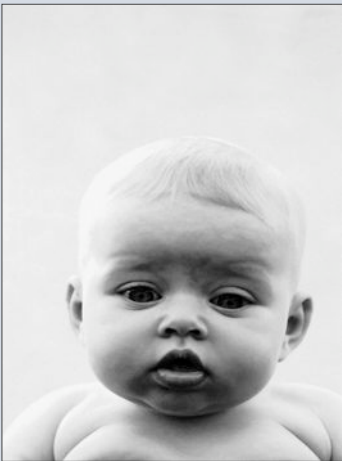


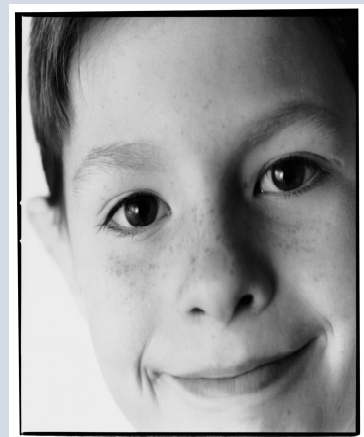
Post-separation parenting arrangements and developmental outcomes for infants and children.

Collected reports.



Jennifer McIntosh
Bruce Smyth
Margaret Kelaher
Yvonne Wells
Caroline Long

May 2010



Three reports prepared for the
Australian Government Attorney General's Department

- Synopsis of two studies
- Study 1: Longitudinal study of school-aged children in high conflict separation
- Study 2: Overnight care patterns and psycho-emotional development in infants and young children

The two studies described in this volume were undertaken by Family Transitions, and completed through a collaboration of the following researchers:

Adj. Associate Professor Jennifer McIntosh,
Family Transitions and La Trobe University

Associate Professor Bruce Smyth
Australian National University

Associate Professor Margaret Kelaher
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Both studies were funded by the Australian Government Attorney-General's Department.
We are particularly grateful for the support of the Family Law Branch in facilitating this work.



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Post-separation parenting arrangements:
patterns and developmental outcomes
for infants and children

Synopsis of two studies

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Report to the Australian Government
Attorney-General's Department

May, 2010



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Background

In recent years there has been much interest in impacts on children, both positive and negative, of different patterns of parenting after separation – especially where the care of children is shared equally or substantially between both parents, and/or inter-parental conflict is high and entrenched. More recently, interest has extended to the pre-school and infant population, with questions about developmental outcomes for very young children in various post separation parenting dynamics and overnight care patterns. Evidence from a small number of studies conducted in North America (e.g., Solomon & George 1999) points to the importance of treating very young children as a special case when crafting child-responsive parenting schedules.

Until recently in Australia, systematic enquiry about these issues has been sparse with most studies confined to attitudinal research or demographic profiling of who opts for different arrangements. For example, recent Australian evidence suggests that (a) many mothers and fathers believe that shared care is more appropriate for older children than younger children, (b) fathers are more likely than mothers to think 50:50 arrangements after separation are appropriate, and (c) around 6% of children aged under 5 with a parent living elsewhere are in a shared care arrangement in Australia (ABS 2008; Kaspiew, Gray, Weston, Moloney, Hand & Qu, 2009; Smyth & Weston 2004). Few studies have collected data from school-aged children themselves about how they fare under different parenting arrangements after separation. Fewer studies still have employed a developmental lens to explore the impacts of post-separation patterns of care during infancy.

This synopsis summarises and integrates key findings from two recent Australian studies of outcomes for infants and older children in different post-separation parenting arrangements. Both studies were commissioned by the Australian Government Attorney-General's Department. One was a panel study of high conflict parents who sought community-based mediation to resolve a parenting dispute, and included data collected over time from both parents and their children (n=131 families). The second study used data from national random samples of parents of 5,000 young infants and parents of 5,000 children aged 4–5 years, collected as part of the Longitudinal Study of Australian Children (see the *'About the studies'* section below for more detailed information). We first outline an integrated summary of key findings from both studies, followed by details of each study, respective samples, study limitations, and thoughts on future research.

Integrated findings of the two studies

These two studies targeted different age groups and different populations, and the specificity of each set of findings is important to retain. Largely consistent with the backdrop of literature detailed in the full report of each study, the findings nonetheless have important points of correspondence in what they say about the ‘equipment’ involved in translating a shared time arrangement post separation into a durable and developmentally supportive experience for the children concerned. This ‘equipment’ comes in several (potentially mutually reinforcing) forms.

1. Socio-economic equipment

Both studies highlight conditions and socio-economic factors that help to make shared care ‘work’. Consistent with prior research (eg Arendell 1996; Irving & Benjamin 1995; Smyth, Qu & Weston 2004; Steinman 1981), shared parenting appeared to confer benefits to children where it was supported by resources linked to education and employment, and a host of interconnected relationship factors. The data suggest that parents who made shared care ‘work’ lived near each other; tried to respect the competence of the other parent; and were flexible and accommodating – not rigid – in their approach. The sum of these component parts is likely to create an important domino effect for children’s contentment and well-being.

2. Relationship equipment

Children read their parents’ emotions as they move between households, and experience each parent’s emotional availability and capacities. The relationships within each household and the space between become the soil within which children develop post separation, with outcomes significantly determined by the richness or toxicity of that soil. Consistent with two decades of international research from the high conflict divorce arena, these two new Australian studies show that for school-age children, nurturing relationships with each parent and supportive relationships between parents had greater bearing on many outcomes than the pattern of overnight care itself. While children in shared care arrangements reported more inter-parental conflict than children in other arrangements, and reported lower contentment with their arrangements, neither a child’s living arrangement at any single point in time, nor their pattern of care across time, independently predicted total mental health scores after four years.

3. Maintenance equipment

The manner in which living arrangements were maintained did, however, have an impact on children’s emotional well-being over time. Rigid arrangements, often fuelled by acrimony and poor cooperation and set out in court orders, were associated with higher depressive and anxiety symptoms in children as reported by their parents, and this form of living became something children often sought to change. Many of the above themes are encapsulated in a conclusion reached by Ahrons, built on interviews with children looking back on their parents’ divorce:

Parents agonize, argue, negotiate and litigate over the minutia of how much time their children will spend with each of them.... But.... [e]specially as they get older, children want flexibility in their living arrangements.... They want to have their needs considered more by their parents and be able to transition between households on their schedules, not their parents'....[They were] far less concerned about the specific number of days per week or month they spent living with one parent or the other than ... about how their parents' relationship infused the emotional climate surrounding their transitions between parental households.... Most of all, what children want is to have relationships with both of their parents. At whatever developmental stage, children want to know that their parents will care for and love them while they continue their daily lives with as few interruptions and stresses as possible. (p. 66–67)

4. Developmental equipment

As important as the above are to children's outcomes in shared care arrangements, a key contribution of the second study is in identifying 'developmental stage' as a factor that in many respects trumps these influences during infancy. Consistent with the findings of Solomon and George (1999), young infants under two years of age living with a non-resident parent for only one or more nights a week were more irritable, and were more watchful and wary of separation from their primary caregiver than young children primarily in the care of one parent. Children aged 2–3 years in shared care (at the policy definition of 5 nights or more per fortnight) showed significantly lower levels of persistence with routine tasks, learning and play than children in the other two groups. Of concern but as predicted by attachment theory, they also showed severely distressed behaviours in their relationship with the primary parent (often very upset, crying or hanging on to the parent, and hitting, biting, or kicking), feeding related problems (gagging on food or refusing to eat) and not reacting when hurt. Such behaviours are consistent with high levels of attachment distress, and the second report details this body of work as an important context for understanding the pathways of disruption indicated by these findings. Thus, regardless of socio-economic background, parenting or inter-parental cooperation, shared overnight care of children under four years of age had an independent and deleterious impact on several emotional and behavioral regulation outcomes.

By kindergarten or school entry at around age 4–5 years of age, these effects were no longer evident. Thus, once children can self soothe and organize their own behaviour, be capable of representational thought and anticipation, have adequate receptive language, anticipate, and communicate about past and future events and emotional states – in other words, by the time the child truly “knows what tomorrow is” and can manage themselves within it – then they are better able to straddle households in a frequently shared overnight arrangement. This perspective from the neurobiology of attachment further explains this finding (Schore, Siegel and McIntosh, forthcoming):

Attachment in the first year of life, when the brain circuits for attachment are still setting up, is different from attachment in the third or fourth year of life, when the system is going, so to speak. That is to stress a developmental system while it is organizing in the first year will have a much more negative impact in response to the same stressor than if you did it when the child was four.

Implications for policy and practice

Legislative reform is often a blunt instrument for shaping human behaviour – though the ‘radiating message(s)’ transmitted by such reform should not be underestimated in the context of parenting disputes over children (Smyth, 2009). Since 1 July 2006, courts with family law jurisdiction in Australia have a responsibility, in cases where the presumption of equal shared parental responsibility is not rebutted, to consider making orders for the children to spend equal or else ‘substantial and significant’ periods of time with each parent where such arrangements are in the children’s best interest and reasonably practicable. Mediators, legal practitioners, family counsellors, family consultants, and other ‘advisers’ in the family law system have a similar responsibility. Anecdotally there is little doubt that a number of separating parents in Australia (particularly non-resident fathers) have interpreted the 2006 family law reforms to mean that 50:50 care is the new default (see for example Kaspiew et al., 2009).

While the ‘best interests of the child’ continues to be the paramount consideration for judicial decision-makers, children’s needs at different developmental stages appear to remain in the margins of policy and legislation. Education and information have important roles to play in bringing developmental issues to the fore in the crafting of child-responsive arrangements – with or without the help of professionals. The findings set out above point to some key learnings:

- i. As with all relationships, parent–child contact after separation takes work. Shared care, as one of many possibilities, involves many logistical and relationship challenges.
- ii. Shared care is especially developmentally challenging for infants and pre-school children. While a cooperative parenting relationship can make many things possible, the developmental needs of the young child and the additional demands involved in meeting those needs means that the challenges are even greater.
- iii. By implication, shared care should not normally be the starting point for discussions about parenting arrangements for very young children.
- iv. For older children, where parents can work together, are attuned to the child and can respond to their needs, the benefits of a shared overnight arrangement can be more evenly weighed.
- v. All possibilities in relation to developing child-responsive arrangements should be considered at regular intervals in the context of each child’s developmental progress and emotional needs.
- vi. Flexibility, intuition and responsiveness, and the capacities within parents that they entail, are key to children doing well. These qualities have benchmark relevance for deciding post-separation living arrangements.

There are implications here for the development of interventions that assist parents to “prepare to share”. Practice and legislative guidelines are needed that assist professionals to recognize families who are not yet “ready” to share care, who may need a period of preparation to develop the necessary demographic and co-parenting equipment, or who simply need supportive educational input to understand why it matters to wait for children to be ready to share care. Equally, it is important to provide support and resources for families who may have tried shared care but wish to move to another arrangement. In other words, pathways *to* and *from* shared care need to be supported. Where some families are ready for shared care, others may need time and support to evolve toward this kind of care arrangement. It follows that practice guidelines for the legal and social science professions are needed to identify circumstances in which equal or substantially shared parenting are unlikely to be viable or appropriate at particular periods in a child’s life – or, for some children, possibly ever.

The promotion of more positive relationships, and the creation of age-appropriate, child responsive parenting arrangements through educational dispute resolution appears paramount, and we hope that existing services and programs can be further tailored to incorporate new learning about shared parenting identified through these two studies. Child inclusive family dispute resolution (McIntosh, Long, & Wells, 2009) remains a promising tool across the family law arena for providing early screening of school aged children’s needs and views with respect to post separation living arrangements. Effective models of developmental consultation for infant and pre-school matters are still needed.

Taken together, the results of these two studies return the focus squarely to the importance of the questions we ask on behalf of children about post-separation living arrangements. The task continues to be determining those arrangements and attitudes that will maximally support each child within their unique developmental context. While many questions remain to be solved, these studies have made a tentative beginning with two vulnerable populations – very young children, and children in high conflict divorce – in addressing the question of when a shared living arrangement becomes developmentally supportive rather than challenging.

A summary of the two studies follows.

Study 1. School-Aged Children in High Conflict Separation: Key findings

Patterns of parenting over four years post mediation

- While it was not unusual for shared care to be the agreed outcome between parents following mediation of their parenting dispute, over time, shared care arrangements tended to revert to those in place prior to mediation (which were typically primary mother residence).
- Not surprisingly, given the many logistical and relational challenges, shared care was a less stable pattern than primary residence. That said, families who exercised shared care prior to mediation were more than twice as likely to maintain this pattern as families who moved to shared care after mediation.
- Four years after mediation, almost one-third of families had attempted at least two patterns of care; 41% had maintained primary residence; and 27% had maintained a shared care arrangement (at least 35% of nights with each parent).
- Parents who participated in child-inclusive mediation (where school-aged children's needs and views were assessed separately, and incorporated into the mediation) were more likely to maintain the same arrangement over time than parents who received child-focused mediation (where children's needs and views were not assessed). Children whose parents participated in child-inclusive mediation were more likely to have remained in a primary care arrangement.

The demography of shared care in a high conflict mediation sample

- Families who sustained shared parenting over 3–4 years were more likely than other care groups to: have sons, younger children at separation, smaller sibling groups, fathers with tertiary education, mothers with higher incomes and tertiary education, co-located households with close proximity between parents, to involve fathers who had been active carers during their children's infancy, and mothers who had re-partnered. At intake, families who sustained shared parenting over 3–4 years also reported lower levels of parental conflict and acrimony, higher levels of parental alliance, warmer father-child relationships, and higher levels of paternal parenting competence and paternal availability than other groups. In short, a cooperative parental relationship was found to be one of the key ingredients for sustaining shared care over time.

- Families who sustained shared care over the 4-year study period also differed from the other care groups in the following ways: fathers continued to report more positive regard for the mother, while mothers' acrimony toward the father remained stable (it declined over time in all other groups); and fathers in sustained shared care were more confident in their parenting to begin with, and remained more confident in their own parenting over time.
- By contrast, families who moved from shared care to primary care tended to be characterised by the following: mothers reported high acrimony towards the father at intake; children reported poor emotional availability of the father at intake; fathers had low formal education; and children were aged 11 or over at intake (i.e. were approaching their teens).
- Some families sustained a rigidly fixed shared care arrangement (the living schedule was 'never or rarely flexible/ accommodating to changing family needs'). Relative to the other care groups, the rigid shared care group was more litigious (operating from a court or consent order), and was characterised by higher marital and post-separation levels of conflict and acrimony, and lower levels of cooperation. Mothers in this group reported feeling more threatened by their former partners, while fathers tended to have low regard for mothers' parenting skills.
- Almost all of the 18 families in which fathers lost contact with children were characterised by high, sustained levels of marital and post separation conflict at all points in the study. This finding is consistent with prior work in which conflict has been found to be an important precursor to 'father absence'.

Satisfaction with parenting arrangements over time

- Fathers with shared care arrangements were the most satisfied of all groups with their living arrangements – despite reporting higher levels of conflict about parenting and poorer dispute management.
- Four years after parents mediated their parenting dispute, children in shared care (be that rigid or flexible arrangements) were the least satisfied of all care groups with the parenting arrangements; they were also the most likely to report wanting a change in their arrangement.
- Children in rigid shared arrangements became significantly more dissatisfied with the arrangement over time than did the flexible shared care group. Children in rigid shared arrangements were the least satisfied of all the groups with their living arrangements.
- Mothers and fathers were equally content when primary care and shared arrangements were reported to be flexible. Rigidity in shared care arrangements significantly impacted mothers' but not fathers' report of contentment with the parenting arrangements.

Children's adjustment and wellbeing

- After adjusting for initial levels of conflict, children in the shared care groups reported higher levels of inter-parental conflict four years after mediation than children in the primary residence or changing care groups. Reports of conflict over time were similar to those of children in the 'no or rare contact' group.
- Children in the sustained shared care group were more likely than children in the other care groups to report ongoing feelings of being caught in the middle of their parents' conflict. Over the 4-year study, the greatest decrease in children's scores for feeling caught in the middle was for children in the primary parenting group.
- Children's reports of distress about their parents' conflict did not vary by overnight care pattern.
- After 4 years, stable living arrangements and greater amounts of overnight time were independently associated with the child's report of greater emotional availability of his/her mother, but not of his/her father.
- Neither the nature of a child's living arrangement at any single point in time, nor their pattern of care across time, independently predicted total mental health scores after 4 years (as measured by the *Strengths & Difficulties Questionnaire*).
- Children's experience of living in shared care over 3–4 years was associated with greater difficulties in attention, concentration and task completion by the fourth year of this study. Boys in *rigidly* sustained shared care were the most likely to have Hyperactivity/Inattention scores in the clinical/borderline range. Children who were already vulnerable to hyperactivity/inattention tended to remain that way over time, regardless of the overnight care arrangement. The small, high conflict nature of the sample means that care should be taken not to generalise this finding.

About Study 1: High conflict families using community-based mediation

Study 1 drew on data from an intervention study that compared outcomes for families who participated in (a) child-focused mediation and (b) child-inclusive mediation. Data were collected from respondents at 4 points-in-time across a 4-year period: (i) at divorce mediation intake, (ii) 3 months post-mediation; (iii) 1 year post-mediation; and (iv) 4 years post-mediation. Children, mothers and fathers from 169 families were involved in face-to-face interviews at as many of these time-points as possible. For the present investigation, the two intervention group samples were combined into a single high conflict sample, yielding complete parenting pattern data over a four year period for 133 families (including 260 children). Complete repeated measures data were available at all four points in time for 106 mothers, 93 fathers and 144 children.

Cases were grouped in three ways:

- a) by the pattern of post-separation care over four years — yielding four patterns:
 - *continuous primary care* (always more than monthly and less than 35% shared overnights),
 - *continuous shared care* (always 35%+ shared overnights),
 - *changed arrangements* (1 or more substantial changes to the care schedule), and
 - *no or rare overnight contact* with a parent by the 4th year.
- b) by the way in which the most recent care arrangement evolved — yielding four patterns:
 - a continuous, unchanging schedule,
 - a change from shared to primary care,
 - a change from primary to shared care, and
 - loss of regular contact.
- c) by the flexibility of the arrangement in response to changing needs of family members (as defined by parents) — yielding two patterns:
 - flexible
 - rigid.

Table 1: Sample sizes for the four types of changes and continuities examined

Pattern of post-separation parenting over 4 years	Families N (%)
Continuous primary care	54 (41%)
Continuous shared care	36 (27%)
Began with shared care; moved to primary care	23 (18%)
Began with primary; moved to shared care	18 (14%)
Total	131 (100%)

Strengths and limitations of Study 1:

The strengths of Study 1 lie in its prospective, repeated measures, multiple perspectives design, enabling us to tap into family life at different points in the separation, and to look across time at the developmental trajectories of the children concerned. Large omnibus studies are typically broad and shallow, and are not well placed to obtain detailed information on family dynamics and child outcomes; moreover cross-sectional or retrospective data alone would not provide the same long-range view or degree of analytic power.

Uniquely, Study 1 collected extensive data over time from children and parents, affording the opportunity to explore the study questions from the vantage point of all family members. That said, the data are from a small non-random select group of cases – high conflict families seeking help from community mediation.

Study 2 Infants and toddlers in separated families in the general population: Key findings

Infants under 2 years

Patterns of care groups: for the under 2 year old infant group, overnight time with the parent living elsewhere (PLE) was defined as:

- ‘rare (if any) overnights’ = overnight stays less than once per year but with some day contact
- ‘primary care’ = an overnight stay at least once a month but less than once a week, or
- ‘one or more nights a week’ with the PLE.

The latter category was used as the reference category in the statistical modelling.

Overnight care with the parent living elsewhere at the rate of *once or more per week* had an independent effect in the following areas:

- Higher irritability than infants in primary residence arrangements. (Examples of irritability include: the infant being fretful on waking up and/or going to sleep, difficulty amusing self for a length of time, continuing to cry in spite of several minutes of soothing, crying when left to play alone.) Of the three overnight care groups, infants primarily in the care of one parent had the lowest irritability scores, according to resident parent reports.
- More vigilant visual monitoring of, and maintenance of proximity with, the primary parent than was the case by infants with rare (if any) overnight care. This effect held when parenting and socio-economic status (SES) were taken into account.
- Higher rates of wheezing than infants in primary care (non-significant trend, $p=.08$).

More broadly, frequency of overnight care was unrelated to differences observed in global health, global developmental concerns, or degree of negative response to the LSAC interviewer.

Young children aged 2–3 years

Patterns of care groups: for children aged 2–3 years, overnight time with the parent living elsewhere (PLE) was defined as:

- ‘rare (if any) overnights’ = overnights less than once per year but with some daytime contact
- ‘primary care’ = an overnight stay at least once a month but less than 5 nights a fortnight, or
- ‘shared care’ = based on the policy definition of 5 or more nights a fortnight (35+% overnights a year).

The latter category was used as the reference category in the statistical modelling.

In the 2–3 year old sample, after parenting, parent relationship and SES controls were included in the statistical model, two independent effects of shared care arrangements were identified:

- Lower levels of persistence (ie., the ability to play continuously, stay with routine tasks, examine objects thoroughly, practice new skills, and return to an activity after a brief interruption) compared with children in the other two groups.
- More problematic behaviours on the Brief Infant-Toddler Social Emotional Assessment (BITSEA) Problems Scale than the primary care group (and a non significant trend with respect to the rare contact group ($p=.08$)). Specifically, the ‘shared care’ group relative to the primary care group showed more distressed behaviours in the context of parent-child interaction and caregiving (eg., crying or hanging on to the parent when he/she tried to leave; worrying a lot or seeming very serious; not reacting when hurt; often becoming very upset; gagging or choking on food; refusing to eat; hitting, biting, or kicking the parent). More broadly, frequency of overnight care was unrelated to differences observed in conflict with day carers or degree of negative response shown to the LSAC interviewer.

Children aged 4–5 years

Patterns of care groups: as the case for children aged 2–3 years (above), for children aged 4–5 years, overnight time with the parent living elsewhere (PLE) was defined as:

- ‘rare (if any) overnights’ = overnights less than once per year but with some daytime contact
- ‘primary care’ = an overnight stay at least once a month but less than 5 nights a fortnight, or
- ‘shared care’ = based on the policy definition of 5 or more nights a fortnight (35+% overnights a year).

The latter category was used as the reference category in the statistical modelling.

In the 4-5 year old sample, after parenting, parent relationship and SES controls were included in the statistical model:

- independent effects of care arrangement on emotional and behavioural regulation outcomes for children were no longer evident.
- The vast majority of variation between overnight care groups in the 4–5 year old group was accounted for by factors other than overnight care patterns, with particular emphasis on the impact of inter-parental conflict and lack of warmth in parenting on children’s self-regulatory capacities (eg, ability for a child to calm him- or her-self) at this stage.

About Study 2: Separated parents with infants and four-year olds in the general population

Study 2 draws on data collected as part of the Longitudinal Study of Australian Children (LSAC). LSAC follows the development of 10,000 children and families from around Australia. The study began in 2004 with two cohorts — families with 4–5 year old children (‘K cohort’) and families with 0–1 year old infants (‘B cohort’). LSAC explores “the contribution of children’s social, economic and cultural environments to their adjustment and wellbeing. A major aim is to identify policy opportunities for improving support for children and their families and for early intervention and prevention strategies” (Australian Institute of Family Studies, 2010).

Three age groups were examined: infants under 2 years (‘B1 cohort’), older infants 2–3 years (‘B2 cohort’), and 4–5 year olds (‘B3’ and ‘K1’ cohorts combined).

Three patterns of overnight care were studied. We distinguished higher frequency of overnight stays from lower frequency overnight care, and included a third group who had some daytime contact but rarely if ever had overnight care. Consistent with current policy, we adopted the terms ‘*shared care*’ to reflect the highest frequency of overnight stays groups, and ‘*primary*’ to reflect situations in which the young child lived primarily with one parent, whilst having steady but lower frequency overnight contact with the non-resident parent. Tables 2 and 3 below show the sample sizes for the groups of interest.

Table 2: Sample sizes for overnight care group: Infants under 2 years

Overnight Care Definition	Infants
	(B cohort, Wave 1 2004)
‘Rare (if any)’: Less than one night per year	164
‘Primary’: 1 night per month to 1 night per week	21
‘Shared’: 1 night per week or more	63

Table 3: Sample sizes for overnight care groups: Children aged 2–3 years and 4–5 years

Overnight Care Definition	Children	
	2–3 years	4–5 years
‘Rare (if any)’: Less than one night per year	360	520
‘Primary’: 1 night per month to 5 nights per fortnight	201	624
‘Shared’: 5 nights per fortnight or more	26	71

Strengths and limitations of Study 2:

It is important to remember that shared care in Australia still remains a minority pattern of post-separation parenting. Most surveys, even those of substantial scientific rigour such as the Longitudinal Study of Australian Children, typically yield samples with small numbers of parents exercising shared care. Thus obtaining detailed information from a large, representative sample of separated parents sharing the care of infants and very young children is a formidable challenge. In the context of a general population sample, the numbers of infants and young children in shared overnight arrangements in our analyses were inevitably small – particularly at the policy definition of 35% nights per year. As a consequence, some findings have been treated speculatively. Moreover data from non-resident parents were patchy and therefore excluded, while longitudinal tracking of infants' care arrangements over time was also not possible because of a lack of statistical power. Despite these shortcomings, it should be remembered that the Longitudinal Study of Australian Children is currently the most comprehensive dataset of child outcomes in Australia, and was designed to allow the exploration of important policy questions about children growing up in Australia.

Future research

Our understanding of children's experiences of frequent transitions between homes is still under-developed, both from an experiential and developmental perspective. These two new Australian studies reinforce the need for closer consideration of the child's subjective experience over time of living across two homes and two families. Moreover the developmental impacts of different parenting arrangements during critical periods of cognitive and psycho-emotional development have not been systematically researched in larger population studies. This is an important direction for future research.

We urge researchers to replicate and extend our findings, employing sensitive attachment oriented measures including where possible rigorous observational data to further explore links between post-separation care and psycho-emotional development. Longitudinal depth studies covering the span of infancy, with sufficient sample sizes, will be of particular importance. One large random sample of separating parents that is well placed to shed light on the impact of young children of different patterns of post-separation parenting is the Longitudinal Study of Separated Families (LSSF), conducted recently by the Australian Institute of Family Studies (Kaspiew, Gray, Weston, Moloney, Hand & Qu, 2009) as part of its evaluation of the 2006 Australian family law reforms. The LSSF involved telephone interviews in 2008 with a random sample of 10,000 parents who had separated 1–2 years prior to interview. While all respondents had at least one child under 18 years of age, around half the parents in the study had a child aged 0–2 years. The LSSF thus currently represents the largest random sample of recently separated parents with infants under three years in Australia. This dataset holds much promise for future work in this important area.

Infants and very young children are among the least able in society to articulate their needs, desires or experiences of the world. In the study of their outcomes, standard ways of assessing their wants and well-being do not apply. The challenge for practice, research and policy is to be able to find ways of hearing the voices of very young children. There remains significant need for data sources that help to articulate the sum of the parts of early caregiving experiences that most impact the developmental security of very young children in separated families, and thus enable the infant's pre-verbal experiences to be better understood and acted upon within the family law arena. There is much still to be understood.

Further Information

The full report on each study follows in this volume:

McIntosh, J., Smyth, B., Wells, Y., & Long, C. (2010). *Parenting arrangements post-separation: patterns and outcomes Part 1: A longitudinal study of school-aged children in high conflict divorce*. Report to the Australian Government, Attorney General's Department: Canberra.

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The collected papers are available from the Attorney-General's Department website: www.ag.gov.au

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Parenting arrangements post-separation: patterns and outcomes, Part I

A longitudinal study of school-aged children in high-conflict divorce

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**Report to the Australian Government
Attorney-General's Department**

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This study was undertaken by Family Transitions
and was funded by the
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of this publication, no liability is assumed for any errors or omissions.

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1. Purpose of This Report

This report outlines the first stage of a study of post-separation shared parenting and its developmental correlates for children. The overall study involves two separate longitudinal datasets. Part 1 (the present report) draws on the *Children In Focus* dataset: Waves 1, 2, 3 and 4 of a study of school aged children and parents in high levels of post-separation conflict. Part 2 utilises *The Longitudinal Study of Australian Children* (LSAC), Waves 1, 2 and 3, with a focus on infants and pre-school children in separated families. This current report (Part 1) outlines the findings from the *Children in Focus* dataset. The second research paper (Part 2) focuses solely on the LSAC infant and pre-school findings. Part 3 of the overall study is a brief paper linking the findings of the two studies.

2. Research Questions

The research questions addressed in this current study include the following: When separated parents share the physical, overnight care of children,

- A. How stable are patterns of physical care for children post-separation?
- B. What factors are associated with those families who successfully sustain a shared parenting arrangement beyond one year? How do they differ from families who do not sustain a shared arrangement?
- C. What are the developmental correlates of shared arrangements over time?
 - How are stability and change of care patterns associated with children's well-being?
 - What aspects of care arrangement and family context are associated with or moderate¹ developmental outcomes for children?
- D. Can models be derived of primary and secondary factors that inform separating parents, and their legal and dispute resolution practitioners on appropriate physical care arrangements for children and infants?

