
consequences on relationship satisfaction both short and long-term, particularly for women. The activities in the conflict management section included teaching couples about the four styles of conflict management (demand-withdraw, avoidance, escalation and validation), and introducing the idea of conflict management guidelines and ground rules. The objectives of the conflict management activities were to: (a) identify with the couple their conflict management style and conflict management vulnerabilities, and (b) assist couples in choosing constructive conflict management and communication skills to improve future conflict discussions.

*Self-directed change.* The idea of self-directed change is based on Halford et al.’s (1994) relationship self-regulation concept and encourages couples to monitor their relationship and make individual effort to sustain the relationship. Couples are encouraged to write behaviourally specific action plans at the end of each CCP unit. The idea of working on a relationship means that partners attend to the relationship, the factors that influence their relationship, and then engage in effective action to promote relationship satisfaction. The objective of the self-directed change plans were to: (a) teach partners the benefit of focusing and changing their own behaviour as a means to improving their relationship (it’s much easier to change ones own behaviour than another persons), and (b) develop a self-directed change plan focusing on positive relationship change in at least one area of their relationship or parenthood preparation.
Unit 2

Unit 2 was conducted as a home visit and was scheduled for one week after the unit 1 workshop. A home visit delivery format was chosen in order to encourage a high level of couple engagement in the CCP program and address any couple questions or concerns raised in the workshop. The purpose of unit 2 was to review the couples’ workshop experience and learnings. The facilitator reviewed with the couples their success in implementing their first self-directed change plan, their responses to parenting expectations (on topics like infant feeding, sleeping, crying and child care), and included a second self-evaluation of conflict management skills and the writing of a second self-directed change plan.

The expectations component encouraged couples to share their individual expectations and negotiate a shared set of expectations if the couple identified a divergent parenting expectation. Since there was such a large overlap in content between units 1 and 2 the objectives of this second unit were very similar to those of unit 1. The goals of unit 2 were to: (a) evaluate the couples’ first self-directed change plan, (b) guide couples to identify parenting expectations and negotiate a set of shared parenting expectations, (c) assist couples to self-evaluate their communication and conflict management after completion of the second problem-solving communication assessment, and (d) assist couples to complete a second self-directed change plan.
Unit 3

Unit 3 was the first postnatal unit and was scheduled as a home visit 3 weeks post birth. The delivery of unit 3 as a home visit unit was chosen to maximally engage couples in the CCP program at a time when they often feel overwhelmed and pre-occupied with the baby care and may therefore struggle to focus on a relationship education program without the encouragement and focus of a face-to-face visit by their facilitator.

The topics covered in unit 3 included sensitive and responsive parenting, and specific baby care topics like sleep, feeding, crying, playing with a young infant, and managing stress as a new parent. Although most parents receive baby care information before being discharged from their Hospital, many parents report feeling overwhelmed by the amount of new information with which they were provided in the 2 to 3 days in hospital. Having unanswered baby care and parenting questions can lead to unrealistic expectations about the experience of parenthood. The activities covered in this unit included a discussion of what the couple found easy about parenthood and what they were finding difficult, being a ‘good enough’ parent, identifying and responding sensitively to infant behavioural cues (e.g., over-stimulation), and the stress management tools they could use to assist their own adjustment to the demands of parenthood.

The objectives of unit 3 were to: (a) share and normalise parenting experiences that are challenging, (b) problem-solve common parenting challenges, (c) educate parents in accurately reading baby cues, (d) discuss
and practice stress-management strategies, and (e) complete a third self-directed change plan.

Unit 4

The final three postnatal units were completed by the couple at home, with follow-up telephone support calls from the psychologist. A unit was scheduled every three weeks and began when the child was 8 weeks of age. Although parenthood is very time-consuming, especially in the first few months, unit 4 to 6 encourage couples to attend to their relationship needs and maintain positive couple interactions.

Caring and Affection. As chapter 2 illustrated, high levels of caring appear to have positive and protective effects on all couple relationships. The meeting of each partner’s emotional needs within the relationship serves to strengthen the couple bond, buffer the damaging effects of negativity during couple communication. It results in higher relationship satisfaction and higher father involvement in parenting. Encouraging acts of caring and affection are also important during times when there are physiological impairments of the sexual response because there is some evidence that the emotional aspects of a relationships determine sexual satisfaction more so than sexual function itself does (Bancroft, Loftus, & Long, 2003).

The caring section consists of a review of current levels of caring in the relationship, specifically focusing on caring behaviours each partner does for the other, and an ideas list of suggested new caring behaviours. The objectives of the couple caring activities were to: (a) encourage regular
demonstrations of caring behaviours, especially for those couples who have showed high levels of caring prior to parenthood but have allowed caring behaviours to drastically reduce since becoming a parent, and (b) prompt creativity so that each partner takes some responsibility for enhancing the concrete actions through which they express caring.