¹ A factor can be said to moderate development outcomes if the strength or direction of a relationship between predictors and outcomes is different for different levels of the factor. For example, if the relationship between age and independence is different for boys and girls, gender moderates the relationship between age and independence.

3. Datasets Used in the Two Part Study

3.1. The Children in Focus dataset

The *Children in Focus* study, funded by the Australian Government Attorney-General's Department (AGD), involved prospective data collection from families experiencing significant conflict over post-separation parenting arrangements. This study followed two groups of families (children, mothers and fathers) across four years, from the point of intake to a divorce mediation service, and then at three further points in time over the next four years (three months after the conclusion of the mediation, 12 months after mediation and four years after mediation).

The *Children in Focus* dataset is used in this study for similar purposes to those identified above, but with a group of school aged children, most of whom had experienced reasonably high levels of post-divorce-related conflict between their parents. These data are used to:

- Map care and contact patterns over a four year period,
- Explore socio-demographic, parenting, relationship and individual adjustment characteristics evident within various patterns of care and contact.

Findings from the *Children in Focus* data form the focus of this report. The principle researcher on this study is Associate Professor Jennifer McIntosh (Family Transitions/La Trobe University). Co-authors are Professor Yvonne Wells (La Trobe University), Associate Professor Bruce Smyth (Australian National University) and Caroline Long (Family Transitions). Christina Sadowski (University of Ballarat) contributed to the literature review.

3.2. The Longitudinal Study of Australian Children

Part 2 of this study (McIntosh, Smyth, Kelaher, 2010) focused on the LSAC dataset. This dataset was funded by the Australian Government Department of Families, Community Services and Indigenous Affairs as part of its *Stronger Families and Communities Strategy*. The LSAC has three waves of data available on two cohorts of children. The first cohort of 5000 children was aged less than 12 months in 2003/4 and data are now available on these children at age two-three years. Data for the second cohort comprising 5000 children aged four years in 2003/4 are also available, with those children now aged six-seven. Study informants include parents, carers and teachers. In Part 2 of this study, the LSAC dataset was used:

- A. To identify the socio-demographic, parenting, and relationship characteristics evident within each pattern of care and contact.

- B. To explore the developmental outcomes for young children and infants who reside in various patterns of shared physical care and primary care, with a focus on emotional and behavioural regulation.
- C. To explore associations between those outcomes and characteristics of parenting, post-separation.

This aspect of the study was undertaken in a collaboration between Associate Professor Jennifer McIntosh (Family Transitions/La Trobe University), Associate Professor Bruce Smyth (Australian National University), and Associate Professor Margaret Kelaher (University of Melbourne). Findings from the LSAC data are reported separately (Part 2).

4. The Research Literature

Throughout this report, the definition of ‘shared parenting’ used is a care arrangement through which the child spends equal or near equal overnight time with each parent. Over the course of an average fortnight, this would amount to between five to seven nights with one parent and between seven to nine nights with the other. Shared care is an increasingly favoured solution for preserving parent-child relationships post-divorce, bringing with it both opportunity and risk. The obvious benefits for children include the presence of two active social and family support networks, increased attention and stimulation, and male and female gender role modelling. Parents are able to experience the gratifications and rewards of “real time” parenting and to moderate the stresses of primary parenting (Pearson & Thoennes, 1990). The shared care ideology may address the real psychological and social needs of contemporary mothers and fathers to create a balance between work and family, and to allow fathers to establish a different level of involvement that may indeed be more gratifying than that which they experienced in marriage (McKinnon & Wallerstein, 1986).

In circumstances of cooperative self-selection into shared care arrangements, this structural solution to separation can allow a child to actively maintain positive, reality-based relationships with both parents (Bauserman, 2002; Luepnitz, 1991; Smyth, 2004; Steinman, 1981) that run less risk of the depleted emotional availability associated with single parenting (Hetherington, Cox, & Cox, 1985; Pearson & Thoennes, 1990).

Research commentaries on children’s outcomes converge around the importance of parenting and relationship qualities and psychosocial resources above the sheer structure of care arrangements (Bauserman, 2002; Johnston, 1995; Kline Pruett et al, 2004; Pearson & Thoennes, 1990; Smyth, 2004). Smyth (2004) points to key structural and relationship resources that contribute to the durability of shared parenting arrangements over time. In a

review of care and contact patterns encompassing both national population datasets and in-depth focus group studies with 54 parents in shared care arrangements, Smyth found that prior to the introduction of the new legislation in 2006² substantially or equally shared care (between five to seven nights a fortnight with each parent) was ‘relatively rare,’ occurring in about 9% of the general population of separated parents in 2003. It was a parenting arrangement that proved viable for a small and distinct group of families, who shared the following profile: electing a shared arrangement, as opposed to having legally enforceable orders to adopt such an arrangement; geographical proximity (within a moderate car trip); the ability of parents to get along sufficiently well; a business-like working relationship between parents; child-focused arrangements; a commitment by everyone to make shared care work; family-friendly work practices for both mothers and fathers; financial comfort (particularly for women); and shared confidence that the father is a competent parent.

Based on the findings of two separate studies of high conflict mediation and Family Court samples (237 families in total), McIntosh and Chisholm (2008) suggested the addition of several psychological filters, including:

- i. Adequate emotional maturity of each parent, seen in each parent’s capacity to operate from their child’s best interests, rather than a fixation on achieving parity or equity of time;
- ii. Parents’ emotional availability to the child, as experienced by the child;
- iii. Managed inter-parental conflict and contained acrimony;
- iv. A shared perception that the child is safe with their other parent; and
- v. The child’s own happiness or contentment with a shared arrangement.

From the developmental perspective, some research suggests regular sharing of children’s overnight care between parents fosters closer and ultimately more enduring parent-child relationships (Lamb, Sternberg, & Thompson, 1997; Maccoby & Mnookin, 1992). Kelly and Lamb (2000) supported the view that young children’s attachments to their parents are fostered by shared schedules. Although holding true for some, the literature also provides consistent evidence of risk pathways for some families in shared arrangements. A cluster of developmental arguments against presumptions of shared parenting surrounds the disruptive nature of this lifestyle for young children, adding increased challenges and risks at a time when children’s cognitive, social and emotional development is reliant on stable, responsive care (Kline-Pruett, Ebling, & Insabella, 2004).

² See McIntosh and Chisholm (2008) for a full explanation of the Amendments relevant to shared parenting.

In a study of infants in separated/divorced families who had regular overnight visits with their father (n = 44) and infants in a married comparison group (n = 52), Solomon and George (1999, p.2) conclude that:

“repeated overnight separations from the primary caregiver are associated with disruption in mother-infant attachment when the conditions of visitation are poor, that is, when parents are unable to provide adequate psychological support to the child”

Solomon and Biringen (2001) also challenged the Kelly and Lamb (2000) perspective, highlighting empirical findings regarding differences in the development of infant attachments with their mothers and fathers, young children’s sensitivity to overnight separations from their primary caregiver, and the possibility that infants have a preference for primary caregivers over secondary caregivers during stressful situations. Other documented risks for children include increase in their loyalty conflicts, exposure to ongoing complexity and conflict in parental decision making, and bearing the burden of the organisational load, for example, remembering belongings, schoolwork, and so on (Pearson & Thoennes, 1990).

In addition to these normative concerns, the literature is stronger on the poor fit between shared parenting and unremitting post-divorce conflict. Beginning two decades ago, Johnston and colleagues (Johnston, 1995; Johnston, Kline, & Tschann, 1989) cautioned against substantively shared parenting for children whose parents’ ongoing acrimony and inability to segregate their conflict meant continued exposure to toxic interpersonal dynamics and the diminished responsiveness of each parent. Others have identified elevated stress and anxiety for parents concerned about their child’s well-being in the care of the other parent, unwanted reduction of the maternal role, elevated conflict brought about by the frequent communication and decision making required in co-parenting, and continuing abuse of power by controlling or violent ex-spouses in that process (Benjamin & Irving, 1989; McKinnon & Wallerstein, 1986).

While progressing over the years, the shared care literature remains difficult to navigate, particularly for legal advisors and judicial decision makers who do not have a clinical lens through which to filter the developmental issues. Consensus around the nature and magnitude of outcomes for infants and children in shared arrangements is some way off, particularly given that sound answers will come from longitudinal rather than cross sectional research, with studies that consider the complex matrix of interaction between time-share agreements, parenting histories, qualities and relationships, and the developmental stages and needs of children.

4.1. Rates and patterns of shared care in high conflict divorce

The attributes that increase the likelihood of shared arrangements working smoothly (see Smyth, 2004; McIntosh & Chisholm, 2008) are not typically characteristic of parents who litigate or who otherwise require significant support to determine and administer their post-

separation parenting plans. Yet several sources point to steady increases in rates of shared parenting in populations of disputing or litigious parents and in the general population (Melli & Brown, 2008). The Child Support Agency in Australia is the authorised government agency that assesses and collects child support for parents who need this kind of assistance. Amongst this population, Smyth (2009) reports that rates of newly registered shared parenting agreements have almost doubled in five years, and are now around 17% of the CSA population. At the litigious and high conflict end of the spectrum, in a review of two separate Court and Mediation samples, McIntosh and Chisholm (2008) found that shared parenting was the mediated outcome in 27% of 183 mediation cases, and was court ordered in 46% of 54 Family Court cases studied.

With growing rates of shared care arrangements, a number of questions are important to consider. Given conflicting beginnings, do these arrangements last? When they do last, does a shared arrangement facilitate greater cooperation between parents over time? How do family law interventions influence the adoption and durability of shared arrangements?

5. Care Patterns and Outcomes in the *Children in Focus* Dataset

The *Children In Focus* (CIF) study was originally designed to explore the impacts of two distinct mediation interventions on parent, child and family relationship functioning: Child-Focused mediation and Child-Inclusive mediation. These two interventions, their selection criteria, and demographic characteristics of the sample are detailed elsewhere (see McIntosh, Long, & Wells, 2009)

5.1. The Sample

Complete parenting pattern data over four years were available for this study for 133 families (concerning 260 children) drawn from the original sample of 169 families. Data for this report are drawn from research interviews at four points in time with 106 mothers, 93 fathers and 196 children (144 with complete data, 52 with partial interview data due to young age, preference or some other need). Data from mothers and fathers from the same families were available in 67 cases (50% of cases), with the remainder of cases representing mother or father alone. Children were personally interviewed in 73% of cases. The average age of the children was 13.0 years (standard deviation of 3.64 years, minimum 6 years, maximum 19 years). Fifty-five percent (55%) of children in this sample were male and 45% female. Parent report data about children was available in 100% of cases from at least one parent.

For the purposes of this shared parenting study, relevant sample selection criteria were as follows:

1. Parents had separated or were separating. They may have been married or had a de facto relationship.
2. Their dispute included child-related matters for negotiation. They may also have presented with disputes around property and assets.
3. At least one child implicated in the parenting dispute was between 5 and 16 years of age.
4. Both parents demonstrated some intent to manage or resolve their dispute.
5. Parents spoke and read English at a Year 7 level or above. (Due to funding constraints, an interpreter could not be provided.)
6. At least two members of the family were willing to participate in the research, namely, both parents, or one parent and child/ren, or all three.
7. Both parents and children gave permission for the children's participation in the baseline interview for each treatment, and subsequent research interviews.

High conflict cases formed the population of interest in line with the original aims of the study, to explore the efficacy of divorce mediation interventions with acute and entrenched disputes. At intake, 59% of mothers and 42% of fathers in this sub-sample reported very high to extreme levels of acrimony and conflict with their former spouse (Acrimony Scale, Shaw & Emery, 1987; Conflict Scale, McIntosh & Long, 2003). Sixty-three percent of mothers and 50% of fathers reported very low co-parenting alliances, that is, poor regard for the other parent as a parent (Parental Alliance Measure, Abidin & Bruner, 1995). Mean conflict and acrimony levels for the remainder of the sample were moderately high (conflict being the behavioural manifestation of discord and acrimony the psychological hostility held for the other parent).

The sample at the fourth wave was compared to the sample at intake to explore the characteristics of those who remained in the study and those who dropped out. A series of variables was tested to ascertain their contribution to the likelihood of dropping out of the study: parent age, education, income, time since separation, family size, site, intervention type, initial levels of conflict and acrimony. Two variables emerged that were significantly associated with families dropping out of the research: intervention type and father's level of acrimony. These variables are controlled for in all relevant analyses.

5.2. Methodology

Parent data were collected through structured interviews at each wave of the study, the majority of which were completed in a personal interview with a researcher from the study. The interview comprised a series of repeated measures and open-ended questions. A full description of the measures used in this study is available in the Children Beyond Dispute Fourth Year Report (McIntosh, Long, & Wells, 2009), and summaries are provided below.

5.2.1. Parent measures:

- **Parenting relationship:** *The Parenting Alliance Measure* (PAM; Abidin & Brunner, 1995)
- **Parent/Child relationship:** *The Parent-Child Relationship Scale* (PCR; McIntosh, 2003b)
- **Conflict:** *Parental Conflict Scale: Historical and Current* (McIntosh & Long, 2003); *Acrimony Scale* (Shaw & Emery, 1987)
- **Children's psychological well-being:** *Strengths and Difficulties Questionnaire* (SDQ; Goodman, 1997)

Additional measures were added at the fourth wave to explore current relationship status, contact and care arrangements and histories, legal involvement, conflict management, and step family status.

5.2.2. Child measures:

- **Self Representation:** Bear Cards (St. Luke's Innovative Resources); Separation Story Stems (McIntosh, 2003, unpublished)
- **Parent-child relationship:** *The Kvebaek Family Sculpture Technique* (Cromwell, Fournier & Kvebaek, 1980); *The Child-Parent Relationship Scale* (McIntosh, 2003a)
- **Children's views of their parents' conflict:** 10 Items from three subscales, *Frequency*, *Resolution*, and *Intensity*, from the Children's Perception of Inter-Parental Conflict Scale (CPIC; Grych, Seid, & Fincham, 1992); 3 items from the *Security in the Interparental Subsystem* (SIS; Davies, Forman, Rasi, & Stevens, 2002); *The Caught in the Middle Scale* (CIM; Buchanan, Maccoby, & Dornbusch, 1991).

In the fourth wave, children were asked five new questions about their experience of the contact arrangements and their preferences, and five questions about current contact with their maternal and paternal grandparents and their preferences. Children were also asked about their

perception of their relationship with stepparents, in an adaptation of The *Child Parent Relationship Scale* (McIntosh, 2003a).

6. Findings: Children In Focus Dataset

The remainder of this report summarises data available from the *Children in Focus* dataset. Again, these data are solely from families in which the parents experienced significant discord and thus attended mediation to attempt to resolve a dispute about parenting arrangements for their children. Previous reports (e.g. McIntosh & Long, 2006) have shown this sample to be representative of families attending Relationships Australia (a national provider of relationship services) for divorce mediation in the years 2003-2004, and thus we argue the sample is representative of a wider population of families experiencing entrenched dispute over parenting matters with which they require mediation assistance. The findings should not however be generalised to the population of cooperative separating families characterised by autonomous decision making, and conflict resolution post separation.

6.1. Exploring long term care patterns in the Children In Focus Dataset

Cases were grouped according to the nature of their post-separation care pattern over four years, with the following clusters:

- A) Continuous primary care:** Primary care is defined as less than 35% of overnight time spent with the non-resident parent, and in this group, this was the continuous pattern from mediation to the fourth wave of data collection, i.e. between three and four years. This group does not contain children who have either no or rare overnight contact (see group D below).
- B) Continuous shared care:** Shared care is defined as 35% or more of overnight time spent with each parent continuously, and in this group, this was the continuous pattern from mediation to the fourth wave of data collection, i.e. between three and four years.
- C) Changing patterns:** Moving between primary and substantially or equally shared care across the four years.
- D) No or rare current overnight contact with one parent:** Children who, at the fourth wave of data collection did not have any overnight contact with one parent, or rarely had overnight contact with one parent (one to three times per year). They may have had email or other contact.

Cases were also grouped according to how their pattern of care evolved over four years, including:

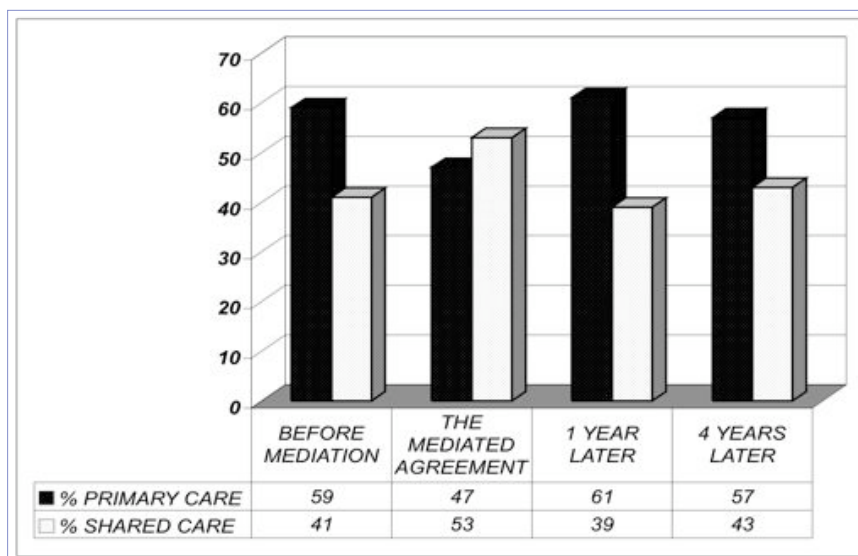
- A) Steady, unchanging pattern
- B) Moved from shared to primary care
- C) Moved from primary to shared care

In establishing these patterns, in the majority of cases, data from more than one source existed (i.e. mother and or father and or children) enabling a consensus score for these groupings. At some time points, the response of one parent was the only available data and was thus accepted. In two cases, through vastly discrepant data, patterns could not be established and these cases are excluded from some analyses.

6.2. Patterns, rates and durability of parenting arrangements over time

The care pattern of this sample was first explored at four points in time, with cross-sectional findings illustrated in the following chart.

Figure 1. Percentage of families in primary and shared arrangements over four time periods (n = 131)



As the chart above indicates, in this sample, the mediation intervention introduced a significant departure from the arrangement that many families had come with, resulting in the short term in a noticeable movement from primary to shared care arrangements. However these cross sectional group data show that, over time, the group tended to revert to something similar to their pattern of care prior to mediation. In other words, there was a tendency for the group to gravitate towards 'status quo'. This was particularly noticeable for families who had gone through a mainstream mediation, without the input of their children at the time of decision-

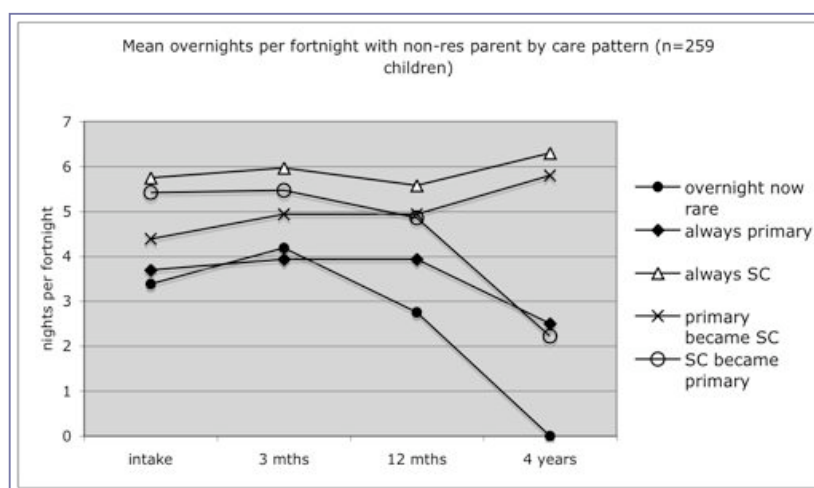
making (see McIntosh, Long, & Wells, 2009). The table below shows the directions of movement, change and the stability within the sample over time. Four years after mediation, the type of care pattern and the average rates of overnight care per fortnight with the non-resident parent were as follows:

Table 1. Mean nights per fortnight with parent living elsewhere by care pattern, four years after dispute resolution

Care pattern over 4 years	N (families)	Mean nights with non-resident parent
Continuous primary care	54 (41 %)	2.34
Continuous shared care	36 (27%)	6.41
Shared care (35%+) became primary	23 (18%)	2.81
Primary care became shared (35%+)	18 (14%)	5.88
Total	131	3.72

Four years post-mediation, 32% of families had attempted at least two care patterns since mediation. Forty-one percent (41%) maintained a primary parent arrangement and 27% maintained a shared care formula (at 35:65% ratios or higher). At both time periods of one year and four years post mediation, substantively shared care was a less stable contact pattern than was primary care. Of the families who attempted a substantially shared arrangement, stability of shared care rates was 2.4 times more likely in families who had voluntarily entered this arrangement prior to mediation, that is, parents who had opted for shared care at the outset. In 18 families, contact with one parent (mother = 5, father = 13) had ceased or is rare: in seven families, contact with one parent (mother = 2, father = 5) had always been rare or never occurred. In families who lost contact over time, 11 of the 18 families moved from primary parenting to rare or no contact and four families who ceased contact had originally mediated a shared care arrangement. These patterns translated into the following average number of overnights with the non-resident parent at the four-year mark (see Figure 2).

Figure 2. Mean number of nights per fortnight spent with non-resident parent



6.3. Demographic correlates of the four care patterns

6.3.1. Age and gender of child, and sibling group composition

There was a significant difference in the spread of genders across the various patterns, as shown in Table 2 below.ⁱ Sons were significantly more likely than daughters to lose contact with a parent over time, and at the other end of the spectrum, to move into shared care arrangements over time. Girls were significantly more likely to remain in primary care arrangements. Age was also a distinguishing characteristic. Parents were significantly more likely to enter shared arrangements with children under seven years of age, and to revert to primary parenting formulas (typically three overnights per fortnight with the non-resident parent) by the time children were eleven years old.ⁱⁱ

Table 2. Child age & gender by care pattern, 4 years post dispute resolution

<i>Care Pattern</i>	<i>N</i>	<i>Female</i>	<i>Male</i>	<i>Age</i>	<i>Std. Dev.</i>
Continuous primary care	73	57.5%	42.5%	13.03	3.49
Continuous shared care	77	44.2%	55.8%	12.53	3.26
Shared care became primary	38	47.4%	52.6%	13.18	3.55
Primary care became shared	34	26.5%	73.5%	11.76	3.46
Rare overnight contact	37	36.8%	63.2%	15.14	4.10
Total	259	45%	55%	13.04	3.62

Single children without siblings were more likely than sibling groups to enter shared care arrangements across the four years of this study (55% of children in sibling groups and 81% of “only” children entered a substantively or equally shared arrangementⁱⁱⁱ). Children who had rare overnight contact with one parent four years after mediation were significantly older than children^{iv} who retained active relationships with both parents. Older children were significantly more likely to move from shared arrangements to primary arrangements over time than were younger children. The youngest average age of children is apparent in the group who moved from primary into shared care arrangements over the four years.

Smaller sibling groups (mean = 1.91 children) were more likely to enter and to maintain shared care patterns. Sibling groups of more than two children were most likely to have maintained primary care patterns.

6.3.2. Socio-demographic and family life cycle factors

Income, education, stage of family life cycle, geography and parental involvement prior to separation distinguish membership of the four care patterns. Low-income fathers were more likely to have ceased contact with children four years post mediation. Fathers in the sustained shared care group had significantly higher rates of tertiary education (49% compared to 10% of the no/rare contact group, 34% in the primary pattern, and 44% in changing patterns; $n = 93$).

Families who entered shared care arrangements during the course of this study were at an earlier phase of the family life cycle than were families who entered primary arrangements. Their children were typically four years younger on average at the time of separation than were children who either sustained primary care or lost contact, fathers were on average typically three years younger than fathers in the other care groups, and mothers were one year younger. Mothers in sustained shared care had both the highest income and highest education levels.

At the time of intake, those parents who went on to a sustained shared parenting arrangement lived closer together than the other groups, on average cycling distance apart. Ninety-one percent (91%) of families (31/34) who sustained shared care continued to live relatively short distances from each other. This is in sharp contrast to the other groups, who over time moved further and further away from each other.

Fathers in sustained shared care arrangements were significantly more likely to report that they had taken an active and shared role in caring for their children during infancy, and that there had been other forms of care, such as extended day care and grandparent care. Sustained primary care families and those who lost contact with a father were significantly more likely to report the mother as primary carer in infancy.

Mothers in sustained shared care were significantly more likely to have re-partnered than mothers who retained a primary care role (79% vs 63%). Re-partnering for fathers did not correlate with type of care pattern, with eighty-nine percent (89%) in both primary care and shared care groups re-partnered four years after mediation. Mothers in primary arrangements were somewhat less likely to have re-partnered compared to mothers in shared care arrangements (61% in Primary Care and 66% in Shared Care re-partnered).

6.3.3. Parenting relationships and dispute management

The group of families who went on to sustain a pattern of equal or near equal overnight care of their children over four years, started from a different position than the other groups. The stand out feature here is a higher mutual regard by parents from the outset for the other parent's capacity to parent, and lower psychological hostility for the other. Their children in turn reported lower conflict between their parents at the beginning of the arrangement than did

children in the other groups. At intake to mediation, mothers' Acrimony ratings were lowest in the sustained shared care group, and highest in the group who would go on to have rare or no contact with the other parent. Father scores were similar. Parental Alliance (the positive regard parents have for each other as parents) as reported by mother and father at intake was highest in the sustained shared care group and lowest in the no/rare contact group.

6.3.4. Parent-child relationships at baseline

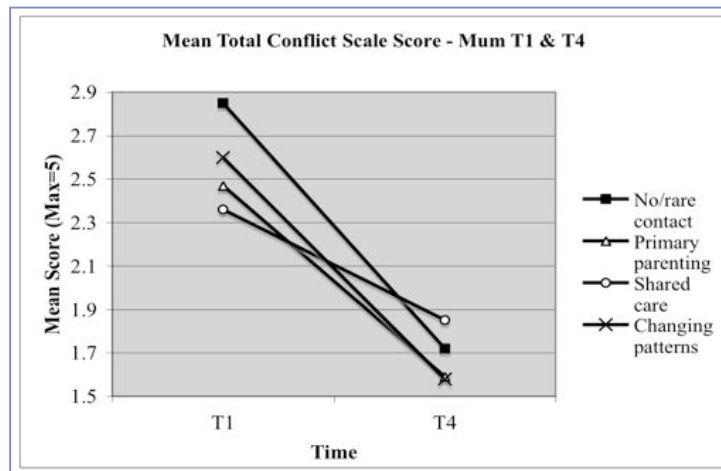
With respect to parent-child relationships, the group who went on to maintain shared care again stands out from the other groups in two respects. Prior to mediation, fathers in this group were significantly more confident about their own parenting ability, namely their ability to be available to, to understand, comfort and enjoy their child^{vi}. And from the child's perspective, the sustained shared care group reported significantly higher availability of their fathers *prior* to mediation^{vii}. From the outset therefore, fathers and children who managed to sustain shared parenting over four years began from what could be regarded as a healthier position. There were no significant differences between the four groups at baseline on the mother-child relationship, on either mothers' or children's data.

6.4. What happened over the next four years: Parent report

The findings outlined in this section are descriptive, mapping the trajectory of repeated group scores over four years, and causal relationships are not inferred. Further on, through regression modelling, we detail the relative contributions of various care patterns and family functioning variables to children's outcomes.

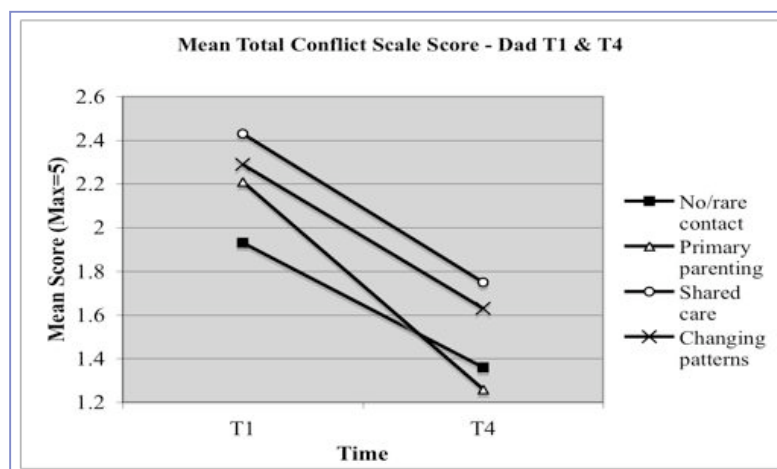
Four years on from mediation, mothers in all groups reported decreased conflict, with the greatest decrease occurring in the no/rare contact group, and the least in the sustained shared care group (See Figure 3 below). Both mothers and fathers reported the lowest rates of disagreement about parenting in the primary parenting group.

Figure 3. Mean total conflict scale score; Mothers at intake and four years later by care pattern (n = 106; Scale: max = 5, min = 1)



There was a trend for fathers who described stronger parenting alliances at intake to negotiate and maintain shared arrangements over the four years after mediation.^{viii} For fathers, the report of conflict also decreased, regardless of the care pattern they were carrying out (See Figure 4 on the following page). The decrease was greatest for fathers in the primary parenting group, and least in the no/rare contact group. Despite beginning with slightly higher regard for the other parent, and controlling for initial levels of conflict, fathers in continuously shared arrangements, compared to fathers in either never shared or changing patterns, reported consistently higher frequencies of minor and major conflict with their former spouses.^{ix} They reported more frequent and less well-managed disputes over parenting.^x A similar trend was evident in mothers' conflict data^{xi}.

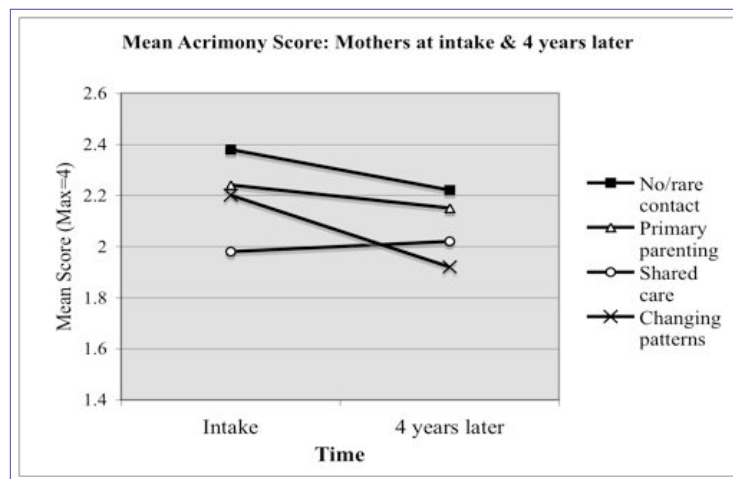
Figure 4. Mean total conflict scale score; Fathers at intake and four years later by care pattern (n = 93; Scale: max = 5, min = 1)



Acrimony:

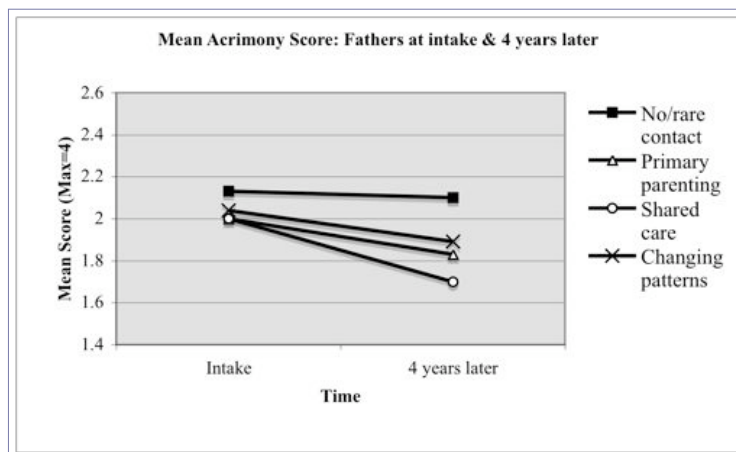
Similarly, over the four years there was a decrease in acrimony scores for mothers in all groups except the shared care group. In relative terms, the difference between the group scores at the four year mark is not significant, but the direction of the trajectory remains of interest. Acrimony remained highest throughout in the group of mothers with whom overnight contact with the other parent was now rare or indeed did not occur (See Figure 5 below).

Figure 5. Mean acrimony score for Mothers at intake and four years later by care pattern (n = 106; Scale: max = 4, min = 1)



There was a small decrease in acrimony for fathers in all groups. Fathers who now had rare or no overnight contact with their children remained the most acrimonious, but in contrast to mothers who showed increased acrimony, fathers in the sustained shared care group reported the least acrimony. The group scores are not significantly different at the four year mark (See Figure 6 below).

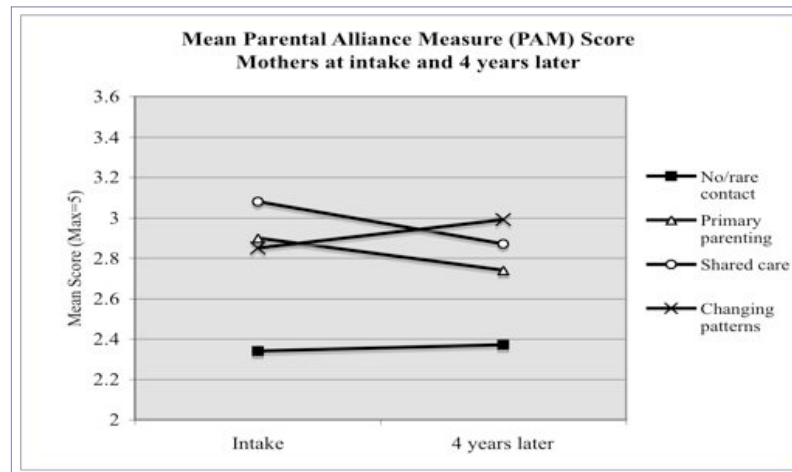
Figure 6. Mean acrimony score for fathers at intake and four years later by care pattern (n = 93; Scale: max = 4, min = 1)



Parenting Alliance

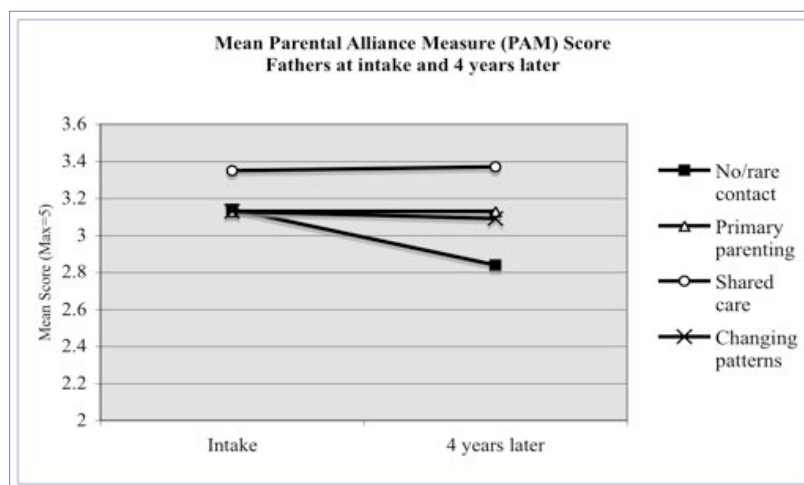
Mothers of all groups reported little change in their regard for their former partner over time. Fathers in the sustained shared care group were most optimistic about mothers' parenting capacity (See Figure 7 below).

Figure 7. Mean parental alliance measure (PAM) score for mothers by care pattern (n = 106; Scale: max = 5, min = 1)



Fathers and mothers in the no/rare contact group reported the lowest alliance levels throughout the four years (See Figure 8 on the following page). Shared care was successfully sustained over time by parents whose acrimony was lowest to begin, and whose alliance was highest, and stayed that way over time. These qualities seem to be proxies for effective co-parenting relationships, post-separation. Despite these attitudinal advantages, fathers, mothers and children in the shared care group report sustained levels of conflict between parents.

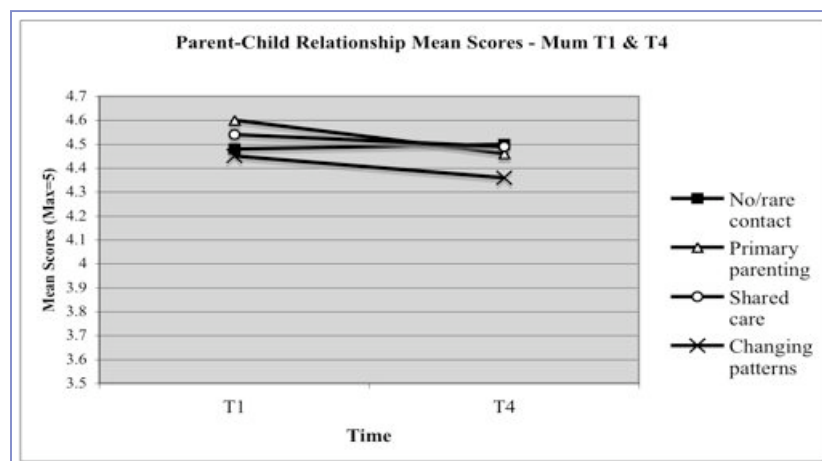
Figure 8. Mean parental alliance measure (PAM) score for fathers by care pattern (n = 93; Scale: max = 5, min = 1)



6.5. Parent-child relationship

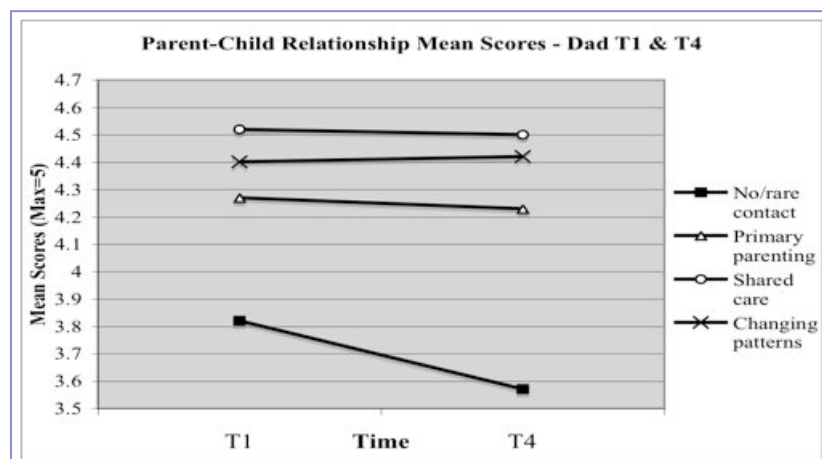
There is little difference between groups on mothers' ratings of their relationships with their children (See Figure 9 below). There is a non-significant trend for mothers in the changing patterns group to report less confidence in their parenting and the quality of their relationship with their children. In contrast to the other groups, only mothers in the no/rare contact showed slightly increasing scores for parent-child relationship over time.

Figure 9. Parent-child relationship mean scores, mother rated, by care pattern (n = 106; Scale: max = 5, min = 1)



Fathers in the shared parenting group were most confident about their parenting capacity and overall relationship quality across time (See Figure 10 below). Fathers who had lost contact by the fourth wave of data collection were significantly lower at both time intervals^{xii}.

Figure 10. Parent-child relationship mean scores, father rated, by care pattern (n = 93; Scale: max = 5, min = 1)

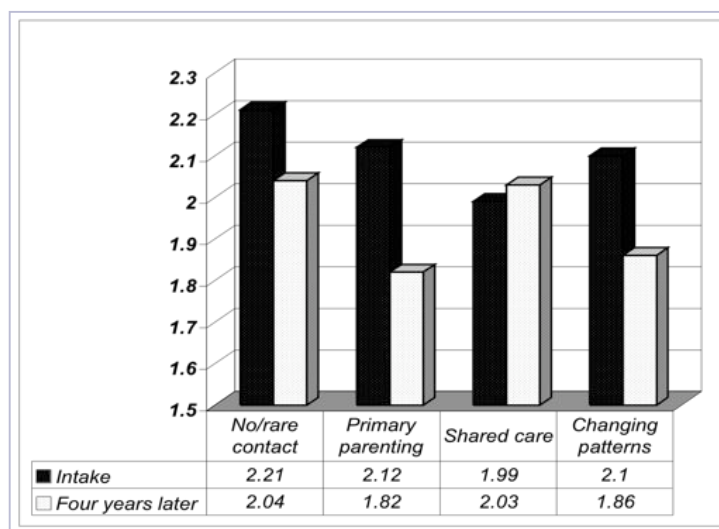


6.6. Children's report

Witnessing parental conflict:

As with parents' reports, children's conflict data on the CPIC scale showed a decline in the amount and intensity of conflict they perceived between their parents in all groups except the shared care group, where conflict levels were sustained over time (See Figure 11 below). Controlling for initial levels of conflict, children in the shared care groups reported significantly higher levels of inter-parental conflict four years later than children in the primary or changing care groups, and were not significantly different from children in the rare contact group^{xiii}.

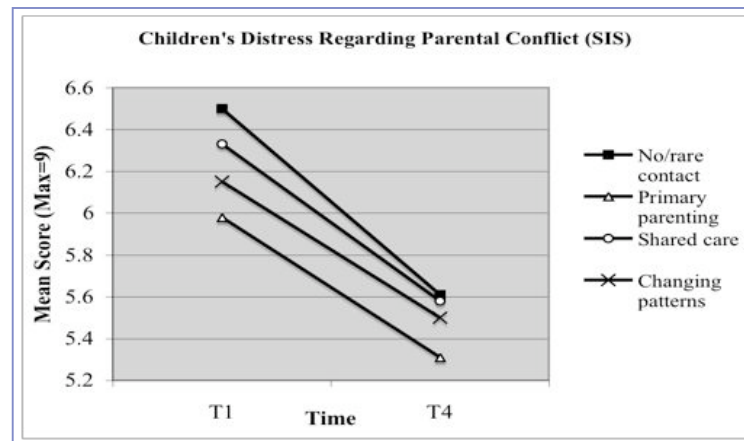
Figure 11. Children's perception of parent conflict, at intake and four years later by care pattern (n = 144; Scale: max = 3; min = 1)



Distress regarding parental conflict:

Children's distress regarding the parental conflict they witnessed decreased over the four years across all groups, with children in the primary parenting group reporting lowest distress compared to children in the other groups across the four years (See Figure 12 below). Children in the no/rare contact group reported the highest distress throughout the four years, compared to children in the other groups. At the four year mark, the groups did not differ significantly from each other.

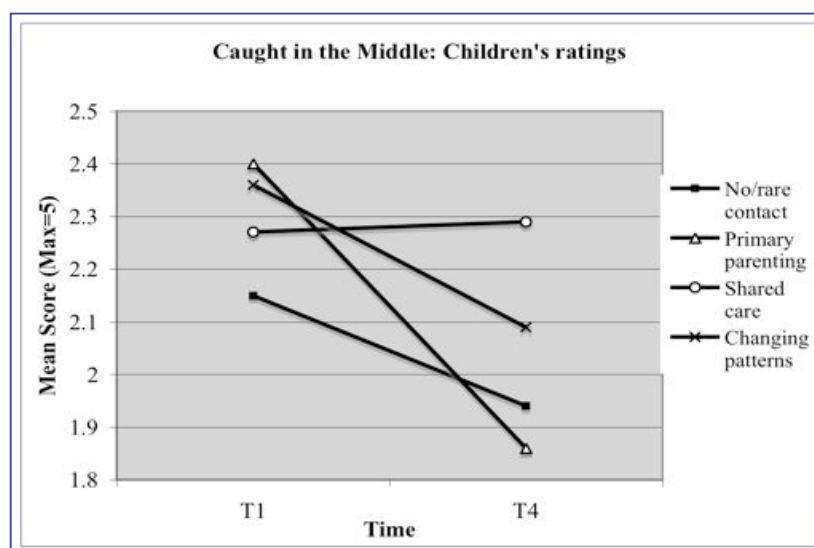
Figure 12. Children's distress regarding parental conflict (SIS) by care pattern (n = 144 children; Scale: max = 9, min = 3)



Caught in the Middle:

The *Caught in the Middle* (CIM) scale measures the extent to which the child is asked to carry messages between parents, is made to feel uncomfortable talking about one parent to the other, and generally feels triangulated in their parents' conflict. Mean scores for children in all the care patterns, except for the shared care group, decreased over the four years. As Figure 13 shows, the trajectory of scores for feeling 'caught in the middle' is constant for children in the shared care group, in contrast to the other groups where the slope decreases significantly over time^{xiv}, which may also be of clinical significance. The greatest decrease in the CIM mean score was for children in the primary parenting group.

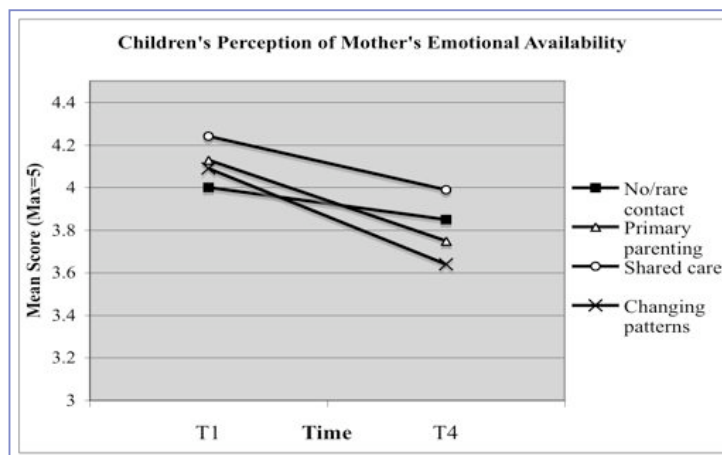
Figure 13. Caught in the middle (CIM) mean scores at intake and four years later by care pattern (n = 144 children; Scale: max = 5, min = 1)



Child's perception of parents' emotional availability:

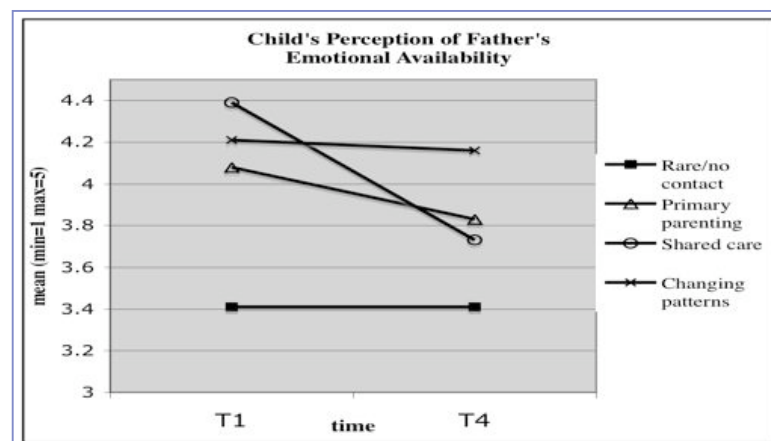
Children's reports about their mother's emotional availability were varied little across time and across type of care arrangement, with no significant differences at the four year mark (See Figure 14 below). As might be expected with the onset of adolescence, children's perception of their mother's emotional availability decreased somewhat across all groups, with the reduction most marked for children in the changing patterns group. A subsequent section of this report discusses the role of continuity in the mother-child relationship evident in this sample.

Figure 14. Children's perception of mother's emotional availability by care pattern
(n = 144 children; Scale: max = 5, min = 1)



We note greater variability in children's reports about their father's emotional availability (See Table 15). Children who lost contact with their father had a significantly lower perception of their father's emotional availability throughout the four years, compared to children in the other groups. Children in both the changing patterns group and primary parenting group reported relatively stable perceptions of their father's emotional availability, while reports of father availability by children in continuous shared care decreased over the four years.

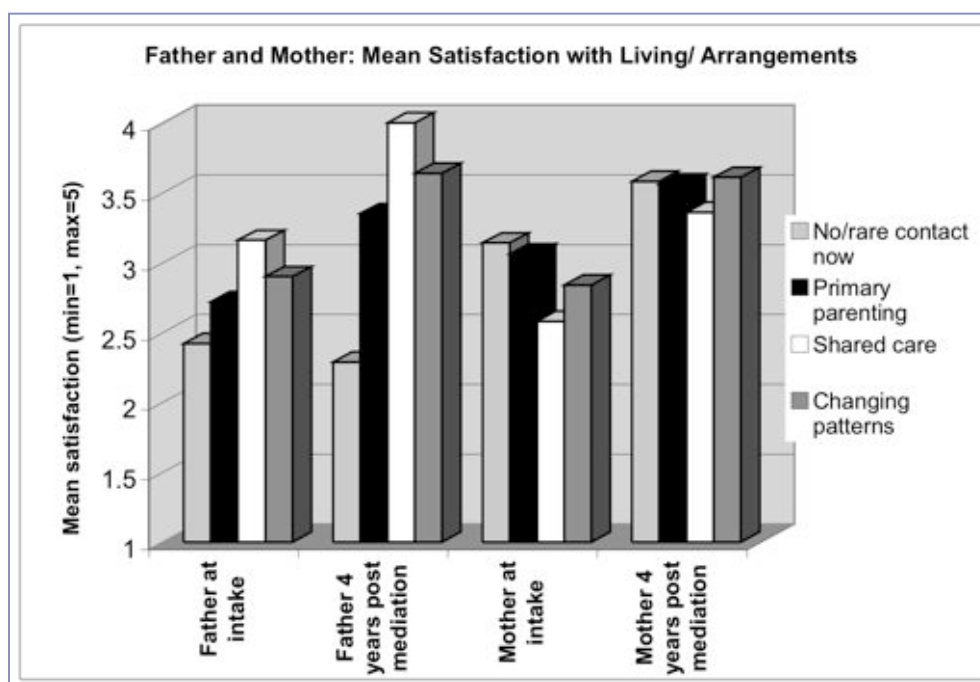
Figure 15. Children's perception of father's emotional availability by care pattern
(n = 144 children; Scale: max = 5, min = 1)



6.7. Parents' satisfaction with living arrangements

For all groups of fathers and mothers, satisfaction with living arrangements grew over the four years (See Figure 16 on the following page). Mothers' satisfaction with the arrangements was not associated with the care ratio at the four-year mark. Fathers differed significantly across time in their levels of satisfaction with living arrangements. While fathers in continuously shared care reported significantly more conflict about parenting and poorer dispute management, they also expressed higher satisfaction with children's living arrangements four years post mediation than did fathers with changing arrangements or ratios of less than 36:65%.^{xv} The figure below shows the mean scores across time for the four groups of fathers. On a five-point scale, where 5 is '*very satisfied*' and 1 is '*very dissatisfied*', fathers in the sustained shared care group were more content at each of the time intervals.

Figure 16. Father and mother mean satisfaction with children's living/visiting arrangements over 4 years (n = 94 fathers and 100 mothers)



6.8. Children's satisfaction patterns over time

At the time of parents' intake to mediation, children were asked in their interviews about a number of aspects of their lives, including whether they were content with the living arrangements or whether they preferred something different. While the numbers in some cells are small, and the reader should bear this in mind when interpreting the findings, Table 3 (on the following page) shows that at the time of parents' mediation, there was a shifting balance of preference for living arrangement with age. Children under eight years tended to express a preference for maintaining the status quo of arrangements or for a shared arrangement. At the

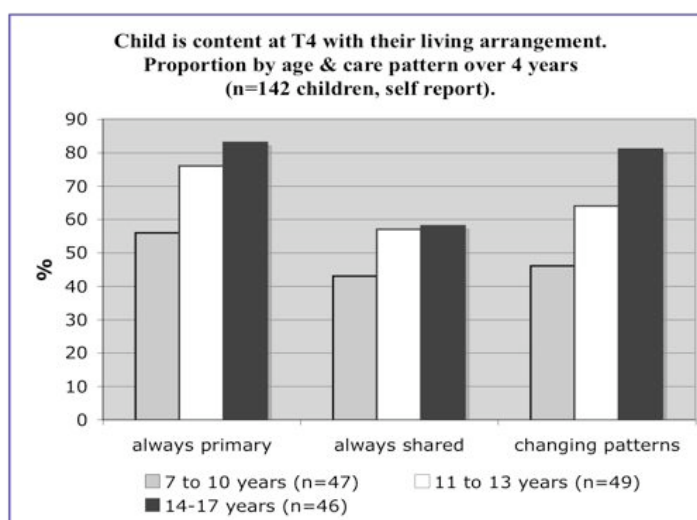
time of parents' divorce mediation, older children were significantly more likely to express a wish for a primary living arrangement. As Table 3 on the following page shows, 80% of children over eleven and 76% of children aged seven to ten years living in a shared arrangement at intake expressed a wish for change, compared to 44% of children under seven years.

Table 3. Children's contentment with care arrangement at intake by care pattern & age

Age	Type of care	Content: would not change it	Not content: wants to change it	Total
Under 7	Primary care	54.5%	45.5%	100%
	Shared care	55.6%	44.4%	100%
	Total	55.0% (22)	45.0% (18)	100% (40)
7-10	Primary care	47.6%	52.4%	100%
	Shared care	23.3%	76.7%	100%
	Total	37.5% (27)	62.5% (45)	100% (72)
11+	Primary care	54.2%	45.8%	100%
	Shared care	20.0%	80.0%	100%
	Total	44.0% (37)	56.0% (47)	100% (84)

Rates of contentment with living arrangement grew somewhat over the years (see Figure 17 below). Four years on, children aged 11 and over in primary parenting arrangements were more content with their living arrangement than those in a sustained shared arrangement^{xvi}. Children now aged 14 years or over who experienced changing patterns also reported high rates of contentment.

Figure 17. Child's self reported contentment with living/visiting arrangements, 4 years after mediation, by care pattern and age.



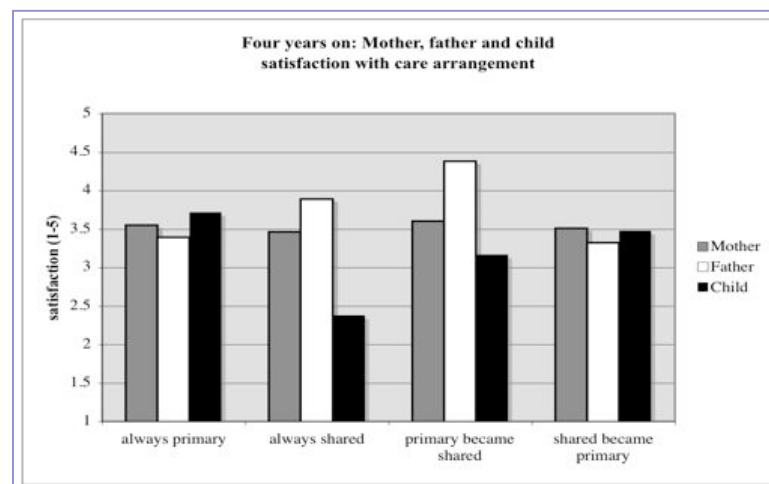
Tracking satisfaction over time within individuals, we contrasted scores at intake with children's reports four years later ($n = 100$ children; See Table 4 on the following page). Twenty-seven percent (27%) were always content with their living arrangement. Forty-one percent were initially unhappy, but became content over that period of time, no matter what the living arrangement was. Fifteen percent were not happy with their arrangement at intake and remained unhappy with it, and 17% reported no longer being content with their arrangement. There were no gender differences in these change scores. Those children in the primary parenting group who did want a change were more likely to want to spend more time with their father. Children who had lived in a sustained shared care arrangement were significantly more likely to say they wanted a different parenting schedule than other groups (See Table 4)^{xvii}, predominantly to spend more time with mother.

Table 4. Type of change child wants in care arrangement after four years by type of care pattern

Type of change child wants	Child now has rare contact with parent	Continuous primary care	Continuous shared care	2+ changes to living arrangements	Total
More time with Dad	21.4%	20.5%	4.8%	15.2%	15.0%
More time with Mum	10.7%	6.8%	42.9%	21.2%	21.1%
Keep it the same	67.9%	72.7%	52.4%	63.6%	63.9%
Total (N)	100% (28)	100% (44)	100% (42)	100% (33)	100% (147)

While fathers remained most satisfied with shared parenting arrangements, mothers' satisfaction was relatively even across the various forms of living arrangements (See Figure 17 below). Children were least satisfied with sustained shared care arrangements, as illustrated in the following figure.

Figure 18. Satisfaction with care arrangement by pattern of care over four years ($n = 103$ mothers, 94 fathers, 146 children; Scale: min = 1, max = 5)



6.9. Families who returned to primary care arrangements

Twenty-three families, involving 38 children, entered mediation in primary care schedules, attempted shared care after mediation, and returned to primary care in the next two to three years. There are a number of ways in which these families differ from the 36 families who sustained a shared arrangement over four years.

1. Geographically, the group who reverted to primary care moved further away from each other *during* their attempt at shared parenting, in fact further than any of the other groups during the first year of this study (on average a moderate car trip of up to one hour). Those families who progressed toward a shared arrangement *after* the first year moved *closer* together over time (on average a short car ride or cycling/walking distance).
2. The children “who tried” shared care but reverted to primary patterns were significantly older when shared care was attempted (mean age of 10.1 years versus a mean age of 7.5 years for the sustained shared care children).
3. All family members (both parents and children) expressed discontent with their parenting arrangement shortly after it was mediated.
4. Three months after mediation, this group reported making the least progress with the ongoing management of parenting disputes.
5. The children in this group reported greater conflict between their parents, felt significantly more caught up in their parents’ conflict at the time and reported that their father was less available to them from the outset.
6. Larger sibling groups were more likely to revert to a primary arrangement.
7. Mothers in this group reported significantly worse parenting alliance and acrimony at intake.
8. Fathers reported a significantly worse parenting alliance at intake.
9. The separation was significantly less likely to have been mutually decided (most likely to have been initiated by mother).
10. Fathers were more likely to have re-partnered and mothers were significantly less likely to have re-partnered.
11. Mother and father education was lower than the sustained shared care group.
12. Parents were twice as likely to have litigated over parenting following mediation, and had greater involvement of courts prior to mediation.
13. Children who went on to sustain shared care had significantly better mental health (SDQ) scores as rated by mothers and fathers than did children who attempted but did not sustain shared care.