**Sexual intimacy.** The couples’ sexual relationship is vulnerable across the transition to parenthood. Many couples stop sexual activity in the third trimester of pregnancy (von Sydow, 1999) and resume sexual activity on average, seven weeks post-partum (Byrd et al., 1998). Reasons for ceasing sexual activity early in pregnancy include fear of miscarriage and harm to the fetus, physical discomfort, loss of interest, and feelings of decreased attractiveness (von Sydow, 1999). However, there is no evidence to suggest that sexual intercourse causes harm to mother or unborn child in a normal pregnancy. Men typically show more sexual initiative before, during and after pregnancy, and women are often motivated to engage in sexual activity out of concern for her partner’s sexual satisfaction and for fulfilling her marital obligations (von Sydow, 1999). Half of all women will experience pain during sexual intercourse after birth, and for a large percentage of men and women sexual responsiveness is diminished up until 12 months postpartum (von Sydow, 1999). A third of all couples consider sexual counselling at this point in their relationship (Kumar, Brant, & Robson, 1981).

The sexuality section includes reading on the myths and facts about sex after childbirth, and individual activities examining each partners
desired frequency of sex, sexual likes and dislikes for those couples who have resumed sexual intercourse. The objectives for the sexual intimacy activities were to: (a) answer couple questions about sex after childbirth, (b) enhance open couple communication about sexual intimacy (i.e., desired frequency of sex, sexual likes and dislikes), and (c) provide referral for women and couples who self-disclose that they are experiencing pain or problems with resuming sexual intercourse.

Many therapies recommend couples with sexual problems express their sexual needs and wants as a way to both increase the chance of satisfying sexual experiences and increase emotional closeness. Encouraging discussions about sexual intimacy would seem particularly crucial for couples across the transition to parenthood when significant changes in sexual frequency and female physical comfort during sex occur.

Unit 5

*Balance in Couple Time versus Parenting and Individual Time.* Unit 5 examines couples’ balance of activities and levels of support. There is typically a dramatic decrease in couple focused time after the birth of a couple’s first child. Involvement in pleasurable activities has been observed to decrease and be replaced by increased involvement in the instrumental activities associated with parenthood (e.g., food preparation, shopping and housework, childcare, and maintenance). Couple social and recreational involvement decreases 20-40% between childbirth and the 3rd month postpartum. These changes are at least partly to blame for the decreased
relationship satisfaction, general rise in tension, frequency of arguments and conflict observed in new parent couples.

In this section partners are asked to list the activities they undertake and then review their satisfaction with their balance of individual, parenting and couple activities. Although some couples will not see it as necessary to set aside couple focused time during these early months, it will be worthwhile to explore with these couples what holds them back from scheduling time for the couple relationship now, what they think will happen in the long term if they do not attend to and schedule time for couple focused activities, and plan for couple time. The objectives of reviewing the couples’ balance of activities were to: (a) have couples identify and take steps to correct any imbalances in individual, couple, parenting and other activities, and (b) maintain a focus on couple time.

Mutual support. Supportive relationships vary greatly in their function (emotional support, informative support, instrumental support) but all have been shown to produce positive effects on health and well-being, adjustment to illness, life stressors and transitions. Mutual support between partners is correlated with marital satisfaction and sensitive caregiving, and may be more important than negative behaviours (e.g., criticism, aggression) in determining the perceived supportiveness of a couple interaction. A husband’s support in care-giving tasks and household chores, coupled with emotional validation of the wives feelings, appears particularly crucial in maintaining the wife’s marital satisfaction during the transition to parenthood. Husbands, on the other hand, report greater marital satisfaction
and higher childcare involvement when they receive support from their wives in balancing their work and family roles. This unit educates couples about the different types of support, encourages couples to reflect on their own support needs and identify strategies for obtaining the desired support. The objectives of the support activities were to: (a) check that the couple has adequate support, (b) discuss ideas and strategies for obtaining further support, and (c) increase mutual support behaviours.

Unit 6

Planning for the future and skill maintenance. Unit 6 focuses on skill maintenance and keeping a focus on the relationship across the parenting years. The success of early intervention programs such as CCP may attenuate over time as individuals slowly reduce the effort they direct at their relationship. By having activities which focus couples on planning for the future and maintaining the skills which are relevant to their future circumstances a ‘relapse prevention’ component is added to the program. In this last unit, couples are asked to explore likely changes that will occur in their life, with particular emphasis on how those changes may impact upon their relationship, and how to manage change to enhance the relationship.

Maintaining a focus on the relationship is a simple but key point in this unit, because many new parents unintentionally neglect their couple relationship by putting all their energy and effort into being a good parent. Having rituals where one celebrates the couple relationship is an easy way to put effort into what most couples consider to be the most important relationship in their lives. Maintaining a high degree of positive relationship
events also helps to keep the balance of positive-to-negative relationship interactions in favor of the positives. The impact of stressful life events and relationship problems can in this manner often be greatly reduced. The objectives of the relationship skills maintenance activities were to: (a) prepare couples for life changes that are likely to occur in their life over the next year or two, by recording their plans to deal with the changes, (b) review with couples their ideas to maintain a positive and nurturing relationship, and (c) encourage couples to keep using CCP relationship skills.