14. Parents were more likely to have participated in the Child-Focused mediation intervention, where they did not hear from their children.
15. In summary, the “starting equipment” for shared parenting was different for the group who reverted to primary care.

Of these factors, logistic regression modelling showed that the most significant predictors of shared care ending in this sample, in order of importance, were^{xviii}:

- i) Mother’s high acrimony toward father at intake
- ii) Child’s report of poor emotional availability of father at intake
- iii) Father’s low formal education
- iv) Children were over ten years at the time of mediation.

6.10. Quantity, stability, rigidity of parent time: links to children’s outcomes

Fifty-two percent (52%) of mothers and 61% of fathers in shared patterns reported that their parenting arrangements had at least some flexibility four years down the track. Mothers were most likely to report flexible arrangements in the changing patterns group.

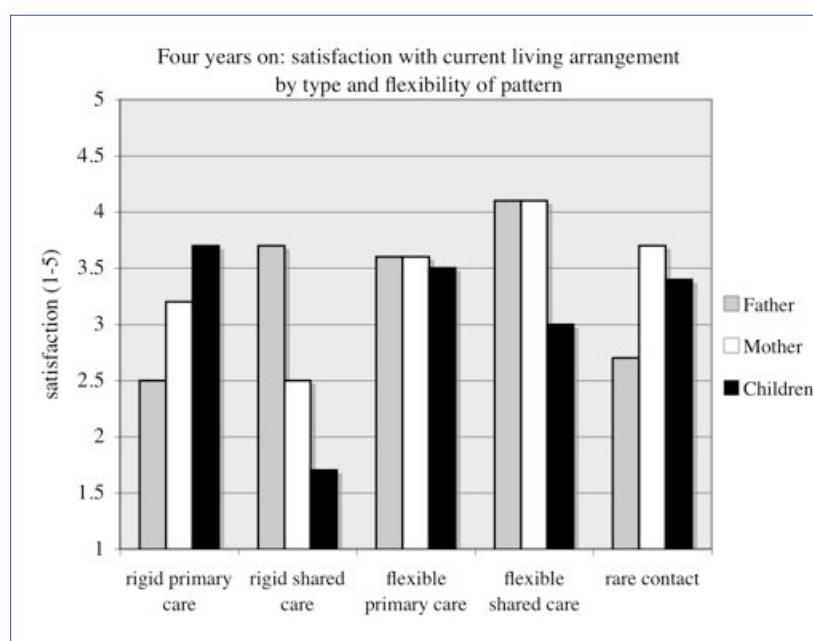
Not surprisingly, the rigid shared care group in our sample were a highly litigious group, characterized by the following:

- Marital conflict levels were significantly higher.
- Both mother and father reported significantly more post-separation conflict than the flexible group, higher acrimony and lower cooperation at all time intervals.
- Mothers more frequently reported feeling threatened by their ex-partner than did mothers in any of the other parenting arrangements.
- Fathers’ regard for mothers’ parenting skills was lowest.
- Mothers’ report of her alliance with father declined dramatically over the years.
- Children reported far higher conflict than children in primary care, but *less* conflict between their parents than children in the flexibly shared group: the rigidity of the arrangement had a protective function at one level.
- However, children and mothers in rigid shared arrangements became significantly more distressed over time.
- All fathers in the “rigid” shared care group had re-partnered. Less than half of the mothers had re-partnered (significantly different from the flexible shared care group, where 84% of mothers had re-partnered).
- Children in rigid shared care reported feeling significantly worse about their father’s new partner, specifically her capacity to “understand me”.

- Only 14% of children in rigid arrangements wished their own parents would reunite (31% of flexible shared care children wished this).

The following chart (Figure 19) depicts patterns of contentment and distress for each family member with respect to their living arrangements, four years into the arrangement, relative to the rigidity or flexibility of the living pattern.

Figure 19. Four years on, satisfaction with current living arrangement by type and flexibility of pattern (n = 94 fathers, 103 mothers, 146 children; Scale: min = 1, max = 5)



Mothers and fathers were equally content when primary and shared arrangements were flexible. Rigidity in shared care arrangements did not significantly impact on fathers' report of contentment with the living arrangements, but did with rigid primary arrangements^{xix}. Mothers were least happy with rigid shared care arrangements, but these group differences were non-significant.

The rare contact group (here representing loss of father contact) is identifiable at all four measurement intervals through parents' reports of high conflict, poor quality parenting relationships, and by the poorer emotional availability of the non-resident parent through the eyes of the child. It is important to note that this group is not a relocation group: only two of the 18 families who now have rare overnight contact did so because of geographic distance. This group would fairly be regarded as an estranged group.

Of concern is the group of children (n = 42) subject to rigidly shared parenting schedules, who expressed the greatest level of unhappiness with their living arrangement. In the rigid shared care group, 66% wanted to change their living arrangement (53% wanted more time with

mother, 13% more time with father). In the flexibly shared care group, the majority were content to remain in the arrangement: 39% wanted a change (31% more time with mother, 8% more time with father). The child's desire for change to the arrangement correlated most highly with the child's subjective *distress* about their parents' ongoing conflict (rather than the sheer amount of conflict), followed by their age, with older children expressing stronger desire for a different arrangement.³

Stable arrangements over time (continuous primary or continuous shared care) occurred in 63% of families. Stability was more likely to occur in families who were lower in conflict to begin with. Stable living arrangements did not correlate significantly with outcomes such as the amount of conflict a child witnessed four years after mediation, but did correlate significantly with their perception of their mother's emotional availability.^{xx} General linear modelling showed no difference over time in the child's report of father's emotional availability relative to whether their living arrangement with him had been stable or not. However, a difference approaching significance was evident in the mother-child relationship, with greater availability over time reported by children who had continuous care arrangements with their mother.^{xxi}

To better understand this, we explored through linear regression modelling the place of current and historic factors that contributed to a child's sense of each parent's emotional availability (being understanding, interested, and responsive to needs), four years beyond the mediation. Significant and near significant correlations between predictor variables and the outcome measure were tested, entering each systematically into a regression model to explore the ability of each variable to explain the variance in parent's emotional availability as perceived by the child. Following the sizeable literature on divorce impacts and children's outcomes, our theoretically derived layers of predictor variables fell into four domains. The four domains were:

1. **Demographic factors:** Time since separation, length of marriage, education and income of each parent, re-partnering status, involvement of step-parents with child, age and gender of child, birth order, sibling size, distance between parent houses, time in each parents' care.
2. **Dispute typology factors:** Mediation intervention type, history of litigation over property, history of litigation over parenting, conflict management, contact and care arrangements, flexibility of parenting plan, child and parent satisfaction with care arrangements.
3. **Parent factors:** Mother and father ratings of acrimony, alliance, conflict, parent availability (self report), child's mental health, at intake and four years post mediation.

³ (Child's desire to change living arrangement and SIS scores: $R^2 = .26$, $p = .002$, $n = 145$.
Child's desire to change living arrangement and T4 age: $R^2 = -.23$, $p = .005$, $n = 147$.)

4. **Child factors:** Perception of parents' conflict, triangulation, distress, parents' emotional availability (child report), feelings of closeness to parents, at intake and four years post mediation.

Variables strongly linked to the dependent variable were controlled for, and variables in each domain that did not add to the predictability of the model were deleted. Having done this, the most parsimonious model evolved for each question, that is, the combination of variables that independently contributed to or mediated each of the parent availability outcomes⁴.

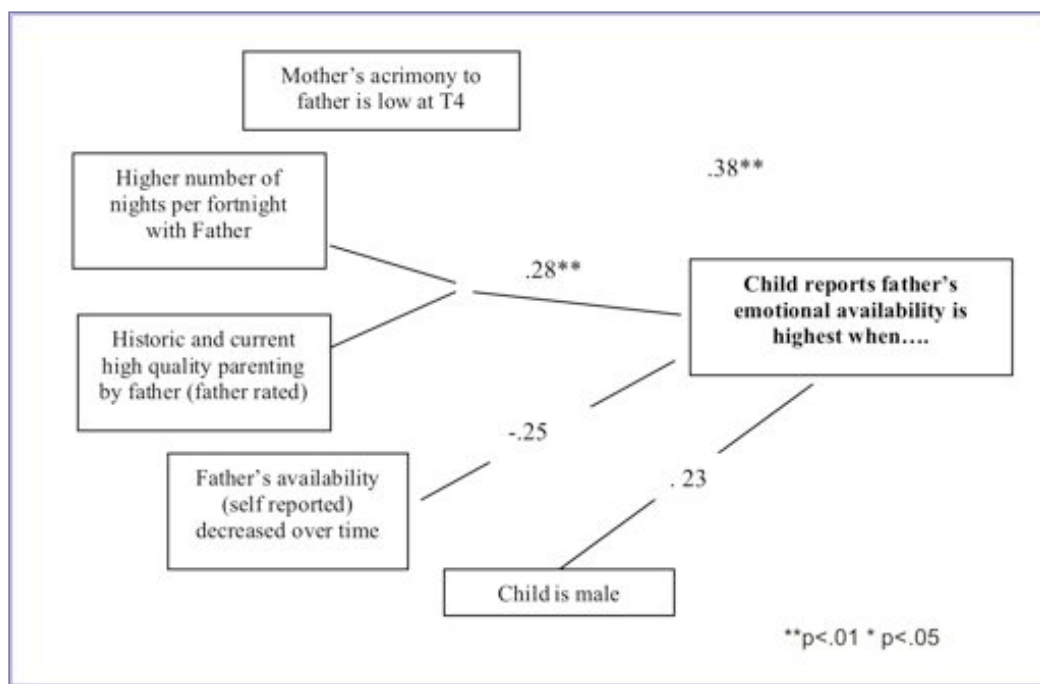
6.11. Parents' emotional availability, child report, four years post mediation

Two significant models were identified for mother and father availability, each of which explains a sizeable proportion of the variance in children's scores (See Figures 19 and 20). As the model on the next page shows, a significant predictor of father availability as perceived by the child was the gender of the child, with boys more likely than girls to report that their father understood them and was interested and responsive to their needs. If the father's self-reported availability to the child had decreased over time, children reported lower current availability. The child's perception of their father's availability was not independently linked to the amount of time he/she spent with father, nor to the stability of the care arrangement over time. However, an interaction effect was evident, wherein time with father became a significant predictor when the history of his parenting capacity was taken into account. In other words, time on its own was not significant, but greater amounts of overnight time with a father confident in his own parenting ability from the outset of the study was important to children's perception of their father's capacity to understand, be interested and responsive to their needs.

Children's perception of their father's poor availability was closely linked to high levels of mother's acrimony toward father. Levels of actual conflict reported by the father or mother were not significant here; the data point instead toward the greater effect of the mother's hostile attitude. We note a trend for younger fathers to be seen as more understanding and responsive. Father's availability was not associated with his current partner status in the regression model, but we note that father was perceived to be significantly less available to his own child if he lived with the children of his new partner.^{xxii} The pattern was somewhat different for mothers than for fathers, as illustrated in the model on the following page (See Figure 21).

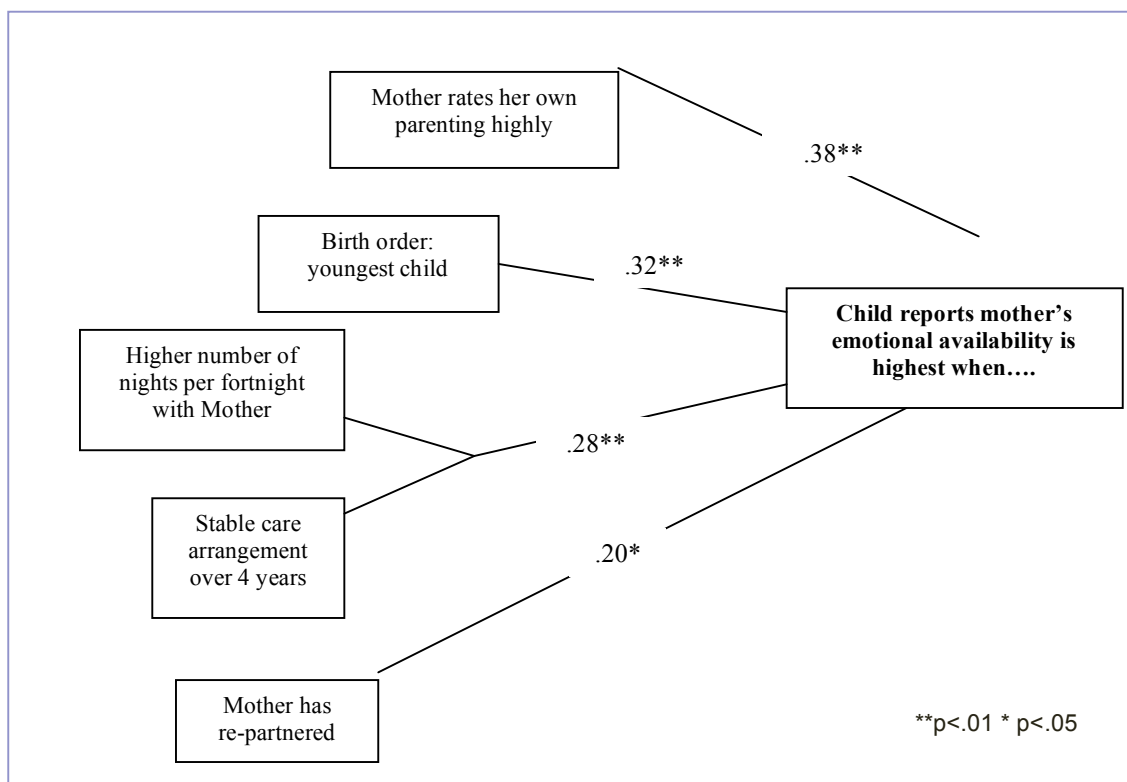
⁴ When multiple comparisons are planned on the same dataset, it is common practice to adopt a conservative level of significance, using a technique such as the Bonferroni adjustment, to reduce the risk of Type 1 error. In the current series of analyses, we have not adopted such a strategy for three reasons: our initial analyses were exploratory and the appropriate statistical adjustment could not be pre-determined; with a small sample size, this strategy would lead to too great a loss of statistical power; and our major concern was to detect clinical significance rather than strict statistical significance. As in all studies of this nature, caution should be employed in generalising the results to other populations.

Figure 20. Fathers' emotional availability, child report, four years post mediation^{xxiii}



Children's perception of their mother's emotional availability was strongly associated with her own ratings of parenting sensitivity and responsiveness: the higher she rated her responsiveness, the higher the child perceived her availability to be (See Figure 21). Unlike fathers, children were more sensitive to their mothers' current availability, rather than the history of it. Birth order had a significant independent effect, wherein the youngest child in the family reported higher availability of the mother than his/her older siblings did. Age on its own had a smaller effect. The connection of time to the child's perception of the mother's availability appears at two levels, with greater availability associated with both the stability of care arrangements over time and a higher level of current over-night time. Re-partnered mothers were twice as likely to be seen as emotionally available, particularly if they now co-habited with the new partner, than were single mothers. However, as with fathers, there was a trend for the child to perceive lower availability when mother co-habited at least some of the time with the children of her new partner.

Figure 21. Mothers' emotional availability, child report, four years post mediation^{xxiv}



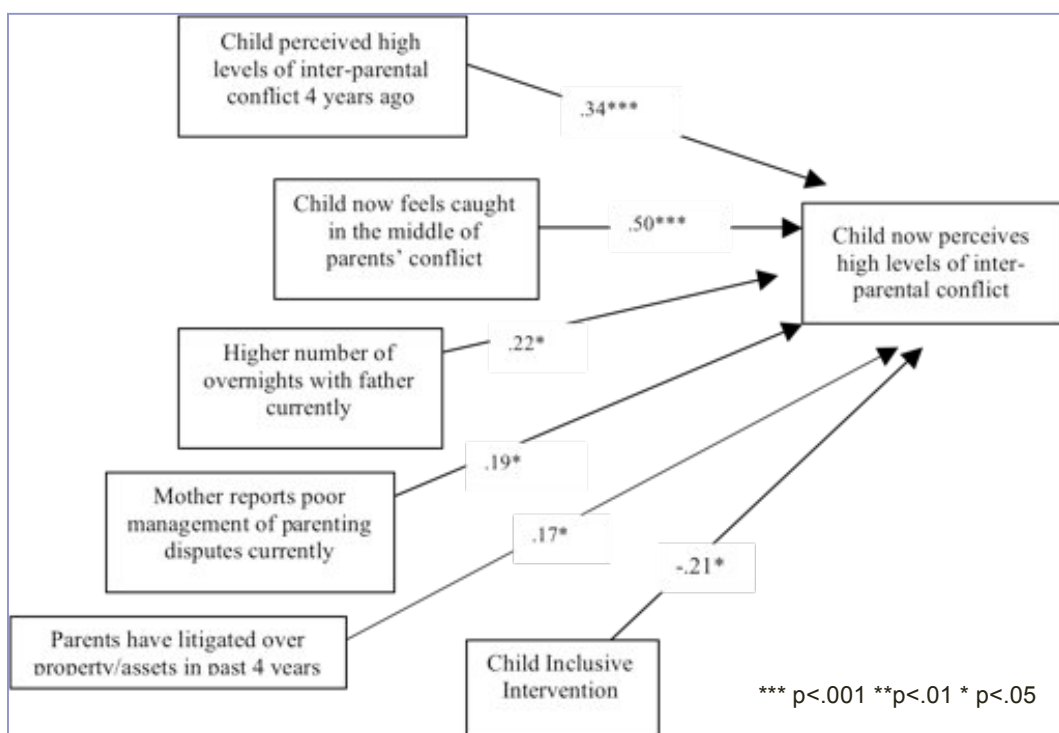
6.12. Links between care pattern and child's report of inter-parental conflict

In a previous study (McIntosh, Long, & Wells, 2009), regression modelling identified the factors most highly associated with children who, four years after mediation, perceived high levels of conflict between their parents. New variables were available to the current study, including stability, flexibility and pattern of parenting arrangements. However, these variables did not account for further variance in children's conflict scores, and the model remained as originally mapped, with six independent predictors, as depicted in Figure 21 (on the following page). Children were most likely to perceive high levels of conflict between parents four years beyond the divorce mediation when the child felt triangulated by or caught in the middle of that conflict (being asked uncomfortable questions, being asked to carry messages, feeling unable to talk about one parent in front of the other). Next, children who had experienced high conflict between parents at the time of intake, four years ago, were significantly more likely than others to still be experiencing high levels of conflict. Other predictive factors include mother's report of poorly managed parenting disputes and litigation over property or assets. It is of interest that litigation over parenting did not predict high levels of perceived conflict. Children in the Child-Focused intervention were more likely than children in the Child-Inclusive intervention to perceive higher levels of conflict between their parents. Finally, current division of time between parents predicted the magnitude of conflict currently witnessed; the greater the number of overnights spent with father, the greater the conflict reported by the child. A number of

factors hypothesized to be significant in accounting for the variance in children's current perceptions of parent conflict were not significant, including actual levels of conflict and acrimony reported by parents, the child's age, and the perceived emotional availability of each parent.

Stated in the inverse, what appears to matter most to children's experience of manageable conflict four years after their parents' divorce mediation were the following: the child experienced low conflict between parents historically, and any current parenting conflict did not overly involve or triangulate the child. These children currently spent more of their overnight time with a mother who felt she could manage parenting conflicts well enough when they occurred. Children were further safeguarded by their parents' participation in the Child-Inclusive mediation process, and parents' minimal use subsequently of litigation to resolve property and asset disputes.

Figure 22. Regression model predicting child's perception of parental conflict, four years after mediation^{xxv}



6.13. Children's mental health and relationships to post-separation parenting patterns

As discussed earlier in this report, in the current study, mental health of the child was measured with the widely used screening tool, the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997), using independently completed reports of mother and father. The SDQ yields a Total Symptom Difficulties score, derived from a tally of four sub-scales scores: Hyperactivity/ Inattention, Emotional Symptoms, Conduct Problems, and Peer Problems. A Pro-social Behaviour sub-scale is also part of the overall measure.

SDQ scores are usually used as continuous variables, but several studies (Goodman, 1997; Mellor, 2005) also classify scores as normal, borderline and abnormal, to provide an indication of “caseness”. The three ranges are designed to indicate probable psychiatric disturbance (abnormal), clinical concern sufficient to warrant further assessment (borderline), and the range in which scores are considered normal for age and gender (normal range). In arriving at this banding of scores, an assumption is made that the top 80% of the normal population lies within normal range. The top 10% of scores are taken as an indication of psychiatric disturbance, with a further 10% scoring in the borderline range indicating an “at risk” score, for which further clinical enquiry should be made. Goodman (1997, p 585) writes that, for research purposes, “borderline” cut-offs are recommended for studies of high-risk samples where false positives are not a major concern; the “abnormal” cut-offs are recommended for studies of low-risk samples where reducing the rate of false positives is important.

The Children in Focus sample are a high-risk group. Recent indications in Australia are that 14% of school aged children from never separated families develop mental health difficulties in childhood, manifest in behavioural and emotional disturbances (Sawyer, Arney, Baghurst, Clark, Graetz, Kosky, Nurcombe, Patton, Prior, Raphael, Rey, Whaites, & Zubrick, 2001, p. 806). Within the divorced family population of children, the figure is significantly higher. Local and international studies consistently show that about 25% of this population of children develop mental health problems during childhood (Kelly and Emery, 2003; Sawyer, Arney, Baghurst, Clark, Graetz, Kosky, Nurcombe, Patton, Prior, Raphael, Rey, Whaites, & Zubrick, 2000). In the current study, thirty-four percent (34%) of children were at or above the borderline range of 13 on the Total Symptom Difficulties score (mother rated: 29.9% father rated) and 16.4% were in the abnormal range (mother rated: 10.9% father rated) 5. Thus, being a high-risk group, when interpreting SDQ scores for their clinical significance, we follow Goodman’s (1997) advice, previously cited, and consider study means against the borderline range.

For three reasons, we concentrate on mother report in the following section. First, Mellor’s normative data are in the main from mother report, with only 9% of respondent parents identifying as father⁶. Second, there is discrepancy between mother and father data in the *Children in Focus* sample, which increases the importance of selecting one parent for greater congruence in reports. Mother and father scores on the SDQ correlated modestly on the fourth wave of data collection, as they have done throughout the study.^{xxvi} Similar to all other waves of data in this study, four years post mediation, mothers rated their children on average one point higher than fathers on the full scale.^{xxvii} This type of discrepancy between mother and father accounts of child mental health has been noted in many international studies (Duhig, Renk, Epstein, Phares, 2000; Renk, 2005;), a finding replicated in current Australian studies (personal

⁵ Borderline range cut-off as cited in Mellor (2005), p. 216.

⁶ David Mellor, personal communication, May 3, 2010.

communication, Mellor⁷). Third, given higher numbers of complete time 1 and time 4 reports on the SDQ by mothers (196 mother reports and 169 father reports), mothers' data is used throughout the following analyses unless otherwise indicated, for the additional power afforded by the sample size.

We employ Mellor's (2005) norms throughout this section against which to contrast the CIF findings⁸. Table 5 below provides the sub-scale means and standard deviations from Mellor's general population and those from the equivalent age group within the current study, at the time of intake to divorce mediation.

Table 5. Comparison of SDQ Sub-scale means from General population and CIF sample

	<i>General population Mean and SD Parent SDQ (n = 910)</i>	<i>CIF sample Mean and SD Mother SDQ at T1 (n =170)</i>
Children aged 7-17		
Total difficulties	8.2 (6.1)	10.6 (6.3)
Emotional symptoms	2.1 (2.0)	3.3 (2.4)
Conduct problems	1.5 (1.6)	2.0 (2.0)
Hyperactivity-inattention	3.1 (2.4)	3.4 (2.8)
Peer problems	1.6 (1.9)	1.9 (1.7)

At the time that parents presented to mediation (T1), on all subscales of the SDQ group means were above the national norms, corresponding with a peak in parent conflict and family change. As with the general population scores cited by Mellor (2005), gender and age differences are evident in this sample of children involved in high conflict divorces, as outlined in the following table (Table 6).

⁷ David Mellor, personal communication, May 3, 2010.

⁸ Australian norms ages 7-17 : <http://www.sdqinfo.com/bbc1.pdf>

Table 6. SDQ Total Difficulties mean scores by age and gender: Normative and CIF study means (mother report at intake to mediation)

Age Groups	Boys		Girls	
	National Norms ⁹	CIF sample	National Norms	CIF Sample
7-10 years				
N	160	76	197	65
Mean and SD	9.91 (6.42)	12.03(6.53)	7.65 (5.74)	9.69 (2.39)
Borderline cut (top 20%)	16	18	12	14
Clinical (top 10%)	≥19	≥21	≥17	≥18
11-13 years				
N	148	28	144	34
Mean and SD	7.78 (5.75)	10.35(6.06)	7.46 (6.10)	9.74 (5.69)
Borderline cut (top 20%)	13	14	12	17
Clinical (top 10%)	≥17	≥20	≥17	≥18
14-17 years				
N	115	22	146	28
Mean and SD	8.45 (5.84)	8.31 (6.97)	7.78 (5.94)	7.57 (5.77)
Borderline cut (top 20%)	13	14	12	13
Clinical (top 10%)	≥18	≥21	≥17	≥18

In terms of possible associations between a child's living and care arrangements and their mental health, we found that neither the nature of a child's living arrangement at any one point in time, nor their living pattern over four years, independently predicted total problem scores on the SDQ. However, four years after parents' divorce mediation, significant variability in their children's functioning on two subscales, Hyperactivity/ Inattention and Emotional Symptoms, was accounted for by the type and nature of care patterns over time. The findings suggest possible cumulative effects of care pattern over time for specific groups of children, as described below.

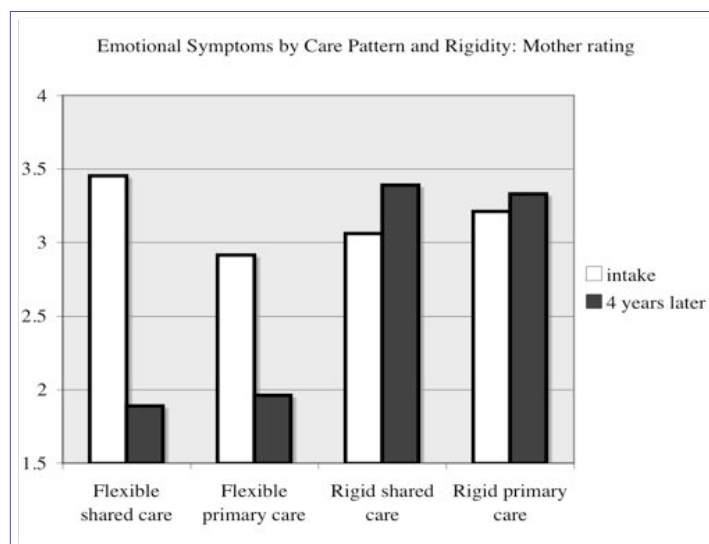
6.13.1. Emotional Symptoms

The *Emotional Symptoms Subscale* (ESS) covers a range of internalising symptoms associated with depression and anxiety in children. The ESS scores for children in the four contact groups (no contact, sustained primary care, sustained shared care and changing arrangements) did not differ significantly over time, on either mother or father data. However, children's scores on this sub-scale (both mother and father reports) were distinguishable according to whether parents reported flexibility in living arrangements or rigid arrangements.^{xxviii} Rigid contact arrangements reflect reports by one or both parents that contact arrangements at T4 were 'rarely or never'

⁹ Mellor, 2005, pp 219-220.

responsive to changing needs in family circumstance. Rigid arrangements were significantly associated with having consent orders or court orders regarding the parenting plan^{xxx}. The chart below depicts the mean ESS scores over time for children in rigid or flexible schedules.

Figure 23. Emotional Symptoms scores (mother rated) over four years by rigidity of care pattern



To provide a general population context within which to consider the Emotional Symptoms findings, we use Mellor's (2005) group means (p. 218, parent report), showing a borderline cut-off range on the ESS scale of 3 to 4 for all children. In the CIF sample, at T4, the two rigid groups sit within that range (see Figure 23 above). Their symptoms worsened somewhat over time, in contrast to the two flexible groups.

Of note, employing Mellor's (2005) ranges, all SDQ subscales were at the high end of the normal range for children in rigid care arrangements, and were significantly higher than scores for children in flexible arrangements on the Total score and Emotional symptoms sub-scales^{xxx} (See Appendices 1 and 2 for means). Directionality of causation is important to consider, although likely to be complex. Rigid parenting schedules with no room for flexible, responsive change may be a proxy for deeper, ongoing difficulties in the co-parenting relationship.

Linear regression modeling was conducted to clarify this picture. On mother data, the best predictors of higher emotional symptoms scores included:

- The child's report of mother's poor emotional availability
- Father's current acrimony toward mother
- History of father's acrimony toward mother
- The magnitude of parental conflict witnessed by the child four years ago

- The degree to which the child had been caught in the middle of their parents' conflict, and
- Gender of child (girls)

Each of these factors independently predicted higher emotional symptoms scores. In father's data, adherence to rigid care schedules accounted for significant variance in children's internalising symptoms^{xxxi}, but not in mother's data.^{xxxii} In short, this set of analyses tells us that the overall mental health of children in rigid care arrangements, specifically internalizing symptoms, was significantly worse than for children in flexible arrangements (either primary or shared), and that much of this effect was accounted for by parenting and relationship factors. In turn, highly acrimonious parents with a history of unresolved conflict tended to adopt rigid care arrangements, often court ordered. So while it cannot be claimed that rigidity in care arrangements *creates* emotional symptoms, a question emerges as to whether this type of arrangement with these types of parents may be a *maintaining* factor for pre-existing depressive and anxiety tendencies in children.

6.13.2. Hyperactivity/Inattention

The *Hyperactivity* subscale covers the following items: child is restless, overactive, cannot stay still for long; constantly fidgeting or squirming; easily distracted, concentration wanders; thinks things out before acting; sees tasks through to the end, good attention span. In his normative sample of Australian children aged seven to seventeen, Mellor's (2005) data suggests a borderline cut off on the *Hyperactivity/ Inattention* scale of five to six for boys and four for girls. In the CIF study sample too, boys' scores are consistently higher than girls' scores. Four years post mediation, the CIF children means sit below the borderline cut-off range, with one exception discussed later in this section. Mean hyperactivity/inattention scores for boys and girls by type of care pattern four years post mediation are shown in Table 7 on the following page.

In terms of relative difference between care groups four years post mediation, boys in sustained shared care arrangements had the highest scores on the *Hyperactivity /Inattention* sub-scale, as rated by both mother and father^{xxxiii}.

Table 7. SDQ *Hyperactivity/Inattention* Subscale: population means and study means (parent rated) by gender and type of care pattern over 4 years

<i>General Population</i> ¹⁰			<i>Population mean</i>	<i>Std. Deviation</i>
Children aged 7-17			3.1	2.4
<i>Children in Focus Study</i>	<i>Gender</i>	<i>N</i>	<i>Study Mean</i>	<i>Std. Deviation</i>
No/rare contact	Female	15	1.53	1.49
	Male	21	3.76	2.27
	Total	36	2.75	2.30
Continuous primary	Female	30	2.00	1.81
	Male	23	2.73	2.24
	Total	53	2.32	2.02
Continuous shared	Female	28	2.75	1.83
	Male	31	4.81	2.49
	Total	59	3.83	2.42
Changed arrangements	Female	14	3.07	1.59
	Male	35	3.42	2.60
	Total	49	3.32	2.34
Total	Female	87	2.34	1.81
	Male	110	3.73	2.52
	Total	197	3.10	2.34

General Linear Modelling of mothers' SDQ data showed that children in the sustained shared parenting group had a significantly different trajectory over time with respect to *Hyperactivity/Inattention* symptoms compared to the other patterns of care (no/rare contact; consistent primary care and changed patterns). A similar non-significant trend, is evident in fathers' scores.^{xxxiv} These trajectories are displayed by type of care pattern in the following Figures (Figures 24 & 25).

¹⁰ Mellor, 2005, p 218

Figure 24. Mother rated SDQ *Hyperactivity* subscale mean scores at T1 and T4 (n = 187 children)

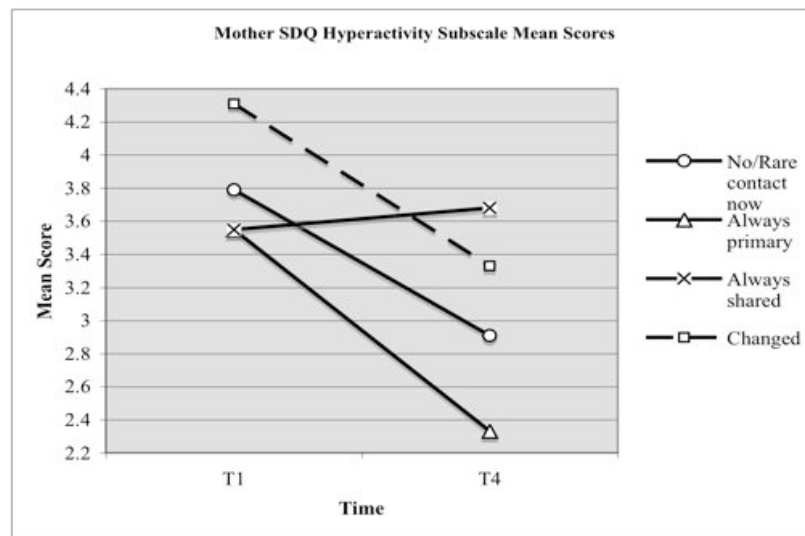
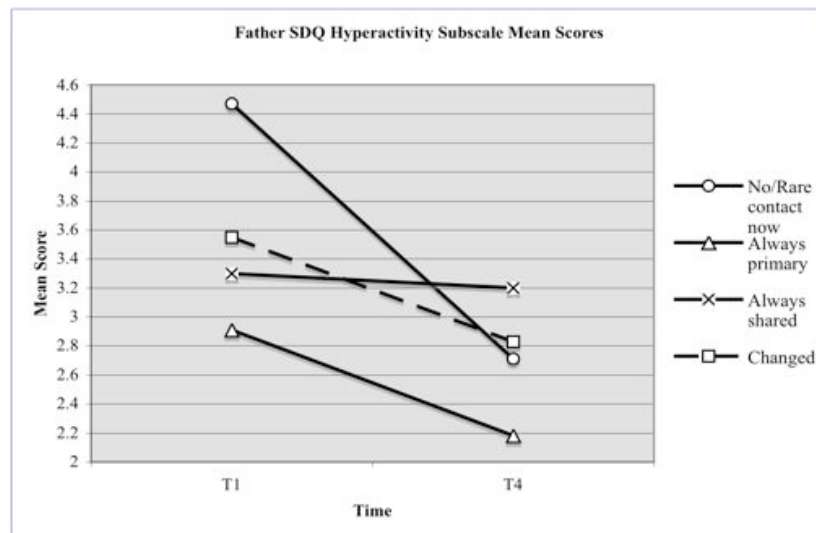


Figure 25. Father rated SDQ *Hyperactivity* subscale mean scores at T1 and T4 (n = 154 children)



Linear regression modelling was conducted to further explore this pattern. Analyses controlled for mother and father education and income, age of child and type of mediation intervention. The model explored the independent contribution to *Hyperactivity/Inattention* sub-scale outcomes four years beyond mediation, of parent acrimony and alliance, child and parent relationship (historic and current), SDQ histories, gender, and nature and flexibility of contact schedule.

The resulting “best fit” model using mother report data isolated the following independent contributors to high scores on this sub-scale:^{xxxv}

1. A history of hyperactivity/inattention going back four years
2. A continuous shared care pattern over three to four years, particularly an arrangement with no flexibility
3. Boys were significantly more likely to have higher scores.

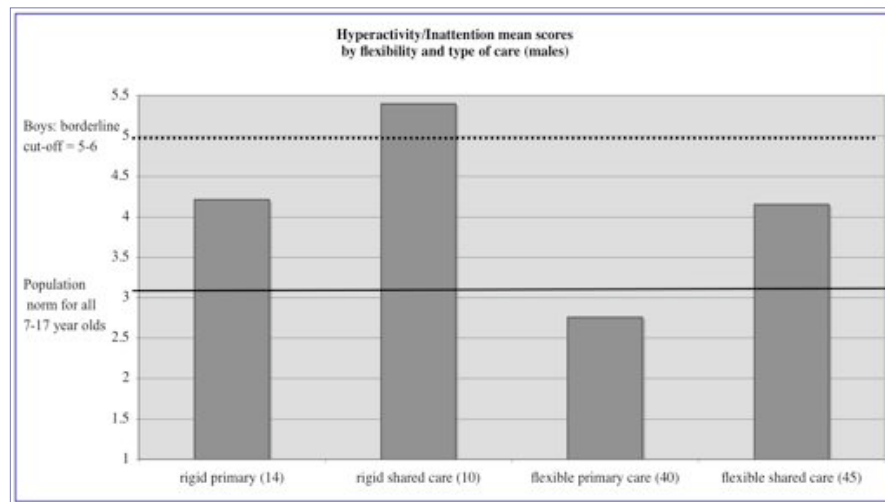
These analyses indicate that:

- A sustained experience of living in a shared parenting environment over several years, dividing time between parents at least 35:65% split was associated with greater difficulties with attention, concentration and with task completion at T4 (Beta = .65). Living in a shared arrangement at any one point in time did not predict poorer outcomes: the pattern *over time* did, and;
- Children already vulnerable to hyperactivity/inattention tended to remain that way over time (Beta = .47);
- Children in *rigidly* sustained shared care were more likely than those in flexibly sustained care to have higher Hyperactivity/Inattention scores (Beta = .40);
- Boys were more likely to have high scores on the hyperactivity sub-scale (Beta = .17).

Of interest, some factors we speculated may be linked to children’s dysregulation were not found to be significant in this sample; for example, parent education and income, conflict severity, conflict management, and age of the child.

As illustrated in Figure 26, the highest *Hyperactivity* mean score was for boys in rigid shared care arrangements (N = 10, mean = 5.4 SD = 2.4), with this group of children sitting between the borderline and clinical cut offs identified by Mellor (2005). The lower end of the borderline range (represented by the dotted line in Figure 26) marks the onset of a result warranting further investigation. Girls’ mean scores followed the same pattern, but were all at or near the population mean. Given these sample sizes are small and cross-validation with teacher report or self-report data is not possible, it is important that replication research to be done.

Figure 26. *Hyperactivity/Inattention* study mean scores by flexibility and type of care (boys), with general population cut-offs



Beyond statistical significance it will be important for researchers and practitioners to explore the behavioral and emotional significance of chronically elevated hyperactivity scores (i.e. technically below the scale's clinical cut-offs, but consistently above average), considering to what extent children experiencing these insidious levels of difficulty over several years may struggle, for example, with school achievement. In general it seems important to consider what elements of parenting arrangements impact children's growing self-regulatory functions, namely the emotional and cognitive equipment involved in sustaining focus and task completion. The pragmatic challenges of dividing schoolwork between two homes wherein parents do not communicate may be influential. An associated question is whether the pragmatics of shared parenting may create cumulative discontinuity in parents' focus, which in turn may influence the child's ability to sustain focus.

7. Intervention Impacts on Stability of Parenting Arrangements

A previous study (McIntosh, Long, & Wells, 2009) identified differential effects on the nature and durability of resulting parenting plans of two different dispute resolution processes. This question was explored with data derived from the mediation study described above, with reference to the impacts of Child-Inclusive and Child-Focused mediation approaches on care arrangements over time. Following feedback from their children, Child-Inclusive parents were significantly more likely to negotiate primary parent arrangements and to maintain these arrangements for their children over the first year post mediation.^{xxxvi} Forty-six percent of children (n = 68/149) from the Child-Focused mediation group experienced change to the pattern of their care over the first year post mediation, compared to 20% of children (n =

26/127) from the Child-Inclusive intervention. Table 8 (on the following page) highlights differences between the groups in patterns of overnight contact during the year immediately following the mediation intervention.

Table 8. One year post mediation: overnight contact patterns of children (n = 276) by treatment group

<i>Parenting arrangement over time</i>		<i>Child Focused</i>	<i>Child Inclusive</i>	<i>Total</i>
Primary parenting mediated, still in place		34%	65%	49% (134)
Shared parenting mediated, still in place		20%	14%	17% (48)
Shared parenting mediated, now primary		37%	17%	28% (77)
Primary parenting mediated, now shared		9%	3%	6% (17)
Total	N	14	127	276
	%	100%	100%	100%

Of interest in this table above, are the percentages of children who entered an equal or substantively shared parenting arrangement that changed to primary parenting patterns by the end of the year, particularly in the Child-Focused treatment group. Qualitative findings (McIntosh & Long, 2006) point to the differential impact for Child-Inclusive parents of receiving tailored feedback from their own children and developmental guidance from the child consultant at the time of the mediation. The Child-Inclusive group were more likely to negotiate status quo or small increases in shared time, where the Child-Focused parents, who negotiated their arrangements in the absence of feedback from or about their children, were more likely to agree to an immediate increase in father contact, which was frequently not sustained over the ensuing twelve months. Over four years, ongoing significant differences remained in the patterns of care of the Child-Inclusive and the Child-Focused groups.^{xxxvii} Stability of the contact pattern was 1.5 times more likely over the four year period for children whose parents had participated in the Child-Inclusive treatment, and these children were 1.6 times more likely to have remained in care arrangements of less than 35:65%. Future work will need to explore the merits of stable care arrangements for school aged children in contrast to two types of change: flexible and responsive changes that evolve over time in line with the changing needs of the child, and reactive, litigious or disputed changes to care.

8. Further descriptive findings

In addition to repeated measures findings from the *Children in Focus* dataset, we briefly outline some descriptive data derived from the coding of narrative information for a sample of cases. The purpose of this exploration was to better understand the individual stories of families within each of the care patterns, to determine in greater depth any discernable trends or circumstances that recurred in each, in addition to documenting the lived experiences of families who followed a particular care and contact trajectory post-separation. As the study was set up as a repeated measures study, with data collected in structured interviews, the quantity and quality of narrative data varied according to parents, and also to the research interviewer's style. Thus as data were never collected for qualitative explication of themes, the decision post hoc was simply to look to see what additional depth information was available, to describe what could be described beyond what the quantitative measures told us. We do not regard this aspect of the study as a complete or thorough-going qualitative analysis, and its findings are not included in our summary remarks. At this time, we offer a description of the work undertaken to date and some findings of interest that may simply encourage others to ask further questions in future studies.

The groups of interest and case selection

The approach taken to identifying the cases for study was as follows. All cases were categorised into four groups:

- a) Did not share care (35%+) in that time
- b) Mediated share care (35%+), later changed to primary parent
- c) Evolved a shared care arrangement (35%+) post mediation
- d) Maintained shared care (35%+) throughout

Cases with sufficiently rich narrative data from parents and children at baseline and at the third and fourth follow-ups were selected. This resulted in a total of 61 families. For continuity of group size, and to create a manageable amount of data to examine, we then selected 12 cases from each parenting pattern group, with a balance of the three research sites within each, and random selection out of remaining cases. The findings reported below are therefore from 48 cases, evenly spread across the four parenting arrangements outlined above.

Creation of codes

Eight cases were reviewed by two researchers, with two cases from each of the four parenting arrangement categories. First, a brief narrative account was written of each family's care and contact journey over the four years of the study, from the perspective of each family

member. From these accounts, the researchers considered the central personal and relationship features in each case that appeared to influence how the contact pattern was arrived at, and how it was experienced over time by the parents and children involved. In this early phase of reading the cases from cover to cover, we discovered that the data were not rich enough to allow systematic description of a number of dynamics we had hoped to study. Specifically, children's narrative accounts outside of the study measures were not consistently rich in narrative to allow explication of themes. Parents' narrative data was also not rich enough to allow for rigorous explication of themes following phenomenological or grounded theory methodologies. We did however find enough in parents' narratives to systematically describe a limited range of parenting dynamics, as parents frequently took opportunities in the interviews to elaborate and describe experiences tapped by the structured scales. Thus we were able to make some systematic comment on the following domains, with the following coding structure:

A. Power patterns in the co-parenting relationship:

1. Continuous pattern of relative balance and equity of power
2. Continuous controlling/disempowered pattern
3. Continuous passive withholding, punitive power dynamic
4. Continuous disengaged pattern
5. Became equitable by the fourth year
6. Became controlling/ disempowered by the fourth year
7. Became passive, withholding, punitive power dynamic by the fourth year
8. Became disengaged by the fourth year.

B. Each parent's acceptance of other parent's role by T4:

1. Consistent, active acceptance, support of other parent (*I encourage their relationship*)
2. Growing acceptance and some genuine support of other parent's role
3. Passive, begrudging acceptance (*I won't actively get in the way of their relationship, but I have reservations about her/him*)
4. Dismissive (*He/she makes little difference to my children's lives*)
5. Rejecting (*He/she is not important/helpful to my children or is damaging*)

C. Quality of resolution of past parenting conflict at T4 (for each parent):

1. Full resolution; parents now operating autonomously of past conflict (water under the bridge, past conflicts not a source of ongoing distress)
2. Minor-moderate lingering resentment but tensions largely resolved
3. Partial or fragile resolution of old tensions, some lingering acrimony and may include fresh wounds (eg significant difficulties with new partner)
4. Ongoing significant and unresolved discord over the 4 years

D. Impact of new partners on management of living arrangements:

1. Positive contribution
2. Neutral, no undue impact

3. Minor to moderate negative impact
4. Significant negative impact

Descriptive findings

Most striking was the emergence of one group as qualitatively distinct from the others. The relationship qualities of parents who moved toward a shared care arrangement during the four years of this study were different across the four coded areas from those who adhered to one pattern (either primary or shared) or who tried shared parenting and reverted to primary. A balanced, equitable sharing of power and parenting authority was evident across all time points, as was the lack of controlling or disengaged co-parenting relationships. Parents in this group were largely accepting and respectful of the role of the other parent, historically and currently. Also notable was a more complete resolution of past conflict, such that most parents (mothers and fathers) in this group were operating autonomously of the conflicts they had experienced together four years ago. Over the four years, even during the first three time periods in which they were not sharing care at a rate of 35% or more overnights, all but one case in this group demonstrated consistently good to excellent cooperation in co-parenting. We note too that this group of cases were characterised by their different phase in the family life cycle. Children were younger at the time of separation than in the other groups (see Table 9).

Table 9: Children's mean age at time of separation by parenting pattern over time

<i>Evolution of care pattern over 4 years</i>	<i>Children's mean age at separation</i>	<i>N</i>	<i>Std. Deviation</i>
No/rare contact from outset	13.00	11	3.37
Lost contact over time	9.35	26	4.98
Continuous primary care	7.83	66	4.13
35:65+ first, now primary care	7.81	27	3.55
Continuous 35:65+	7.40	65	3.85
35:65+ evolved over four years	6.19	26	3.13
Total	7.95	221	4.18

Having a younger family, these parents waited a year or two longer post-separation before embarking on a shared care schedule. The interesting point perhaps is that they were able to wait, and were able to sustain equitable distribution of power and reasonably respectful relationships while they waited. Amongst the other three parenting groups, power dynamics varied, with little consistency, and no discernable pattern.

Consistent with the quantitative data reported earlier in this paper, parenting relationships in sustained shared arrangements were characterised by ongoing mild to moderate antagonism co-parenting. There was diversity in the source of distress, but uniformity in the underlying theme

of the consistent nature of the aggravations, by virtue of the frequent contact, communication and collaboration involved. For some these antagonisms were minor and annoying and for others they represented an insidious, unwanted and serious source of stress. For example, one mother who initiated the separation described: “...*he will constantly make decisions that appear to be based on what will ‘get at me’ rather than what is best for the children. I am worn down*”. Worsening or downward spiralling co-parenting relationships distinguished many in the group who attempted shared care and changed to a primary relationship. That change was not smooth in most cases, representing for at least one parent but usually both a type of failure, often accompanied by escalation in acrimony. In these cases, mothers were typically overtly angered by the perceived failure of the shared arrangement, with dominant themes about the ex-partner “...*not living up to promises*”, “...*can’t put in the time with the kids*”, “...*putting the new girlfriend first*”, and sentiments such as “...*he refuses to contribute financially to his daughter’s upbringing merely to punish me.*” Fathers’ sentiments had more of a resigned quality: One father said, “...*fathers have very little power and influence over what happens to their children even when (they are) keen to be involved. The system only empowers women to treat children as leverage in negotiation.*”

Considering the impacts of new partners, the picture was mixed, from “*My ex wife has told my son she wishes my new wife would die*” to “*Each of us being in new relationships helps. For the first year and a half, we didn’t talk to each other. The kids, I don’t think they were happy about it at all....She’s still my best friend....It is just a lot of growing up that needed to happen.*” Families who evolved a shared arrangement over time also showed low interference or negative impact of new partners. The least detrimental impacts of new partners (on decision-making and children’s well-being) were seen in the sustained primary care group, and this seemed to reflect at least in part clearer role definition. On our reading of this cluster of cases, boundaries and roles of father’s new partner were clearer over time than in the other groups.

In all, the descriptive data derived from this small qualitative study suggest a picture of relative historic and current health in co-parenting relationships in the group of parents who moved toward a shared parenting arrangement (35%:50% shared overnights) over the course of the four years studied. Direction of causality here can only be speculated, and is for further work to explore. These reflections, if nothing else, invite further consideration by future researchers.

9. Summary

9.1. Synopsis of findings

In summary, this report has presented findings from the *Children in Focus* longitudinal dataset with respect to the shared care questions posed in Section 1 of this report. The *Children in Focus* (CIF) study, funded by the Australian Government Attorney-General's Department, involved prospective data collection from families experiencing significant conflict over post-separation parenting arrangements. First undertaken as an intervention study, the CIF study followed two groups of families across four years, beginning in 2004 at point of intake to a divorce mediation service, and then at three further points in time over the next four years (three months after the conclusion of the mediation, twelve months after mediation and four years after mediation). Uniquely, children, mothers and fathers from 169 families were involved in personal interviews at as many of these time points as possible.

Combining the two intervention groups into one high conflict divorce sample, it has also been possible to study the parenting patterns of these families and associations with family dynamics and children's outcomes over four years. Complete parenting pattern data over four years were available in this study for 133 families (concerning 260 children) and complete repeated measures data were available at four points in time for 106 mothers, 93 fathers and 144 children.

For the purposes of this current study, cases were grouped in three ways.

1. By the pattern of post-separation care over four years. These four patterns were: 'continuous primary care' (always more than occasional and less than 35% shared overnights), 'continuous shared care' (always 35%+ shared overnights), 'changed arrangements' (1 or more substantial changes to the care schedule), and 'no or rare overnight contact' with one parent by the fourth year.
2. By the manner in which the most recent care arrangement evolved. These four patterns were: a continuous unchanging schedule, a change from shared to primary care, a change from primary to shared care, and loss of regular contact.
3. By the flexibility or rigidity of the arrangement in response to changing needs of family members (as defined by parents).

These terms are further outlined in the appended Glossary.

9.2. Central findings

Care patterns over time:

1. Following mediation, there was a noticeable increase in the average rate at which overnight care was shared in this group of families. However, over the next four years, families tended to revert toward the pattern of care they had just prior to mediation, that is, gravitating toward the previous 'status quo'.
2. At both one year and four years post mediation, substantively shared care was a less stable contact pattern than was primary care. Stability of shared care rates was 2.4 times more likely in families who had voluntarily entered this arrangement *prior* to mediation, that is, parents who had opted into shared care at the outset.
3. Four years post-mediation, 32% of families had attempted at least two care patterns since mediation. Forty-one percent (41%) had maintained a steady primary parent arrangement and 27% maintained a steady shared care arrangement (at 35%+ shared overnights).
4. Stability of contact pattern was 1.5 times more likely over the four-year period for children whose parents had participated in a Child-Inclusive mediation (school aged children's needs and views assessed separately and findings incorporated into the mediation) relative to the Child Focused intervention (children's need and views not assessed). These children were more likely to have remained in primary care arrangements under 35:65%.

Family and demographic correlates of shared care patterns:

5. Families who sustained shared parenting over 3-4 years were significantly more likely to have: sons, younger children at time of separation, smaller sibling groups, fathers with tertiary education, mothers with higher incomes and tertiary education, geographic proximity (easy, short commute), fathers who had been active carers during their children's infancy, and mothers who had re-partnered.
6. At intake, the parenting and relationship profile of families who sustained shared care over three years or more was significantly different from the other groups in the following respects: lower acrimony between parents, higher parenting alliance, fathers were more confident about their parenting ability and the quality of their relationship with their children, children reported higher emotional availability of their father, and children reported lower conflict between parents.
7. Four years later, relative to the other groups, families who sustained shared care differed in the following ways: fathers continued to report more positive regard for the mother, while mother's

acrimony toward father remained stable (whereas it declined in the other groups). Fathers remained more confident about their own parenting.

8. The distinguishing features of families who initially adopted a shared care arrangement and later reverted to a primary arrangement were: mothers' high acrimony toward father at intake, the child's report of poor emotional availability of father at intake, father's low formal education, and having children who were over 10 years old at the time of mediation.
9. The study distinguished a group of families who sustained a shared care pattern by means of highly rigid arrangements, with no/rare flexibility in their schedule or accommodation of changing needs. This group differed significantly in nature and outcome from what we termed the 'flexible' shared care group. The rigid group were more litigious, more likely to be operating from a court or consent order, reported higher marital *and* post-separation conflict and acrimony, and had histories of consistently poor cooperation. Mothers reported feeling more threatened by their ex-partner, and fathers' regard for mothers' parenting skill was very low.
10. Of the group of families in which a child now had no or rare overnight contact with a parent (here representing loss of father contact), only two of the 18 families lost contact because of geographic distance. Parents and children reported poor relationships at the time they came to mediation. At all subsequent measurement intervals, parents in this group relative to the other groups reported higher conflict and poorer quality parenting relationships, and children reported poorer emotional availability of the non-resident parent. We speculate that children's reports of relative satisfaction with losing contact with that parent reflects the loss of a difficult relationship, or relief with reduced exposure to conflict between parents.

Family satisfaction with care arrangements over time:

11. Fathers in shared care arrangements were most satisfied of all groups with the care and living arrangements despite reporting significantly more conflict about parenting and poorer dispute management.
12. Four years after intake, children in sustained shared care or in rigid shared care arrangements were least satisfied of all care groups with the living arrangements and most likely to report wanting a change in their arrangement.
13. Children and mothers in rigid shared arrangements (35%+ shared overnights) became significantly more dissatisfied with the arrangement over time than did the flexible shared care group. Children in rigid shared arrangements were least satisfied of all with their living arrangement.
14. Mothers and fathers were equally content when primary and shared arrangements were reported to be flexible. Rigidity in shared care arrangements significantly impacted mothers' but not fathers' report of contentment with the living arrangements.

Children's adjustment and well-being:

15. Controlling for initial levels of conflict, children in the shared care groups reported significantly higher levels of inter-parental conflict four years after mediation than children in the primary or changing care groups. Reports of conflict over time did not differ significantly from children in the rare contact group.
16. Children in the sustained shared care group were significantly more likely than children in all other care groups to report ongoing feelings of being caught in the middle of their parents conflict. The greatest decrease over time in the CIM mean score was for children in the primary parenting group.
17. There was no significant difference in children's reports of distress (sadness, anger, or fear) about their parents' conflict.
18. After four years, stable living arrangements and greater amounts of overnight time were independently associated with the child's report of greater emotional availability of mother, but not of fathers.
19. Neither the nature of a child's living arrangement at any one point in time nor their living pattern across time independently predicted total mental health scores on the SDQ after four years.
20. However, the data suggest possible cumulative effects of care arrangement in one area for this high conflict sample. A sustained experience of living in shared care over 3-4 years was associated with greater difficulties in attention, concentration and task completion by the fourth year of this study. Boys in *rigidly* sustained shared care were most likely to have Hyperactivity/Inattention scores in the clinical/borderline range. Children already vulnerable to hyperactivity/inattention tended to remain that way over time, regardless of the overnight care arrangement. The finding is of interest given a similar profile of hyperactivity and attention difficulties identified in Part 1 of this research program (McIntosh, Smyth, Kelaher, 2010). Replication studies will be important to our understanding of the generalisability of this finding.

9.3. Study limitations and strengths

The strengths of this study lie in its prospective, repeated measures, multiple perspectives design, enabling us to tap into family life at different points in the separation, and to look across time at the developmental trajectories of the children concerned. Large omnibus studies are typically broad and shallow, and cannot obtain detailed information on family dynamics and child outcomes, and cross-sectional or retrospective data alone would not provide the same long-range view, or degree of power. Uniquely, this study has extensive data over time from children and parents, affording the opportunity to explore the study questions from the vantage point of all family members. That said the data are from a small select group of cases – high

conflict families seeking help from community mediation. The sample and sub-samples are thus relatively small in statistical terms.

9.4. Conclusions

Several findings in this study are noteworthy:

- a. A string of 'logical continuities' led to the post-separation parenting patterns that families adopted and were able to maintain. In other words, family pathways began from different pragmatic places, were differentially resourced in psychological and interpersonal terms, and then diverged in a fairly predictable manner over the years from those points of origin.
- b. The data suggest that fathers, mothers and children differed significantly in their experience of shared care. Children in particular were least content with shared arrangements, particularly those that were rigid or unresponsive to their needs.
- c. The amount and nature of contact developed and sustained between children and fathers over time depended more on the history of his parenting and the father-child bond than on any particular arrangement decided at mediation.
- d. Children in rigid shared care arrangements appeared to have troubled beginnings; their care arrangements did not assist recovery. Loss of a troubled relationship improved some children's trajectories.
- e. Care arrangement in and of itself did not predict children's overall well-being at any one point in time. Children's well-being was most troubled at the time their parents initiated mediation. Problems tended to subside over the years, with two exceptions. Difficulties with retaining focus and attention remained constant for children in sustained shared care, but subsided in all other groups. Children in rigid, unresponsive care arrangements (primary or shared) showed significantly higher emotional symptoms (internalizing) than did children in flexible arrangements of any kind.

These longitudinal data begin to provide detail to the broad terrain of post-separation parenting pathways identified by seminal research in the US (Johnston; Mnookin and Maccoby) and in Australia (Smyth). The data confirm much of what these researchers have previously found with respect to the outcomes of shared parenting arrangements. Ironically, families who are able to sustain shared care over time have either an important cluster of psycho-social resources, or a single court order. The two pathways that lead from those diverse starting positions are stories of light and shade for the children concerned. In many important respects, this report negates a view of shared parenting as a homogenous phenomenon with homogenous outcomes. The data point to the need for shared care to be understood as a series of continuums,

with children's outcomes determined by their points of entry into and passage through a unique matrix, akin to a personal "Rubik's cube", for which the "solution" is contingent on the twists and turns formed by their unique individual and family dynamics. These data underscore the all-important context that determines whether a particular care arrangement is going to fit a child's needs. For example, children entering rigid forms of sharing, usually via court-imposed pathways, had a troubled trajectory to begin with, and carried different burdens, of which unresponsive and unwanted care arrangements became yet another.

Behind some of the current thinking in Australia about shared care lies an assumption of sorts that loss of contact with a parent must be prevented, and that shared parenting legislation may assist this (Smyth, 2009). Challenging the first part of this rationale, the current study identified a group of children for whom loss of contact was associated with indices of improved emotional well-being of the child, reminding us that there are children whose developmental trajectories improve when efforts to maintain a troubled relationship cease. The causal pathways as outlined in this study are complex, beyond obvious histories of family violence, to include patterns of parenting confidence and competence, co-parenting support and regard, children's ages, gender, and pre-existing mental health issues for parents and children.

Other groupings emerging from the data provide further insights into the multi-layered phenomena of post separation parenting. We noted several differences between groups who sustained shared care, those who built a shared arrangement over time and those who tried shared care and reverted to primary care. The first two groups had different relationship equipment at the outset, and traveled a less troubled road. This finding spotlights the problem of families being encouraged to consider shared parenting as the "correct" starting position for parenting plans post-separation, when some may not be ready for it. There are implications here for the development of interventions that assist parents to "prepare to share", and the development of legislative guidelines that assist professionals to recognize families who are not yet "ready" to share care and need a period of preparation to shape up the demographic and co-parenting equipment needed, or a period of patience, to simply wait for children to be ready to share care. Equally, it is important to identify separated families who may not be able to live an effectively shared life.

Heterogeneity of children's experience is a vital layer of the shared parenting Rubik's cube: younger and older children, girls and boys, small and large sibling groups tended to experience time sharing differently. Boys, small sibling groups and children under 10 years were more likely to remain in shared care across a number of years. As children in this sample grew into early adolescence, their satisfaction with a shared arrangement diminished. Children overall were less satisfied with shared parenting arrangements across time than were their parents,

particularly their fathers, a finding that resonates with the idea that equal or substantial sharing of time may in some circumstances be an arrangement better suited to parents than to children.

The experience and outcomes of shared parenting in this sample were gendered in many respects. Fathers' satisfaction with care arrangements was uniformly high when care was substantively shared, whether that arrangement was flexible or not, and whether it was new or old. Fathers' relationships with children, as reported by the children, did not hinge independently on the nature of the contact arrangement. In this high-conflict sample, increased contact on its own was not a recipe for a better father-child relationship. Rather, a better father-child relationship at the outset led to more and sustained contact across time. In contrast, children's experience of mothers' availability was significantly influenced by the stability and nature of their contact with her, as well as by relationship qualities. Mothers were satisfied with flexible shared care arrangements but, like their children, were extremely unhappy within rigidly adhered to shared care arrangements.

Amongst the shades of grey and diverse groupings within shared parenting arrangements, two issues from the perspective of children warrant further investigation. Our understanding of children's experiences of frequent transitions between homes is still under-developed, both from an experiential and developmental perspective. These findings reinforce the need for closer consideration of the child's subjective experience over time of living across two homes and two families. So too, the developmental impacts of different parenting arrangements during critical periods of cognitive and psycho-emotional development have not been systematically researched in larger population studies, and this is an important direction for future research.

Collectively, these findings confirm the complex pathways by which families shape and sustain their post-separation care relationships. This complexity in itself challenges the wisdom of socially driven aspirations or legally enforced preferences for any one particular parenting arrangement for children living through family separation.

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Appendices

1. T4 SDQ mean scores by rigidity or flexibility of care arrangement: Mother rated

		<i>Full Scale (Problem)</i>	<i>Hyperactivity/ Inattention</i>	<i>Emotional Symptoms</i>	<i>Peer Problems</i>	<i>Conduct Problems</i>
Rigid	Mean	11.0222	3.5870	3.1739	1.8696	2.3261
	N	45	46	46	46	46
	Std. Deviation	7.29411	2.41823	2.46129	2.05057	2.15050
Flexible	Mean	7.9470	2.9539	1.8742	1.3907	1.9735
	N	151	152	151	151	151
	Std. Deviation	5.18561	2.29984	1.86299	1.57045	1.81088
Total	Mean	8.6531	3.1010	2.1777	1.5025	2.0558
	N	196	198	197	197	197
	Std. Deviation	5.86271	2.33706	2.08589	1.70121	1.89573

2. T4 SDQ mean scores by rigidity or flexibility of care arrangement: Father rated

		<i>Full Scale (Problem)</i>	<i>Hyperactivity/ Inattention</i>	<i>Emotional Symptoms</i>	<i>Peer Problems</i>	<i>Conduct Problems</i>
Rigid	Mean	10.4516	3.3871	2.7742	1.5161	2.6129
	N	31	31	31	31	31
	Std. Deviation	6.67252	2.26094	2.39039	1.60978	1.56370
Flexible	Mean	7.0956	2.6618	1.5074	1.0294	2.0074
	N	136	136	136	136	136
	Std. Deviation	5.26185	2.13340	1.66443	1.45521	1.57055
Total	Mean	7.7186	2.7964	1.7425	1.1198	2.1198
	N	167	167	167	167	167
	Std. Deviation	5.68117	2.16917	1.87875	1.49216	1.58229

3. Glossary of terms

- A) **Primary care:** less than 35% of overnight time spent with the non-resident parent.
This group does not contain children who have either no, or rare overnight contact (see group F below).
- B) **Continuous primary care:** less than 35% of overnight time spent with the non-resident parent, continuously since mediation through to the fourth wave of data collection, i.e. primary care arrangement remained in place for this child over three to four years. In places in the report, the term ‘sustained’ is sometimes used to describe continuous arrangements.
- C) **Shared Care:** 35% or more of overnight time spent with each parent.
- D) **Continuous shared care:** 35% or more of overnight time spent with each parent continuously since mediation through to the fourth wave of data collection, i.e. shared care arrangements remained in place for this child over three to four years. In places in the report, the term ‘sustained’ is sometimes used to describe continuous arrangements.
- E) **Changing patterns:** The overnight care arrangement changed at least once after the mediated agreement, either from primary to shared care, or from shared to primary care.
- F) **No or rare current overnight contact with one parent:** No or rare overnight contact with one parent (less than 4 times per year). They may have had email or other contact.
- G) **Rigid care arrangements:** Refers to arrangements (either primary or shared) for which one parent at least reported that there was “rarely or never” any flexibility in the arrangements around the needs of family members. This variable refers only to Time 4 data collected four years after mediation, and was not available on prior waves.
- H) **Flexible care arrangements:** Refers to arrangements (either primary or shared) for which one parent at least reported that there was “sometimes, often or always” flexibility in the arrangements around the needs of family members. This variable refers only to Time 4 data collected four years after mediation, and was not available on prior waves.

Endnotes

- i. Pearson Chi-Square = 7.83, d.f. = 3, p = .05
- ii. N = 259 children, ages in 3 clusters, Pearson Chi-Square = 18.386, d.f. = 6, p (2-sided) = .005
- iii. Pearson Chi-Square = 10.80, d.f. = 6, p (2-sided) = .001
- iv. Anova, F = 6.34, p = .000
- v. Pearson Chi-Square = 3.68, d.f. = 1, p (2-sided) = .05
- vi. Parent child relationship at intake (father) Sum of squares = 4.531, d.f. = 3, F = 8.083, p = .000
- vii. Father's emotional availability at intake: Sum of squares = 15.231, d.f. = 3, F = 5.071, p = .000
- viii. Parental alliance measure: Fathers' report, n = 111, d.f. = 2, F = 2.98, p = .055
- ix. Father Conflict GLM, n = 86, d.f. = 3, F = 3.98, p = .022
- x. F = 13.68, d.f. = 92, t = -2.08, sig (2 tailed) = .040
- xi. Mother Conflict GLM: n = 99, d.f. = 2, F = 1.69, d.f. = 3, p = .75
- xii. Father Parent Child Relationship n = 93, d.f. = 3, F = 9.31, p = .000
- xiii. Children's CPIC GLM (time): n = 103, d.f. = 2, F = 2.99, p = .05
- xiv. Children's CIM GLM: n = 103, d.f. = 1, F = 6.35, p = .01
- xv. ANOVA, sum of squares = 11.19, d.f. = 2, F = 3.26, p = .043
- xvi. Children 11+ years: contentment with primary living arrangement: Pearson Chi-Square = 6.83, df = 1, p (1 sided) = 0.01
- xvii. Pearson Chi-Square = 15.71, d.f. = 6, p = .015
- xviii. Logistic regression; R² = .31, Chi-Square (4, N = 192 children) = 41.35, sig = .000
- xix. Father satisfaction with care arrangements: Sum of squares = 79.22, df = 5, F = 9.7, p = .000
- xx. Mother CPR wave 4 and stability of arrangement: R² = .264, n = 148, sig = .001
Father CPR wave 4 and stability of arrangement: R² = -.071, n = 148, sig = .394
- xxi. Sum of Squares = 1.49, d.f. = 1, mean square = 1.49. F = 3.13, sig = .075
- xxii. T-test, emotional availability of father when father lives with/does not live with partner's children: t = 2.461, d.f. = 67, p = .016
- xxiii. R = .574, R² = .330, d.f. (6,52), F = 4.26, p = .001
- xxiv. Mother CPR: R = .662, R² = .438, d.f. (7,88), F = 9.33, p = .000
- xxv. R = .798, R² = .636, d.f. (6,52), F = 115.16, p = .000
- xxvi. Paired samples correlation, n = 114 children, mother and father SDQ ratings: R = .55, p = .000
- xxvii. Mother SDQ mean at fourth wave = 7.96, Father SDQ mean at fourth wave = 6.96, n = 114 children
- xxviii. Sum of squares = 42.23. d.f. = 3. Mean square = 14.08, F = 4.06, sig = .008
- xxix. Rigidity of contact arrangement and court or consent orders: Mother report, Pearson Chi-Square = 9.21, df = 2, p = .01; Father report, Pearson Chi-Square = 12.35, df = 2, p = .002
- xxx. T-test: rigid and flexible overnight care groups: SDQ total (mother rated): F = 6.83, t = 3.15, df = 194, p = .002. SDQ emotional symptoms sub-scale: F = 5.88, t = 3.83, df = 195, p = .000
- xxxi. Flexibility of arrangement within Father ESS regression model: Beta = -.437, t = -2.73, p = .01
- xxxii. Father ESS regression: R = .613, R² = .398, adj R² = .323, d.f. = 5, F = 4.33 sig = .001

Mother ESS regression: $R = .720$, $R^2 = .518$, $\text{adj } R^2 = .422$, $\text{d.f.} = 8$, $F = 4.97$, $\text{sig} = .000$

xxiii SDQ Hyperactivity/Inattention subscale. Mother and Father report at time 4, Pearson correlation = .54,
 $p = .000$

xxiii Sum of Squares = 27.56, $\text{d.f.} = 3$, Mean Square 9.19, $F = 3.16$, $\text{sig} = .026$ (Mother rating). Sum of Squares = 17.55, $\text{d.f.} = 3$, Mean Square 5.85,
 $F = 2.52$, $\text{sig} = .082$ (Father rating)

xxxiv $R = .715$, $R^2 = .512$, $\text{adj } R^2 = .482$, $\text{d.f.} = 6$, $F = 16.94$ $\text{sig} = .000$

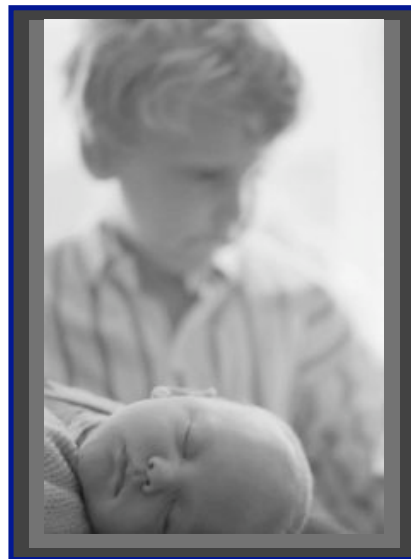
xxxv Pearson Chi-Square = 27.973, $\text{d.f.} = 3$, p (2-sided) = .000

xxxvi Pearson Chi-Square = 9.698, $\text{d.f.} = 2$, p (2-sided) = .008

Parenting arrangements post-separation:
patterns and developmental outcomes, Part II

Relationships between overnight care patterns
and psycho-emotional development in
infants and young children

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Report to the Australian Government
Attorney-General's Department
May, 2010



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CONTEXT OF THIS REPORT

This study was funded by the Australian Government Attorney-General's Department. Its aim was to explore associations between overnight care arrangements following parents' separation and psycho-emotional outcomes for infants and preschool children. Using data available through the Longitudinal Study of Australian Children (LSAC: described below), this study considered three age groups: infants under two years, children aged two to three years, and children aged four to five years. The study explored for each age group a range of developmental outcomes susceptible to disrupted early attachment experience. Specifically these outcomes relate to the very young child's growing capacity to self regulate or manage emotions and behaviour, and are considered within a broad ecological view of the moderating factors likely to influence pathways of impact.

This work was undertaken in a collaboration between Jennifer McIntosh (Director, Family Transitions and Adjunct Associate Professor, La Trobe University), Margaret Kelaher (Associate Professor, Centre for Health Policy, Programs and Economics, University of Melbourne School of Population Health) and Bruce Smyth (Associate Professor, Australian Demographic and Social Research Institute, ANU). The multi-disciplinary research team comes to this topic with complementary interests: McIntosh with a background in early psycho-emotional development, with specific interest in attachment research, Kelaher from a public health research and advocacy perspective, and Smyth from research into the demography and family dynamics of post-separation parenting, with a particular interest in shared care. From these varying vantage points, we share a common interest in improving the evidence base on issues related to child and family well-being. Understanding the developmental impacts of different patterns of post-separation overnight care for infants and preschool children is one such issue. While there is a current social policy focus on shared parenting in Australia, we approach this study with a view that all forms of post-separation parenting are of interest for their potential to support or challenge early psycho-emotional growth.

This report describes the genesis of this study, its rationale, methodology, and descriptive data about the study sample. We present results of analytic models that explore the independent and interactive effects of overnight care patterns post-separation on infant and preschool developmental outcomes, and consider possible explanatory models in light of the literature.

The current study: Rationale, aims and research questions

Why this study?

Should parents separate, when is shared parenting a good decision for infants and young children? In the Australian context, where a socio-political and now legislative context supports the growing expectation that children's overnight care be divided between two households, this is a question in need of evidence. To date, there are few empirically grounded guidelines for Family

Law professionals to follow when advising their clients and the court about the appropriateness of this expectation when making decisions regarding very young children.

In recent decades, a revolution has occurred in terms of the patterns of overnight care children experience after the separation of their parents. A shift away from the male breadwinner/ female carer model has occurred towards greater involvement by fathers in their children's lives (Amato, Myers, & Emery, 2009). In Australia and elsewhere, shared care, that is the regular frequent overnight sharing of time with each parent, has become an emerging family form in its own right (Melli & Brown, 2008; Smyth, 2009), and remains at the vanguard of this revolution. Indeed, shared care has been singled out as a preferred pattern of care to be considered when parents separate – as embodied in the Family Law Act 1975 as amended by the Family Law Amendment Shared Parental Responsibility Act 2006.

The Shared Parental Responsibility Act, together with other aspects of family law reform, most notably recent child support reform,¹¹ have ushered in an era wherein a child's experience of care by his/her parents post-separation has become sharply defined by the amount of overnight time spent with each parent. In exact terms, the current child support legislation specifies shared care as a minimum of 35% of overnight time with each parent (five nights or more per fortnight, or equivalent). Since 1 July 2006, the Act stipulates the following: in courts with family law jurisdiction in Australia, in dealing with cases where the presumption of equal shared parental responsibility is not rebutted, judicial officers 'must consider' the merits of making orders that the child spend 'equal time', or if not equal then 'substantial and significant time', with each parent. Family law dispute resolution and legal practitioners, family counsellors, Family Consultants, as 'advisers' in the family law system, also have an obligation to inform parents that in developing a parenting plan, they could consider the child spending equal or substantial and significant time with each parent if reasonably practicable and in the best interests of the child.

One impetus for the current study arose from concerns about the rapid progression of family law reforms supporting this nature of shared care ahead of evidence about the developmental impacts of such arrangements for infants and young children. The question of how shared overnight care supports, disrupts or otherwise influences the development of very young children would seem to be central for policy makers, practitioners and parents alike. As outlined in the literature review that follows, 'first generation' studies around these questions are embryonic: the methodology of early international studies remains controversial and the findings equivocal. Studies with like populations, for example, Kibbutzim raised babies (Sagi, van IJzendoorn, Aviezer, Donnell, Koren-

¹¹ Sweeping changes to the Australian Child Support Scheme were recently introduced, featuring a dramatically different system for the calculation of child support. These changes were recommended by the Ministerial Taskforce on Child Support, and were implemented in three stages during 2006-08. The reform package became fully operational on 1 July, 2008, when a new formula for estimating child support liability came into effect. Among other things, the new Scheme seeks to support shared parenting.

Karie, Joels, & Harel, 1995) are few. Closer to home, there has been no Australian research into associations between post-separation overnight care and infant outcomes.

To date, enquiry into the efficacy of shared parenting has not had a strong developmental focus, with a dominant “for or against” narrative in the field drawing on politically and/or gender driven research agendas (McIntosh, 2009). A key impetus for the current study therefore is to foster a separate line of research enquiry that brings a fine conceptual lens to the way in which developmental questions about infants in shared overnight care are asked and explored. In the context of the current legal and social support in Australia for greater shared care (McIntosh & Chisholm, 2008), it appears important that all involved in divorce re-structuring decisions understand the potential impacts of different overnight care arrangements for children in their earliest stages of psychological dependency and growth. In the absence of strong data, however, parents and their mediators, lawyers, and judicial officers struggle to know what kinds of living arrangements may or may not support the developmental needs of babies and preschoolers, and what factors could best guide the decision making process about those arrangements.

Central to this study are questions about the impact of parenting patterns on the degree of confidence an infant develops about the care he/she receives, and the resulting extent to which the infant and young child settles into a self-regulating pathway, able to physically thrive, to engage in stage-appropriate relatedness and to regulate their emotions across a number of psycho-social domains.

Aims

This study involving the LSAC database set out to explore associations between parenting patterns post separation and psycho-emotional outcomes for infants and preschoolers. Core to this exploration is a question about whether different post separation parenting arrangements set up different sets of “developmental dominoes” for infants and young children. Within the attachment/affect regulation framework elaborated later in this section, our questions concern the extent to which different parenting patterns and contexts variously impact the ability of attachment figures to provide a continuous, reliable and predictable experience of care to their young infant, as evidenced in emotional and behavioural regulation and dysregulation in the infant.

The interaction of parental communication and conflict with type of overnight care arrangement is of particular interest. The research literature described below suggests that poor parental collaboration and pre-occupying, unresolved inter-spousal conflict has direct and indirect effects on young children, through the witnessing of conflict, through continual exposure to unresolved tension and through diminished sensitivity in parenting. Thus, the study aimed to explore interaction between type of parenting arrangement and parenting conflict with respect to children’s outcomes.

Breakdown or chronic strain in co-regulation and early self-regulation are reflected in infant behaviours and longer-term outcomes across multiple domains, dependent on chronicity and degree of strain within the caregiving experience. So too, as the child matures beyond the early attachment phase, an effective parenting arrangement that supports each parent's capacity for attuned care may support growth and expansion of the attachment system and related psychosocial development.

Research Questions

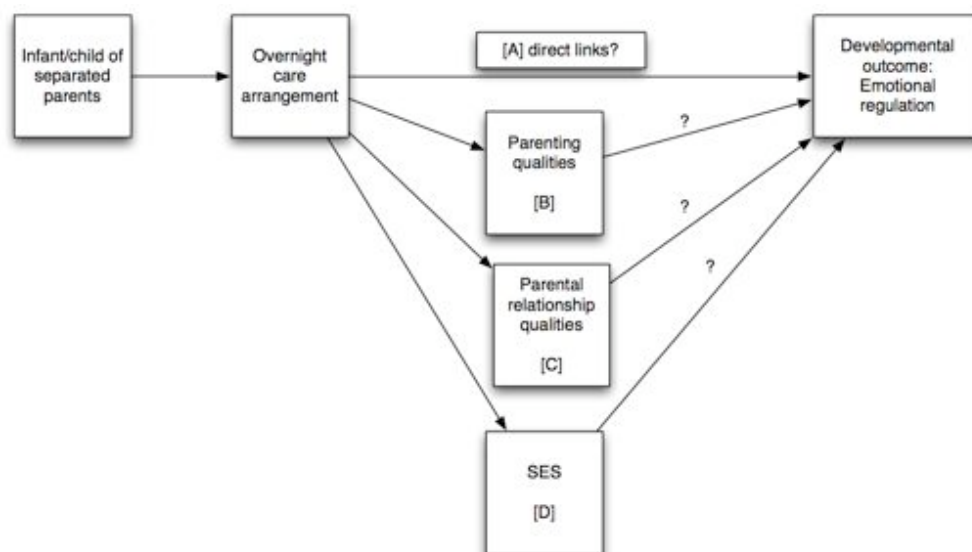
The domains of interest to this study include differences in self-regulation and psychosomatic health between infant and preschool children, relative to their patterns of overnight care in separated families. Rather than simply cataloguing outcomes relative to variation in living arrangements, the study, following Sroufe (2005) and Sroufe et al., (2005), takes a developmental, ontogenetic approach to exploring impacts of post separation parenting arrangements, within a broader psycho-social web of influence.

Specifically, our questions were these. Relative to two other overnight care patterns (rare overnight, and primary care overnight patterns) and in light of related contextual variables, including low socio-economic status (SES), single parent status, social support, and parent psychological qualities:

1. Does higher frequency shared overnight care parenting differentially impact the infant's/child's growing ability to self-regulate their emotions and behaviours, and to focus and attend?
2. Does shared parenting differentially impact the infant's/child's physical and psycho-social health status?
3. What is the demographic profile of families who chose to share the care of their very young children?
4. What parenting qualities, co-parent relationship characteristics and socio-demographic characteristics moderate or mediate relationships between care-pattern and the above outcomes?

Our research questions therefore concern the extent to which frequency of overnight care post separation has an independent relationship with the outcomes of interest, and the extent to which outcomes are moderated by other important features of the infant care-giving context, as summarised in the following figure:

Figure 1: A model of the questions addressed by the current study



*In the above diagram, box A represents an hypothesized direct effect of overnight care arrangement on developmental outcomes. Boxes B, C, and D represent factors that modify that effect.

Theoretical framework for this enquiry

Attachment theory and related developmental research inform this study's theoretical framework. Specifically, the Minnesota Longitudinal Study (MLS: Sroufe, Egeland, Carlson, & Collins, 2005) has been a significant influence on the framing of this study's questions and choice of outcome variables. The MLS is now a 30 year program that set out initially to explore the development of children growing up in climates of chronic socio-economic stress, and the attenuated risks associated with poverty and hardship. Important to the current study and its theoretical framework is the ecological map that the MLS provides of the child's pathways through their attachment relationship toward the development of a capacity to withstand chronic environmental strain and stress and to progress within normal bounds through their lifetimes across psycho-emotional, health and socio-economic domains. While not a divorce specific study, the Minnesota Longitudinal program is widely regarded for confirming the role of the attachment relationship in buffering the child from the impacts of widespread stressors associated with poverty, sole parenting, family and community conflict.

As much of this study draws on attachment theory and the development of emotional regulation, a brief summary is provided here.

Sroufe et al., (2005) described the attachment relationship as first and foremost a co-regulating relationship. In this relationship, the consistent physical and emotional presence of a primary caregiver functions as an essential auxiliary support for the infant's fledgling ability to regulate, stabilize and make sense of their emotional need states. Thus the period of early infancy (the first

24 months of life) is seen as a *co-regulated state* of being, in which the primary task of the parent is to consistently and predictably facilitate the manner in which the infant experiences and signals their needs. In turn, the attachment relationship becomes the primary vehicle through which the infant manages a myriad of feelings associated with being in both physical and emotional need states. Difficulty in these co-regulatory capacities is most often seen when the infant is stressed, particularly by physical separation from or the psychological absence of the primary caregiver (Ainsworth, 1973).

This co-regulatory function of parenting is known as an '*organizational perspective*' on development (Sroufe, Egeland, Carlson, & Collins, 2005), in which the attachment relationship is the prime relationship within which the infant's cognitive, emotional and social potentials are first organized. Emerging from a heavily co-regulated emotional state, the kindergarten and early school aged child extends their capacity to attend to and *regulate* their own emotions and behaviours. By age four to five years, the young child is moving toward self management in this arena, with the need for less and less adult assistance to co-regulate affective states. This occurs on the threshold of the second major bio-social-behavioural shift in early childhood, occurring at around age five to seven years. Cole, Cole, and Lightfoot (2005) define the major components of this shift as follows: a major growth spurt in the frontal lobes and overall brain size, and a sharp increase in EEG coherence (functional association between two brain regions), increased memory capacity, the onset of concrete operations and ability to use logic, decreased ego-centrism, the ability to follow rules, exercise basic moral judgement, make social comparisons and take another perspective.

The Minnesota Longitudinal Study mapped the impact of chronic stress in the early attachment experience on the young child's ability to move smoothly toward increased autonomy, awareness of self and others, standards of behaviour, awareness of and management of emotional states, maintaining psychosomatic health and growing competence across multiple learning and cognitive domains. In the context of divorce, and living across two homes, it's easy to see how these advancing skills may enable a child at age 5 to cope with frequent separateness from a primary attachment figure (all else being equal).

Attachment theory (Bowlby, 1969/1982) is essentially an ethological framework for understanding the psycho-emotional survival and well-being of the human being. The theory originally postulated a complex, innate biological system in infants that ensures they seek proximity with and attentive care from a specific person, and that they attempt to signal for and engage in the repeated, predictable interactive and responsive presence of that person (Bowlby, 1969/1982).

While motivated by survival, the strength of the attachment system in the human being has little to do with fulfilment of functional care needs (feeding, bodily care) and most to do with fulfilling the need for psychological safety. The primary attachment relationship functions to launch the child into exploration of their physical, social and emotional worlds, and to provide steady and

available reassurance and soothing when needed, crucially involving the sharing and regulating of emotional states in infants and young children. The pattern of soothing is particularly important under conditions of uncertainty or distress, influencing the infant's emotional state and behavioural reaction to being in need.

Current neuroscience confirms the central impact of the attachment relationship on enduring regulatory effects in the young infant, due to the direct impacts of attachment experience on the growing complexity and capacity of the infant's brain (Schorer, 2001, 2003a, 2003b, 2005). Schorer (2010) notes that attachment interactions in early infancy occur during a period of intense neurodevelopment, when brain volume increases by 101%, and the volume of the subcortical areas by 130%. This growth is largely dependent upon caregiving experiences, with attachment interaction playing a critical role during the establishment and maintenance of limbic system circuits (Ziabreva et al., 2003). Protective and growth-facilitating attachment experiences have long-term effects on the child's developing Autonomic Nervous System (ANS) and the associated ability to control and maintain bodily balance and rhythms, and on the hypothalamic-pituitary-adrenocortical (HPA) axis, which plays a central role in the regulation of stress reactivity (Gunnar, 2000). The effects of early sub-optimal attachment experiences on right brain development, affect regulation, and infant mental health are increasingly well documented (Schorer, 2010). Indeed Schorer and Schorer (2008) suggest that there is enough neurobiological evidence to say that attachment theory is ultimately a regulation theory.

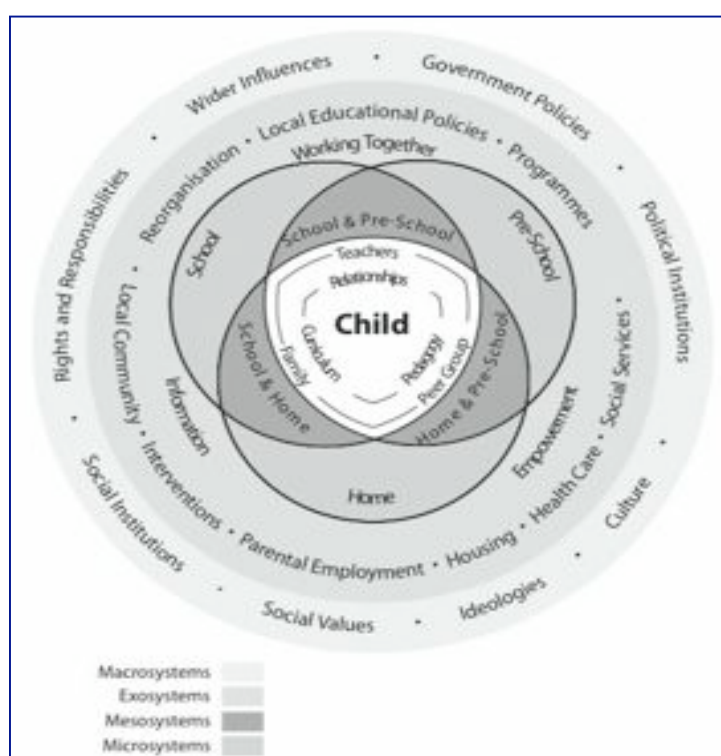
As an independent biologically based behavioural system (Bowlby, 1969/1982; van IJzendoorn & Sagi-Schwartz, 2008), the child's attachment behaviour is influenced by but yet is more than the product of genetics, parent characteristics and the child's own temperament (Vaughn, Bost, & van IJzendoorn, 2008). Some temperament theorists would take a purist line, postulating that fixed constitutional features of the child drive the type of developmental outcomes of interest to the current study (see Goldsmith, Buss, Plomin, Rothbart, Thomas, Chess, Hinde, & McCall (1987) for an overview). Indeed many constructs that attachment researchers understand to be *outcomes* of patterns of interaction between infant and attachment figure, are seen through a temperament lens as independent and pre-existing *properties* of the infant, most notably reactivity, negativity, approach-withdrawal behaviour, adaptability, mood, and arousal thresholds. Indeed progress as ever is likely to lie somewhere between these points of view. Through longitudinal studies probing the interface between temperament constructs, attachment organization and developmental outcomes, Belsky (2005) dispelled the notion of a straightforward causation pathway, pointing instead to a complex overlap and co-determining relationship between these constructs.

In summary, the developmental lens informing the framework of this study is predominantly given by attachment theory and related neuro-developmental research. Following Sroufe and colleagues (2005) and Belsky (2005), we adopt this view within an ecological perspective of the

parent-child relationship as a well buffered system, embedded in an intra-psychic, family and community context, historically and contemporaneously co-determined.

In keeping with this context, the LSAC database was influenced by Bronfenbrenner's (1979) socio-ecological model (Sanson et al., 2002), the model which also underpins the MLS. The diagram below depicts the proximal relation of influences on early development within overlapping and mutually influencing socioeconomic, structural, cultural and political contexts:

Figure 2: Socio-ecological contexts shaping children's development¹²



¹² Source: <http://www.scotland.gov.uk/Publications/2008/09/12112952/4>. Adapted from Bronfenbrenner, U. 1979, *The ecology of human development*, Harvard University Press, Cambridge, MA.

Literature Review

The following section sets out the literature to date on aspects of child development likely to be impacted by separation and, in particular, the division of care between parents, with a focus on infants and preschoolers.

Relationship between child development, divorce and post separation parenting arrangements

In the US context, Melli and Brown (2008) recently estimated that about 20% of post-separation parenting arrangements involve shared time parenting. In Wisconsin, shared placement comprises almost one third of post-divorce parenting arrangements (Melli & Brown 2008). The UK context is also worth noting: Peacey and Hunt (2008) recently estimated that between 9 and 17% of parents share the care of their children equally or near equally after separation (with 12% of parents reporting an even split). In Australia, shared parenting is growing in popularity. For instance, in June 2002, about 6% of parents registered with the Child Support Agency (CSA) had shared care; by June 2008, this estimate had doubled to around 12%. Patterns of care among new child support cases (that is, recently separated parents who register with the CSA) are even more striking: in June 2003, 9% of new cases appeared to be exercising shared care; by June 2008, this figure had almost doubled to 17% (Smyth, 2009). These estimates, however, need to be tempered by recent Australian Bureau of Statistics (ABS, 2008) population data that indicate that shared care was experienced by 7% of children with a parent living elsewhere.

As detailed later in this section, the AIFS LSSF data (see Kaspiew, Gray, Weston, Moloney, Hand, & Qu, 2009, pp 121 & 129) suggests that about 7.5% of recently separated parents with children aged 0–2 years had a shared care arrangement¹³ (2.1% equal shared care;¹⁴ 5.4% unequal shared care). This figure increased to: 20% for children aged 3–4 years (9% equal shared; 11% unequal shared), and to 26% for children aged 5–11 years (12% equal shared; 14% unequal shared). These rates then dropped back to 20% for children aged 12–14 years (11% equal time; 9.5% unequal shared), and declined sharply to around 11% for children aged 15–17 years (6% equal time; 4% unequal shared). Overall, about 16% of recently separated parents had a shared care arrangement (7% equal shared care; 9% unequal shared care). In short, as noted by AIFS, while it was unusual for children under three to experience shared care, children aged 3–4 years were almost three times more likely than infants under 3 years to be in a shared care arrangement. AIFS also found that the prevalence of shared care in children's matters cases in family law courts had increased "*considerably*" since the 2006 family law reforms – particularly where cases required a

¹³ "Shared care" refers to children in the care of each parent for at least 35% of nights each year.

¹⁴ In line with the new Australian Child Support Scheme, equal shared care is defined by AIFS as 48–52% of nights.

judicial determination (compared with consent orders) (Kaspiew, Gray, Weston, Moloney, Hand, & Qu, 2009; p. 134). AIFS notes that:

[w]hen calculated as a proportion of cases where contact hours were specified [in the court files], shared care time increased from 16% pre-reform to 23% post-reform and, when calculated as a proportion of all cases, shared care time increased from 9% to 14%. (p. 132)

Smyth and Moloney (2008) describe a steady international growth in shared care over the past decade, in a trajectory “*supported by several mutually reinforcing socio-legal forces*”:

- The changing nature of men’s and women’s workforce participation
- Psycho-social needs for work/family balance
- Growing support for the independent importance of the fathering role

Amato, Myers and Emery (2009) also emphasize the changing social definition of the appropriate role of fathers, both in post divorce fathering and in childcare during marriage. Economic incentives are also emerging. In Australia, as well as in US states like Wisconsin, recent child support reforms may be perceived by some to have introduced a form of financial encouragement for parents to adopt shared residence arrangements (Melli & Brown, 2008). This is because adjustments to child support liabilities occur where parents largely share the care of children and related costs. While these adjustments aim to support shared care, there is anecdotal evidence that such reductions (perceived as ‘discounts’) may act as an incentive for some parents to opt for this arrangement. The extent to which recent reforms encourage strategic bargaining over parenting time and child support has been explored by the Australian Institute for Family Studies in its recently released evaluation of the 2006 Family Law reforms (Kaspiew et al., 2009).

Recent statistics from the Family Court of Australia (2009) for the 2007-2008 financial year indicate that shared care is more often attempted in the population of those attending court for family matters than in the general population, with about 30% of recent Family Court cases resulting in equal or near equal shared parenting; about 20% awarded primary care to father and about 50% primary care to mother (N = 4,167 cases). In the US, the trend is similar and has been for some time. In their classic study, Maccoby and Mnookin (1992) concluded that their most disturbing finding was the frequency with which joint physical custody decrees were being used by high-conflict families to resolve disputes. Several have questioned whether shared care is used in the high conflict population ‘to appease warring parties’ (McIntosh & Chisholm, 2008), as ‘a compromise solution to a difficult problem’ (Eekelaar, Clive, Clarke & Raikes, 1977), and as a modern version of halving of the child under King Solomon’s dilemma (Moloney, 2008; Smyth, 2009).

Shared care: when is it sustainable?

Consistent with Smyth et al., (2008) and McIntosh, Smyth, Wells and Long (2010), AIFS (Kaspiew, Gray, Weston, Moloney, Hand, & Qu, 2009) found in their recent general population survey that (a) the most common arrangement after separation in which children were mostly in the care of their mother was also the most stable arrangement of those that they examined (87% of mother residence arrangements in 2004–05 remained in place in 2009, compared with 60% of equal time arrangements),¹⁵ and (b) where arrangements changed, children who began in shared care tended to move to mother primary care (e.g., 28% of equal shared time arrangements, and 32% of unequal shared time arrangements, converted to mother residence between 2004-05 and 2009).

When parents substantially share care, the following factors are consistently identified by research as important to entering and staying on that pathway: (Arendell, 1996; Irving & Benjamin, 1995; McIntosh, 2009; McIntosh & Chisholm, 2008; Smyth & Wolcott, 2004; Steinman, 1981):

- (a) Low pre-marital conflict
- (b) Mutuality of decision to end the marriage
- (c) Adequate housing
- (d) Financial resources
- (e) Work place flexibility
- (f) Motivation to make it work
- (g) Adequate ego maturity of both parents
- (h) Good planning
- (i) Communication and conflict-avoidance
- (j) Child focused parenting: adequate reflective functioning
- (k) Sharing basic child rearing values
- (l) Capacity for business-like, respectful working relationship
- (m) Geographic proximity
- (n) 'Tribal support'
- (o) Mutually deciding on joint parenting
- (p) Parental mental health
- (q) Absence of abuse and violence
- (r) Absence of substance abuse

In essence, sustained shared care in a self selecting population relies on what Smyth (2004a) has termed a string of structural and relation pre-requisites, growing upon a previously existing base of adequate cooperation between parents, with numerous social and economic structural supports.

It is increasingly evident that shared care families are not a homogenous group. For example, in a sample of 133 families followed over four years, McIntosh, Smyth, Wells, and Long (2010) have identified a distinction between flexible and rigid shared care, the latter characterized by legally assisted arrangements (consent or court orders) between parents who do not communicate well and

¹⁵ These are retrospective data from the AIFS Looking Back Survey 2009 (see Table 6.6, Kaspiew et al, 2009, p. 127).

The four patterns of care examined were: mother residence; father residence; equal shared care; and unequal shared care.

who report high rigidity in the arrangements (that is, the division of time is rigidly fixed and has no room to accommodate changing needs of either the parents or children concerned). The rigid shared care group, relative to the flexible shared care group in that sample, were characterized by the following significant differences:

- Repeat litigation over parenting
- Higher pre-separation conflict
- Mothers more frequently felt threatened by their ex-partner
- Lower regard by father for mother's parenting skills
- More frequent conflict, higher acrimony, lower cooperation, reported by both parents
- Children and mothers in rigid shared arrangements more distressed over time.

Care Patterns and associations with parent outcomes

Shared parenting is increasingly thought of as a contemporary solution to preserving parent-child relationships post divorce, allowing parents to experience the gratifications and rewards of “real time” parenting, eliminating the stresses of sole parenting and supporting fathers who seek a different level of involvement with their children, that may in fact be more gratifying than that experienced during the marriage (McKinnon & Wallerstein, 1986; Pearson & Thoennes, 1990). In a modern age, work/life balance and career prospects are enhanced, particularly for women, in shared arrangements. Researchers find consistently higher rates of satisfaction with living arrangements by fathers who share care. Data from a longitudinal study of high conflict separated families indicates that mothers in flexible, self-selected shared care arrangements are not far behind (McIntosh, 2009).

Impacts of divorce on development

In considering the question of whether and in what ways shared care benefits children's outcomes after divorce, we turn first to the general divorce literature. There is a voluminous body of literature examining antecedents of development across multiple psychological domains. This review will focus on two areas: one is a précis of divorce related outcomes for infants; the second, is a précis of the longitudinal research examining psycho-developmental processes in infants and young children: what sustains and what challenges development?

The independent risks for child development associated with divorce are well documented. Normal adjustment issues aside, even within a supportive caregiving environment, the independent impacts that separation brings to bear on children's development remain notable (Amato, 2000). Cherlin et al., (1998) and others find that the gap in psychological well-being between divorced children and never divorced children grows through adolescence and young adulthood. Kelly's

(2000) meta-analysis summarises these findings succinctly. Children of divorced families, compared to never divorced families, are more likely to:

- Experience greater economic, social and health problems
- Use alcohol, cigarettes and drugs
- Rely on peer groups who use substances
- Give birth to a child as a teenager
- Receive psychological treatment
- Drop out of school early
- Have earlier marriages, which in turn correlates with
 - Increased propensity to divorce
 - Poorer socio-economic attainment

To this list, Fabricius and Leuchen (2007) add the domain of poorer immune system functioning for divorced children. There are a number of mechanisms at play in the creation of elevated risk status for children of divorce. First is the ecology of parenting during and after highly conflicted relationship breakdown, with chronic compromise to the parent's mindfulness about the developing child confounding the child's core psycho-developmental tasks (Levendosky & Graham-Bermann 2001; McIntosh, 2003). Even normative levels of conflict and tension associated with divorce have the capacity to erode parenting quality, specifically attunement and sensitive response to the child (Cummings & Davies, 2010). When separation co-occurs with other risks, namely financial strain, diminished social support, mental health difficulties, parental substance abuse, unemployment, and/or parents' education deficits, greater developmental impact for the child is evident (Crockenberg & Langrock, 2001; Dixon, Charles & Craddock, 1998).

Stage of development looms as another significant factor in this mix. Infancy in particular (here defined as the first three years) is a time of developmental vulnerability by virtue of the rapid physical, cognitive, language, social and emotional development going on during this time. The brain, about 30% formed at birth, expands threefold during the first three years (Royal Australian College of Physicians, 2006), with ever evolving quantity and complexity of synaptic connections. Importantly, much of the growth of the human brain during this time is termed "experience dependent" (Melmed, 2004); that is, the complexity of the brain's development depends on the nature and quality of care the infant receives.

Certain developmental goals for children at different stages are more easily threatened by virtue of their age-related capacity to tolerate delay or inaccuracy in a parent's response to their needs, or to understand the implications of parental conflict. While there is no age, stage or gender immune to the impacts of parental conflict associated with separation (Buchanan & Heiges, 2001), a good

deal of literature suggests that parents' divorce related conflict in their child's preschool years has specific and lasting impacts, in essence disrupting the organisation of emotional experience in early childhood (Wallerstein & Lewis, 1998; Zill, Morrison, & Coiro, 1993). This type of disruption may have both escalating and cumulative developmental consequences. It interrupts vital attachment processes in infancy and toddlerhood, with high intensity conflict linked with the development of insecure and disorganised attachment styles (Boris & Zeanah, 1999; Main & Cassidy, 1988; Solomon & George, 1999; Zeanah, Danis, Hirshberg, Benoit, Miller, & Heller, 1999). In turn, this interrupts the development of emotional security, with children becoming more prone to negative emotional arousal and distress, less able to regulate their feelings, less optimistic about their ability to cope, and less able to cope (Lieberman & Van Horn, 1998). The child who is already vulnerable through other factors is at elevated risk again for poor outcomes (Emery, 1999).

As Jordan and Sketchley (2009) report in their overview of infant development, although inherited genetic potential predisposes an individual to develop certain abilities, skills and characteristics, it is the environmental influences that determine the ultimate expression of these potentials in all domains of development—cognitive, language, social and emotional (Siegel, 2001; Stevenson, 2007). Jordan and Sketchley (2009) conclude that future development beyond the infancy period is heavily influenced by caregiving relationships in the early years, affecting

“...physical health, emotional regulation (including the stress response system) and mental health across the life course, cognitive development, learning and the capacity for full engagement and participation in and thus access to social resources (e.g., education, employment, relationships).” (p. 4)

In sum, the developmental tasks facing the young child in this period are great, and resources are clearly taxed when a preschooler is faced concurrently with the need to cope with parental pre-occupation, conflict and family re-structure (McIntosh, 2003). Crockenberg and Langrock (2001) define the specific stage-salient developmental tasks vulnerable to family stress, particularly parenting availability and style, thus:

- a) Development of core trust and understanding of cause and effect;
- b) Development of attachment;
- c) Emotional arousal and regulation of affect;
- d) Development of internalised beliefs about the self;
- e) Establishment of peer relationships;
- f) Adaptation to school and academic achievement.

In close sync, the elements of parenting essential to the above outcomes emerging in the Minnesota Longitudinal Study of Child Development were (Sroufe et al., 2005, p. 52):

- Regulation of arousal
- Appropriately modulated stimulation
- Provision of secure base and safe haven
- Appropriate guidance, limits and structure
- Maintenance of parent-child boundaries
- Socialization of emotional expression and containment
- Scaffolding for problem solving
- Supporting mastery and achievement
- Supporting the child's contacts with the broader social world
- Accepting the child's growing independence.

Do specific care arrangements benefit infants and children?

Cycling back to the question at the core of this study, what then might be the independent contribution of care arrangements to children's outcomes in divorce? In particular, what does the literature tell us about care patterns and their capacity to assist or confound infant development?

The attachment framework underlying this study would suggest a series of potential losses and gains along a developmental continuum. It postulates greater detriment for young infants through a compromised early attachment relationship, together with accruing benefits for the growing child as their attachment system matures. Indeed, it requires supportive connection with more than one responsive, attuned carer for its optimal development (Schoore, 2010).

Away from theory, empirically based attachment research has not systematically turned its attention to the field of divorce. The existing empirical literature from disciplines outside the attachment arena is relatively sparse in quantity and frequently disappointing in a lack of developmental complexity. While a wide range of multi-disciplinary studies have been conducted overseas into family transitions and outcomes for children (see Pryor & Rodgers (2001) for a review; see also Wise, (2003)), until recently only a handful of post-divorce child outcome studies have been conducted in Australia (early exceptions are: Dunlop & Burns, (1988), Funder, (1996), McDonald, (1990), Ochiltree & Amato, (1985), Smiley, Chamberlain, & Dalgleish, (1987)).¹⁶ We summarise the major international and local studies here, before moving on to describe the most recent population based study on the topic, conducted by the Australian Institute of Family Studies (Kaspiew, et al., 2009).

¹⁶ This list of studies is not exhaustive. For instance, telephone interviews were conducted with 64 children (aged 12 – 18), as part of the Australian Institute of Family Studies Divorce Transitions Project. Moreover, Patrick Parkinson and Judy Cashmore have conducted a number of studies in recent years in which children have been interviewed (Parkinson & Cashmore, 2008; Cashmore & Parkinson, 2009). More recently, Thea Brown and her colleagues are currently investigating children's experience of family violence.

Bauserman (2002) concludes from a meta-analytic study that children in joint custody were better adjusted than children in sole-custody settings, and not significantly different from those in intact families. Smyth and Wolcott (2004) advocate caution with Bauserman's study, describing major methodological flaws in what is an oft cited study. For example, two-thirds of the studies reviewed were unpublished, non peer reviewed theses, most of which did not control for important factors such as socio-economic status. Bauserman's conclusions make no distinction between children in joint *physical* and joint *legal* custody.

Other research also suggests that regular sharing of children's overnight care between parents fosters closer, more enduring parent-child relationships, allowing a child to maintain positive, reality based relationships with both parents that run less risk of the depleted emotional availability associated with single parenting (Bauserman, 2002; Hetherington, Cox & Cox, 1985; Lamb, Sternberg & Thompson, 1997; Luepnitz, 1991; Maccoby & Mnookin, 1992; Pearson & Thoennes, 1990; Smyth, 2004a/2004b; Steinman, 1981). Some support the view that infants' and young children's attachments to their parents, particularly to their fathers, are fostered by frequency of contact within shared schedules (Kelly & Lamb, 2000). Findings from a four year longitudinal study of school aged children in Australia (McIntosh, Wells, Smyth & Long, forthcoming) suggest that the quality of the father-child relationship created and preserved contact, rather than the contact arrangement creating or preserving the quality of the father-child relationship.

Developmental arguments against shared parenting surround the *disruptive* nature of the lifestyle for children, and the *disorganising* potential of the lifestyle for infant attachment. Solomon and George (1999) studying 126 mother-infant dyads over time identified risks for infants of even one night per week care in a climate of poor communication between separated parents, finding in these infants greater likelihood of a rupture in the primary attachment relationship, thus undermining important care giving continuities, and resulting in far higher rates of disorganized attachment. Klein-Pruett, Ebling and Insabella (2004) caution that overnight stays may add increased challenge and risks at a time when social and emotional development are reliant on predictable, stable, responsive care.

Amongst these differing perspectives, a point of correspondence is this: parenting, relationship qualities and psycho-social resources are highly influential in children's outcomes, more so for older children than the sheer structure of care arrangements. Parenting quality in particular is seen as a strong co-determining factor for how the amount of time spent together translates into meaningful outcomes for the child (Bauserman, 2002; Johnston, 1995; Klein-Pruett et al., 2004; McIntosh, 2009; Pearson & Thoennes, 1990; Pryor & Rodgers, 1999; Smyth, 2004b; Whiteside & Becker, 2000).

Put another way, Smyth (2009, p. 44) concluded that “...*the idea that a clear linear relationship exists between parenting time and children’s outcomes (such that ever-increasing amounts of time necessarily leads to better outcomes for children) appears to lack an empirical basis*”.

Shared care, parental conflict and children’s outcomes

A separate line of inquiry conducted by Johnston in the 1980s (see Johnston, Gonzalez, & Campbell, 1987) and more recently by McIntosh and colleagues in Australia (McIntosh, Smyth, Wells, & Long, 2010), focuses on parenting arrangements in families who require assisted or court ordered parenting decisions. The findings are in close agreement with each other and those of others (Benjamin & Irving, 1989; Maccoby & Mnookin, 1992; McKinnon & Wallerstein, 1986), and can be summarized in this way:

- Litigating and high conflict families who enter substantially shared care arrangements are different from cooperative parents who self select into shared parenting. They enter on a different track, and stay on that track by different means, with different outcomes
- Parents in this population frequently experience elevated stress and anxiety through concern about their child’s well-being in the care of the other parent
- Continuing abuse of power by coercive and controlling ex-spouses can be amplified in shared arrangements
- Children in conflicted shared parenting are exposed to higher levels of conflict between their parents, of the type that embroils them in or *uses* them in the expression of conflict between parents
- These children are frequently distressed by their living arrangement
- There is elevated risk of poor mental health outcomes for children who sustain shared care in a climate of ongoing parental acrimony, who are at highly vulnerable phases of their development, and/or who were already vulnerable through other circumstances.

The AIFS evaluation findings on care arrangements and children’s outcomes

Little general population data have until recently been available to address an emerging policy pressure point: the impact of post-separation shared care on young children. One large random sample of separating parents that is well placed to shed light on the shared care debate in relation to young children is the AIFS Longitudinal Study of Separated Families (LSSF). Given its relevance to the current study, we detail pertinent findings including methodological comments that will assist in comparing findings of the AIFS evaluation to those from the current study.

This study was conducted recently by the Australian Institute of Family Studies (Kaspiew, Gray, Weston, Moloney, Hand, & Qu, 2009) as part of its evaluation of the 2006 Australian family law reforms. The LSSF involved telephone interviews in 2008 with a random sample of 10,000 parents who had separated 1–2 years prior to interview.¹⁷ While all respondents had at least one child under 18 years of age, around half the parents in the study had a child aged 0–2 years.¹⁸ The LSSF thus currently represents the largest random sample of recently separated parents with infants under three years in Australia.¹⁹

Four key findings from this AIFS study warrant mention here. First, nearly two-thirds of separated mothers and fathers (62% and 64% respectively) in the LSSF sample reported a friendly or cooperative relationship with their former partner. By contrast, 19% of parents reported ‘distant’ relationships; 13–14% reported lots of conflict; 3% of fathers and 7% of mothers reported being fearful of their former partner. In short, the majority of separating parents did not report high levels of parental conflict 1–2 years after separation.²⁰ Situations in which no parent–child contact was occurring were also the most likely circumstances in which greater conflict or fearful relationships were reported (Kaspiew et al, 2009, p.163). By contrast, AIFS found that:

“[w]hile most parents with shared-care time arrangements reported friendly or cooperative relationships, in some areas, they were more inclined to report problematic family dynamics than parents in families in which the father had fewer overnight stays or daytime-only care (especially the latter group).” (p. 173)

Second, drawing on its General Population of Parents Survey, AIFS found that the percentage of parents who thought that equal shared care was “*totally appropriate*” for children increased in line with the children’s age (32% of fathers thought it was “*totally appropriate*” for children under age 3 to be in equal care; 57% of fathers thought this for secondary school aged children; compared with 23% and 45% respectively in the case of mothers).²¹ According to Kaspiew, et al., (2009): “...[f]or children under 3 years old and 3–4 years old, both fathers [53-57%] and mothers [60-62%] most commonly believed that the appropriateness of equal care time depended on other factors.” (p. 115).

Third, AIFS found that parents with shared care arrangements were “*as likely or more likely*” than parents with other arrangements to report that their parenting arrangements were working well for everyone (i.e. the child, the other parent, and themselves; Kaspiew, et al., 2009, p. 173).

¹⁷ 82% of the sample separated in 2007 (Kaspiew et al., 2009, p. 117). That is, most of the sample comprised recent separations.

¹⁸ According to AIFS (Kaspiew et al., 2009, p. 117), “58% of the focus children in the LSSF W1 2009 were under 3 years old”. As the AIFS (Kaspiew et al., 2009, p. 117) notes: ABS data from 2006-07 found that “only 15% of children with a parent living elsewhere were under 5 years old”. Moreover, using HILDA data, de Vaus and Gray (2003) found that in 26% of divorcing families in 2001, the youngest child was aged 0-4 years (de Vaus, 2004, p. 224).

¹⁹ The AIFS data are longitudinal but only Wave 1 data have been published thus far. It should be noted that several other datasets were also collected by the AIFS as part of its evaluation of the family law reforms, including data from court records, and retrospective data collected from a general population survey of parents (separated or still together).

²⁰ The average time since separation was 15 months (Kaspiew et al., 2009, p. 21).

²¹ See Figure 6.3, Kaspiew et al (2009), p.116.

Disaggregating these data by the age of the focus child, AIFS found that across all child age groups, over 80% of parents whose children were in equal shared care – including those with children under 3 years of age – reported that the arrangement was working well for the child. By contrast, those with children aged 3–4 or 5–11 years who reported that no father–child contact was occurring were the least likely to believe that their parenting arrangements were working well (p. 159).

Fourth, with respect to children over four years, AIFS found “*no clear, consistent relationship between children’s wellbeing and care-time arrangements*” according to mothers’ reports (p. 260), or fathers’ reports. The authors found that “*children in a shared care-time arrangement fared marginally better [than those who were mainly in the care of mothers]*” (p. 273)²², and noted that parents who share the care of their children also tend to be “*better educated, [are] more likely to be employed and have a better quality relationship (lower conflict)*” than parents who have primary care of children (p. 256) – alluding to the role of self-selection effects and related positive child outcomes for shared care arrangements. The study noted a significant link between safety concerns (as reported by the mother) and poorer child wellbeing outcomes, especially where there was a shared care-time arrangement (p.364). Safety concerns and a history of family violence had a negative impact on children's wellbeing (as might be expected), but the pattern of results for children in shared care was somewhat more complex. Specifically,

“[c]hildren in shared care-time arrangements where fathers reported safety concerns did not appear (according to fathers’ reports) to have a lower level of wellbeing than when the father did not have safety concerns. However, children in shared care-time arrangements where mothers reported safety concerns did seem (according to mothers’ reports) to have lower wellbeing than when the mother did not have safety concerns, and this effect was statistically significant for all measures except the measures on learning (4+ years) and the behavioural problems scale (1–3 years)”.

(Kaspiew et al, 2009, p. 270).

Of particular relevance to our line of inquiry, the AIFS study found “*...no evidence of any differential effect of care-time arrangements on children’s wellbeing for children of different ages*” (Kaspiew, et al., 2009, p. 269). It is important to note, however, that the majority of the child outcome measures used by the AIFS were for children aged four and over, despite about half of the focus children in the LSSF W1 sample being under 3 years of age. Further, the study found no significant interaction between any care arrangement and a history of violence or ongoing high conflict between parents.

22 Specifically, AIFS found that children in shared-care arrangements “were doing as well as, or better than, children who were with their father for 1–34% of nights” (Kaspiew et al, 2009, p. 267). Drawing on LSAC data, AIFS found that “...children with shared care time ... fared better than children with other care-time arrangements” (Kaspiew et al, 2009, p. 273).

To test the solidity of its findings on the lack of association between parenting time and child outcomes, AIFS analysed data from the Longitudinal Study of Australian Children (LSAC) – Kindergarten Cohort (that is, children aged 4–5 year at Wave 1; 6–7 years at Wave 2; 8–9 years at Wave 3). On teacher report data, and child self-report data, AIFS concluded that its analysis of LSAC data produced very similar results to the findings of its longitudinal study of separated families.

Central to the concerns of our study are infants under three. Given the prevalence of concerns raised about contact arrangements for young children under four years (for example, as reported in Kaspiw et al., 2009), there is clear value in exploring the extent to which the AIFS findings about children over four years of age can be generalised to infants and children younger than four years. Developmentally informed analysis of the B-cohort data in LSAC was thus an important goal for our current study.

Summary

The preceding review provides a précis of our knowledge to date about the likely pathways of impact on psycho-developmental outcomes for the young child growing up in a separated family. While the collective scope of the studies is vast, findings specific to the psycho-emotional development of the infant remain rudimentary, un-replicated, or lacking in depth. The current study thus seeks to address some of these gaps, taking a finely focussed psycho-developmental lens to a general population database. The theoretical frame is taken from attachment and emotional regulation research. The data are taken from *Growing Up in Australia: The Longitudinal Study of Australian Children*, currently the best Australian longitudinal data set for this type of enquiry. We describe this study in the following section.

Growing Up in Australia: The Longitudinal Study of Australian Children

Longitudinal studies of children are a significant resource for policy development and are run in many western countries. *Growing Up in Australia*, the Longitudinal Study of Australian Children (LSAC) is a database designed by a multi-disciplinary team to monitor physical, psycho-social and learning pathways from infancy through to late childhood, enabling exploration of continuities in development and critical influences upon outcomes. LSAC was initiated and funded by the Australian Government Department of Families, Housing, Community Services and Indigenous Affairs. Three waves of data have been collected, and funding has been allocated for the collection of five more waves of data (Waves 4 through 8) until 2018.

The database is designed to capture the complex interweaving influences of intra-family processes, family structure and the family's broader socio-cultural context (Sanson & Lewis, 2001). The specific variables monitored by LSAC were determined within an ecological framework of children's development, with emphasis given to multiple, layered environmental influences on child development.

“In this conceptual framework the family, school, community and broader society, as well as the children's own attributes, are seen to contribute to the child's development in complex interacting ways over time”

(Sanson, Nicholson, Ungerer, Zubrick, & Wilson, 2002, p.5).

LSAC - Key Research Questions

Fourteen Key Research Questions (KRQs) were developed at the beginning of LSAC planning and broadly grouped under health, family functioning, non parental child care, cross discipline and education (Sanson et al., 2002). These were later revised in 2009 to the following eleven (Department of Families, Housing, Community Services and Indigenous Affairs LSAC team (2009):

1. What factors influence a child's physical health and development over time? What is the effect of physical health on a child's overall wellbeing and on other specific outcomes, and how does this influence change over time?
2. What are the nature and impacts of family composition, relationships and dynamics on individual outcomes, and how do these relationships and their effects change over time?
3. What is the influence of parent labour force participation, education and economic status on individual outcomes? How do the patterns and impacts of parent labour force participation, education and economic status change over time?

4. What are the effects of non-parental child care on individual outcomes (particularly those relating to social and cognitive competence, attachment, impulse control, and control of attention)? How do these experiences and influences change over time?
5. What are the experiences that influence children's school engagement and achievement? How do these impact on individual outcomes and how do these patterns and effects change over time?
6. What are the impacts of children's use of time on individual outcomes (such as physical fitness and obesity, family relationships, social skills, and learning)? How does the impact of different patterns of time use change over time?
7. What are impacts of child, parental and community beliefs, attitudes and expectations on outcomes? How do the patterns and effects of these beliefs, attitudes and expectations change over time?
8. What characteristics of children, families and communities help children to develop resilience and cope with transitions or adversity? How do these factors influence individual outcomes and how do these influences change over time?
9. What social connections and support are available to families and children and how do they impact on individual outcomes, and how do the impacts of these social connections and support change over time?
10. What are the impacts of broad neighbourhood characteristics and community connectedness, engagement, trust and violence on individual outcomes, and how do these impacts change over time?
11. What is the impact of intergenerational characteristics on individual outcomes, and how does this impact change over time?

The LSAC cohorts and data collection

The two LSAC cohorts are:

- The Birth Cohort (B): aged under one year at first contact, n = 5,000
- The Kindergarten Cohort: aged between four and five years at first contact, n = 5,000.

The national random sample was drawn from Medicare administrative records. Medicare registration provides access to publicly funded medical services and is therefore the most comprehensive database of Australia's population. A clustered design, based on postcodes, was chosen as it allows community level effects to be measured and analysed, and also allows for reasonably cost effective face-to-face interviewing.

Both LSAC cohorts are representative samples of the general Australian population. Data are collected biennially, commencing with the 2004 cohorts, supplemented by mail outs to primary caregivers in some intervening periods. Data collection is a mixture of face-to-face interviews, brief observations and leave-behind survey material for the parents living in the home. Surveys are mailed to the parent-living-elsewhere, other caregivers, day-care providers and teachers. From age six onward, the study child is also interviewed (when appropriate).

Data related to the child include health, temperament, cognitive and language development, parents' relationship, parenting style, health and socio-economic markers, community resources and nature of educational input. Significant events are monitored including illness or injury, birth in the family, moving house, starting child care or school, significant deaths, change in socio-economic conditions and separation or divorce. The LSAC study therefore aimed to generate both a snapshot of current family life at regular intervals in childhood and an overview of family transitions.

Data collection commenced in 2004, 2006 and 2008. The wave 1 response rates for entry into the study were 57.2% (B cohort) and 50.4% (K cohort). The retention rate was 90% of families at wave 2, and 87% of families at wave 3. The third wave of LSAC data was released in October 2009.

The LSAC data and implications for the current study

In designing LSAC, a very large broad brush study, the Consortium Advisory Group sought to include the best possible measures of the constructs identified in the Key Research Questions (above), within the constraints of data collection²³.

Of relevance for the current study, the LSAC database does *not* include attachment or secure base measures per se. In a large scale database of this type, it was not possible to include measures of infant-parent and child-parent attachment, which require specialised and time consuming observational procedures and highly trained coding (Strange Situation procedure) or considerable time to administer (for example, Q-set methodology). In future waves (wave four and beyond), children will be asked to answer questions drawn from attachment theory on aspects of their relationship with parents.

For the purpose of this study, LSAC does include several temperament measures and indices of what in the framework of the current study are termed '*co-regulated behaviours*' and '*emergent self-regulation*' in the young child, allowing us to explore temperament indices used in the study for what they might say about '*settledness*' and co-regulated outcomes of the attachment environment. We describe our selection and treatment of these variables in the following section.

²³ L.Harrison, personal communication, March 8, 2010.

METHOD

This study involved three age groups of children, as defined in Table 1 (overleaf), under 2 years²⁴, 2 - 3 years and 4 - 5 years (this includes LSAC wave 1 of the 4 - 5 years cohort and wave 3 of the infant cohort). Children's overnight care arrangements were classified into three groups, as shown in Tables 2 and 3, on the following pages. In some places for contrast and comparison purposes we also provide statistics for "intact" or non-separated families.

Defining parenting groups

The question underlying this study is whether different rates of overnight time spent with each parent have differential impacts on psycho-developmental outcomes for infants and young children.

The goal was to contrast two distinct types of parenting: children who were co-parented in their overnight care, and children whose overnight care occurred primarily with one parent. To address this, three comparison groups were formed according to frequency of overnight care for children in each age group.

We distinguished two forms of regular overnight care: shared care and primary care. In arriving at these terms, we encountered a difficulty with language. We sought to distinguish a group of infants whose care was shared at a higher frequency, from infants whose care was shared regularly, but at a lower frequency. In line with current legislative terminology, we adopt the terms '*shared*' to reflect the higher frequency groups throughout the report, and '*primary*' to reflect lower frequency of overnight care, where the child clearly maintains a primary home, whilst having steady overnight contact with the non-primary parent. Importantly, the primary care groups do not contain families who reported '*holiday contact only*'.

In line with current child support policy definitions,²⁵ for the 4 - 5 year old and the 2 - 3 year old samples, we adopted a definition of shared care being 35% or more '*overnights*' spent by the child in the care of each parent (five or more nights per fortnight, or 128 or more nights per year). Rates of care at this level are still low (see Table 1), so in order to maximize power, for the older group, age 4 - 5 years, two LSAC cohorts (B3 and K1) were combined, roughly doubling the sample size.²⁶ For the 2-3 year olds (B2), the sample sizes are smaller but adequate for the analyses reported here. We consider this further in the interpretation of the 2 - 3 year findings. For the 2 - 3

²⁴ Total B1 sample N = 5,107; Age - Minimum: 14 weeks, Maximum: 83 weeks

²⁵ <http://www.csa.gov.au/schemereforms/tables.aspx>

²⁶ While longitudinal studies, such as LSAC, involve large numbers of families, the annual rate of relationship breakdown by parents with children under the age of 5 years means that it can take a substantial amount of time to obtain a sample comprising sufficiently large numbers of separated families with infants and young children. Statistical power is thus a problem faced by most studies that work with small, specialized populations.

and 4 - 5 age groups, we then defined the ‘*primary care*’ group as the group who maintained a primary home with one parent but who had overnight care with the other parent at least once a month but less than five nights per fortnight.

The ‘*rare overnights*’ group for all ages is defined as overnight care occurring less than once per year. The design also selected out of the analyses those families with irregular, or holiday-only contact (defined as at least once a year but less than once per month overnight care).

In the young infant group (under two years of age), for a number of reasons, rates of ‘*primary*’ and ‘*shared*’ overnight care are defined differently. First, as shown in Table 1, the sample size for babies in shared care above two nights per week is very small ($n = 11$). Second, as outlined in the literature review, given the hypothesised lower tolerance of young infants of separation from a primary caregiver and their heightened vulnerability to the impacts of disrupted care, it seemed important to explore a lower threshold of overnight care. In line with Solomon and George (1999) – to date the only other systematic study of infants in overnight care – we adopted a definition of shared care for young infants at the rate of one night per week or more, thus also enabling greater comparability of findings with that study. ‘*Primary care*’ for this group is therefore defined as between once per month and one night per week.

Table 1: Frequencies of overnight parenting arrangements reported by separated families for infants under 4 years

Frequency of overnights with Parent Living Elsewhere	Babies 3 months to 2 years (B cohort Wave 1, 2004)		Older Infants 2-3 years (B cohort Wave 2, 2006)		Kindergarten Children 4-5 years (B cohort Wave 3, 2008 & K cohort Wave 1, 2004)	
	Weighted N	%	Weighted N	%	Weighted N	%
Less than 1 night a year overnight care	164	63.4	360	59.0	520	40.2
Between 1–11 times per year	10	3.9	22	3.7	77	6.0
1–3 nights per month	21	8.1	58	9.5	162	12.5
1–2 nights per week	52	20.0	143	23.5	462	35.8
5 or more nights per fortnight	11	4.6	26	4.3	71	5.5
Total	258	100%	509	100%	1292	100%

Families who never have daytime or night contact with the Parent Living Elsewhere (PLE) were excluded from the ‘*rare (if any)*’ overnight contact group. We did this to try to isolate a group of children who had some contact with a PLE, but rarely involving overnight stays. The range was significant in this group²⁷. Median rates of ‘*daytime only*’ contact per week for the ‘*rare (if any)*’ overnight contact group were: 4.7 hours for infants under 2 years, 2.9 hours for the 2–3 year olds, and half an hour for the 4–5 year olds.

²⁷ With 2% of families reporting 84 hours of day contact, there appears to be some confusion in how this question was responded to in the LSAC survey.

In summary, we define overnight parenting arrangements at two levels in this study:

1. Early Infancy (under 2 years): ‘*shared care*’ = 1+ nights per week; ‘*primary care*’ = overnight care more than once per month and less than weekly
2. Late Infancy (ages 2 - 3) and Preschool (ages 4 - 5): ‘*shared care*’ = 5+ nights per fortnight, and ‘*primary care*’ = more than once per month and less than 5 nights per fortnight.
3. In both groups, ‘*rare (if any)*’ overnight care = day contact, but less than one overnight visit per year.

Descriptive data are also presented for infants and children in ‘intact’ families as a comparison.

Sample sizes within parenting groups

Table 2: Sample sizes for overnight care group, and intact families: Infants under 2 years

Overnight Care Definition	Infants
	(<i>B cohort, Wave 1 2004</i>)
‘ <i>Intact</i> ’: Not separated	4,603
‘ <i>Rare (if any)</i> ’: Less than one night per year	164
‘ <i>Primary</i> ’: 1 night per month to 1 night per week	21
‘ <i>Shared</i> ’: 1 night per week or more	63

Table 3: Sample sizes for overnight care groups, and intact families: Children aged 2-3 years and 4-5 years

Overnight Care Definition	Children	
	2–3 years	4–5 years
‘ <i>Intact</i> ’: Not separated	4,060	7,832
‘ <i>Rare (if any)</i> ’: Less than one night per year	360	520
‘ <i>Primary</i> ’: 1 night per month to 5 nights per fortnight	201	624
‘ <i>Shared</i> ’: 5 nights per fortnight or more	26	71

Potential Moderating and Control Variables

When exploring relationships between variables, it is important to hold constant socio-economic status (SES) variables that might also come into play (control variables), and to explore the relative influence of these and other potential moderating factors (parenting and relationships) on outcomes. Following the literature, our analytic framework explored three layers of influence on the relationship between care arrangement and the outcomes of interest to the study: (a) Socio-economic, (b) Parenting and (c) variables that relate to parents’ cooperation and conflict levels. To maximize the sample size, these variables are for the respondent parent (‘*Parent 1*’, the parent

who at the time of interview knew the child best), and not for the parent living elsewhere²⁸. The three levels and their components as explored in the study were these:

SES and Gender of Respondent Parent:

- Income
- Education
- Employment
- Gender

Parenting:

- Parent warmth with child
- Parent hostility/anger to child

Co-parenting Relationship:

- Level of disagreement
- Level of consultation
- Level of anger and hostility toward PLE
- How well parents relate to one another
- Satisfaction with the children's current living arrangements

Parenting and co-parenting variables that were originally measured on five point scales were recoded into dichotomous variables (1 = 'always', 'almost always', 'often'; 0 = 'sometimes', 'rarely', 'almost never', 'never')¹⁹. Similarly, the variable for how well the parents relate to each other was recoded into a dichotomous variable (1 = 'very well', 'well', 'neither well or poorly'; 0 = 'poorly', 'very poorly' and 'badly'). Satisfaction with level of involvement of PLE was coded 1 = 'satisfied'; 0 = 'unsatisfied'. Other potential control variables were explored with respect to infant development, including birth weight, prematurity, and early developmental delay. No statistically significant differences between groups were identified. Accordingly, controls at this level were not used in the study.

Selection of outcome variables

The LSAC data contain numerous variables relevant to the question of children's psycho-emotional outcomes in post-separation parenting. So where to focus? Following Sroufe and colleagues (2005), for each age group we sought to narrow down indices that might capture the expression of emotional regulation in the infant and young child, manifest through settled interpersonal behaviours when with and away from the primary parent, general capacity to self-

²⁸ PLE data are sparse until Wave 3 of LSAC.

¹⁹ Variables were dichotomised for parsimony.

regulate emotions, to focus and attend, and the absence of psychosomatic illness. We sought divergent multiple perspectives (parent/ carer/ observer) where possible.²⁹

Table 4 on the next page shows the outcome variables selected for each age group.

Detail on all variables other than ‘*Visual monitoring*’ are outlined in the LSAC data dictionary.

The visual monitoring variable was derived for the purposes of this study. Following observations made originally by Bowlby (1969/1982) about babies’ efforts through gaze and gesture to monitor and retain the proximity of their attachment figure, Ainsworth et al., (1978) described heightened visual monitoring by infants when anxious about their caregiver’s emotional or physical availability. It is important to note that LSAC does not contain attachment-specific parent report data or observer ratings. To approximate the extent to which the infant monitored and attempted to retain proximity with their primary carer, this variable was formed from the mean of three items from the Communication and Symbolic Behaviour Scales (CSBS): “*When this child plays with toys, does he/she look at you to see if you are watching?*” “*When you are not paying attention to this child, does he/she try to get your attention?*” and “*Does this child try to get you to notice interesting objects – just to get you to look at the objects, not to get you to do anything with them?*”³⁰

All data are drawn from the respondent parent, from the LSAC interviewer on a home visit, from out-of-home carers and from teachers. Due to very small numbers ($n < 10$ in some cells), data from the ‘*Parent living elsewhere*’ (PLE) could not be explored for babies and toddlers, and for continuity we have not incorporated PLE data in the 4 - 5 year analyses.

³⁰ Cronbach’s Alpha for this derived scale was 0.972.

Table 4: Outcome Variables and Scoring

		Under 2 years	2 - 3 years	4 - 5 years
Psycho-somatic Variables	Parent 1 Report	Parent's Evaluation of Developmental Status (PEDS) (significant concerns) 0, 1, or 2+ concerns	Global Health Measure: 1 (<i>excellent</i>) – 5 (<i>poor</i>) Illness with wheezing: 1 (<i>yes</i>) or 2 (<i>no</i>)	
Emotional / Behavioural Regulation Variables	Parent 1 Report	Short Temperament Scale for Infants (STSI): Irritability Scale. Mean of 4-item scale. 1 (<i>almost never</i>) to 6 (<i>almost always</i>). Higher score = higher irritability Visual monitoring of parent Derived mean of 3 CSBS items.1 (<i>no</i>) to 3 (<i>often</i>) Higher score = more vigilant monitoring	Brief Infant-Toddler Social-Emotional Assessment (BITSEA) Problems Scale: Mean of 23-item scale. 1 (<i>not true</i>) – 3 (<i>very often true</i>). Higher score = higher problems PEDS Emotional Functioning: Mean of 5-item scale. Low score = more problems Persistence: STST Mean of 5-item scale. 1 (<i>almost never</i>) – 6 (<i>almost always</i>). Higher score = higher persistence	Short Temperament Scale for Children (STSC): Persistence Scale Mean of 4-item scale. 1 (<i>almost never</i>) to 6 (<i>almost always</i>). Higher score = higher persistence
		Teacher/Day Carer's Report	Student-teacher relationship scale (PIANTA) Conflict with infant Mean of 6-item scale. Higher score = higher conflict	Conflict with child (PIANTA) Mean of 7-item scale. Higher score = higher conflict Strengths and Difficulties Questionnaire ³¹ (SDQ) Total (Problems scale score: 20 items) SDQ Emotional Symptoms (total of 5-point scale) SDQ Hyperactivity ³² (total of 5-point scale) Higher SDQ total or sub-scale score = more symptomatic
	Observer Report	Degree of negative response: (dichotomised, 0 = none, 1 = any)		

Source: LSAC Data Dictionary.

³¹ Our choice of teacher SDQ ratings and not parent report was influenced by the gender mix of the reporting parent in the shared care group, with 20% being father, and 80% mother. Other studies with this tool have shown lack of congruence between mother and father report on key variables of interest (McIntosh, Smyth, Wells, & Long, 2010), and this was born out in our preliminary exploration of the LSAC data.

³² Post hoc analyses also examined parent report of Attention Deficit Disorder, following on from findings evident on the SDQ Hyperactivity scale (Teacher report).

Analytic strategy

All analyses were conducted using Intercooled Stata 10 using the `svyset` command to account for the complex clustered survey design. LSAC sample weights were used.

The data were analysed using linear or logistic regression depending on the type of outcome variable. A hierarchical approach was adopted for the modelling to enable the impact of shared care to be assessed as well as the extent to which any observed effects exist independently of the characteristics of the parents and their relationship. The models tested were as follows:

1. Care arrangements
2. Care arrangements, parenting style (parental warmth and parental hostility to child)
3. Care arrangements, parenting style, relationship (disagreement, consultation, satisfaction with care arrangements, anger and hostility felt for other parent))
4. Care arrangements, parenting style, relationship and demographics (sex of parent, education, employment and weekly income)

Model 1 was re-run using the cases from Model 4 to ensure that no bias ensued as an increasing number of cases were excluded from the analysis due to missing variables. The results of these analyses are only reported if they impact the interpretation of the analysis.

For children in the 4 - 5 year cohort group where sample sizes allowed for further exploration, possible interactions between care arrangements, level of disagreement and consultation between parents and developmental outcomes were assessed using regression analyses.

RESULTS

Results are presented in two parts. In Part I, basic descriptive statistics are provided for three groups of interest: (a) infants under two years (B Cohort – Wave 1); (b) the same infants aged 2–3 years (B Cohort – Wave 2); and (c) children aged 4–5 years (K Cohort – Wave 1 and B Cohort – Wave 3). In Part II, regression modelling is used to explore the relationship between parenting arrangements and developmental outcomes for each of these groups.

I. The demography of post-separation care and co-parental relationships for infants and young children

In this section, descriptive statistics are presented to explore the demography of post-separation care for (i) infants under two years of age (Table 5a), (ii) infants aged 2–3 years (Table 6a), and (iii) children aged 4–5 years (Table 7a). Co-parental relationship characteristics are also described for each group (Tables 5b, 6b, and 7b).

We have included the large sample of ‘Parents Together/Intact’ (where the natural/adoptive parents of a child are still married and/or co-habiting) in the socio-demographic tables as a useful comparison group. This comparison occurs in Part I of the results section, and the appended means/proportions tables for the developmental variables. The ‘Parents Together’ group is not used in any of the statistical modelling in Part II of the results. The small sample size of the high contact/shared care group should be borne in mind when examining Tables 5 through 7. The same caveat holds for the small ‘Primary Parenting’ group in Table 5.

Infants under 2 years of age: Demographic profile

Table 5a and Table 5b present basic descriptive statistics for respondent parents of children aged 0–1 years (that is, infants under 2 years of age) in different patterns of care. The highest level of overnight post-separation care considered for this infant group is one night per week or more.

Specifically, Table 5a (overleaf) presents the socio-demographic characteristics of respondent parents with an infant aged under 2 years by frequency of overnight stays.

Table 5a suggests that the separated parent groups fare worse than the ‘Parents Together’ group on a range of socioeconomic indicators. Specifically, in relation to families with infants under 2 years, separated respondents were significantly more likely³³ than respondents in ‘intact’ relationships to:

- rely on government income support (79–90% vs 49%),

³³ This is shown by the non-overlap of the 95% confidence intervals.

- be renting (60–100% vs 26%),
- not have Private Health cover (92–95% vs 52%), and
- endorse the experience of hardship (67–93% vs 44%).

In addition, separated respondents who reported rare (if any) parent-child overnight stays or one or more night stays were significantly more likely than respondents in ‘intact’ relationships to:

- not be employed (83% & 78% vs 64%),³⁴ and
- not have a qualification (53% & 60% vs 31%)³⁵.

The above two sets of findings are unsurprising. It is well documented that separated parents, particularly sole parent mothers, often experience greater financial hardship than couple families.³⁶ The LSAC data are no exception.³⁷

Table 5b suggests that separated parents who reported rare (if any) overnight parent-child contact each year were generally more likely than separated parents with one or more overnights each week³⁸ to report that:

- They lived 500 kilometres or more from their former partner (38% versus 3%)
- They believed more parent-child contact should be occurring (75% versus 39%)
- Their relationship with the other parent was ‘*poor*’/‘*very poor*’/‘*bad*’ (47% versus 14%), and
- They ‘*never*’, ‘*almost never*’ or ‘*rarely*’ consulted the other parent about the children (90% versus 31%).

The pattern of associations between post-separation care arrangements and relationship factors nonetheless makes sense. Drawing on a national random sample of separated parents with children of all ages, Smyth, Qu and Weston (2004) suggested that family dynamics, in tandem with demographic factors, often temper the form that parent-child contact takes after separation.

³⁴ The small number of cases in the ‘primary care’ group do not appear to differ significantly from other groups, as shown by the overlap in the 95% confidence intervals.

³⁵ The small number of cases in the ‘primary care’ group do not appear to differ significantly from other groups, as shown by the overlap in the 95% confidence intervals.

³⁶ Indeed divorce is a major economic setback for many families. Two households are not as cheap to run as one. The money that supported one family is usually insufficient to meet the costs of two newly formed households, one of which usually includes children (Smyth & Weston 2000). Poverty is both a cause and a correlate of parental separation, and a well-known risk factor for children’s wellbeing.

³⁷ Extra effects due to ‘coupleness’ are not taken into account.

³⁸ The small number of cases in the ‘primary care’ group makes it difficult to show statistical differences in parent ratings between the groups.

Table 5a. Infants under two years (LSAC B cohort, Wave 1, 2004): Socio-demographic characteristics of the respondent parent by frequency of overnight stays

	Parents together (‘Intact’) (<i>n</i> = 4,603)	Rare overnight care (less than 1 night per year) (<i>n</i> = 396)	Primary care (1 night per month to 1 night per week) (<i>n</i> = 17)	Shared care (1+ night per week) (<i>n</i> = 55)
Age of infant (months)	8.85 8.73 – 8.97	8.65 8.21 – 9.09	9.48 8.06 – 10.90	9.47 8.71 – 10.23
Gender of respondent				
Female	98.45%	100%	95.95%	98.96%
Male	1.55%	0	4.05	1.04%
Partnered				
Yes	100%	6.34% 2.66% - 10.02%	0	1.90% 1.83% - 5.64%
No	0	93.66% 89.98% - 97.34%	100%	98.10% 94.36% - 100%
Employment status				
Full-time	7.05% 6.26% - 7.84%	3.39% 0.45% - 6.32%	0%	2.73% 1.06% - 6.51%
Part-time/casual	29.04% 27.47% - 30.61%	13.51% 7.47% - 19.55%	20.52% 0.62% - 40.42%	19.03% 9.02% - 29.04%
Not employed	63.91% 62.20% - 65.62%	83.10% 76.54% - 89.66%	79.48% 59.58% - 99.38%	78.24% 67.84% - 88.65%
Educational attainment				
Degree or higher	31.82% 29.48% - 34.16%	8.21% 4.21% - 12.22%	4.91% 4.61% - 14.42%	2.90% 1.10% - 6.90%
Other qualification	36.79% 35.11% - 38.48%	38.30% 30.35% - 46.24%	44.27% 17.91% - 70.62%	36.77% 23.39% - 50.16%
No qualification	31.39% 29.44% - 33.33%	53.49% 45.12% - 61.87%	50.83% 24.61% - 77.04%	60.32% 46.71% - 73.94%
Housing tenure				
Fully own/purchasing	68.46% 66.61% - 70.30%	12.33% 6.82% - 17.85%	0%	6.22% 0.07% - 12.50%
Rent	26.53% 24.72% - 28.34%	60.15% 51.85% - 68.46%	100%	70.44% 57.46% - 83.43%
Other	5.01% 4.33% - 5.70%	27.51% 20.38% - 34.65%	0%	23.34% 11.13% - 35.55%
Main source of income				
Wages/salary	29.82% 28.14% - 31.51%	9.01% 4.70% - 13.33%	7.52% 6.07% - 21.11%	5.95% 0.03% - 11.87%
Self-employed	6.48% 5.67% - 7.28%	.90% 0.86% - 2.66%	0	0
Gov’t income support	48.67% 46.38% - 50.96%	87.80% 82.77% - 92.84%	79.01% 58.40% - 99.62%	89.91% 82.05% - 97.77%
Other	15.03% 13.51% - 16.54%	2.28% 0.12% - 4.69%	13.47% 4.66% - 31.61%	4.14% 1.55% - 9.84%
Personal weekly income				
Less than \$500	79.86% 78.26% - 81.46%	79.25% 72.28% - 86.23%	77.22% 54.47% - 99.98%	77.76% 66.77% - 88.74%
\$500-\$999	14.78% 13.65% - 15.91%	19.01% 12.19% - 25.82%	22.78% 0.02% - 45.53%	20.65% 9.88% - 31.43%
\$1000-\$1999	4.49% 3.67% - 5.32%	1.30% 0.24% - 2.85%	0	1.59% 1.53% - 4.72%
More than \$2000	.86% 0.51% - 1.22%	.43% 0.43% - 1.30%	0	0
Private Health Insurance				
Yes	48.12% 45.33% - 50.90%	7.84% 3.71% - 11.97%	4.91% 4.61% - 14.42%	5.62% 0.24% - 10.99%
No	51.88% 49.10% - 54.67%	92.16% 88.03% - 96.29%	95.09% 85.58% - 100%	94.38% 89.01% - 99.76%
Hardship – past 12 months: At least 1 item	43.50% 41.59% - 45.42%	69.41% 61.76% - 77.06%	93.29% 80.44% - 100%	67.21% 54.20% - 80.21%

Table 5b. Infants under two years (LSAC B cohort, Wave 1, 2004): Co-parental relationship characteristics reported by the respondent parent by frequency of overnight stays.

		Rare overnight care (less than 1 night per year) (<i>n</i> = 396)	Primary care (1 night per month to 1 night per week) (<i>n</i> = 17)	Shared care (1+ night per week) (<i>n</i> = 55)
Ever married to PLE	Yes	11.96% 7.06% - 16.86%	12.12% 3.50% - 27.73%	9.01% 1.68% - 16.34%
	No	88.04% 83.14% - 92.94%	87.88% 72.27% - 100%	90.99% 83.66% - 98.32%
Ever lived with PLE	Yes	41.82% 32.64% - 51.01%	71.91% 47.14% - 96.69%	72.92% 60.21% - 85.62%
	No	58.18% 48.99% - 67.36%	28.09% 3.31% - 52.86%	27.08% 14.38% - 39.79%
Distance between households	<5km	12.20% 4.97% - 19.44%	25.41% 2.01% - 48.80%	36.36% 22.07% - 50.64%
	5-19 km	16.05% 8.74% - 23.36%	38.38% 11.06% - 65.69%	29.64% 16.97% - 42.32%
	20-99 km	21.71% 12.79% - 30.64%	26.87% 3.13% - 50.61%	26.04% 14.14% - 37.94%
	100-499 km	12.16% 6.36% - 17.97%	2.04% 0.99% - 3.09%	5.39% 0.61% - 11.38%
	500+ km/Overseas	37.87% 26.91% - 48.83%	7.30% 6.75% - 21.36%	2.57% 1.08% - 6.23%
Level of contact PLE	Should be more	75.62% 67.34% - 83.90%	48.69% 23.36% - 74.02%	39.22% 25.07% - 53.36%
	About right	18.74% 10.36% - 27.12%	51.31% 25.98% - 76.64%	59.02% 44.84% - 73.21%
	Should be less	5.64% 1.94% - 9.34%	0	1.76% 1.72% - 5.25%
Co-parental relationship quality				
	Get along well/very well	24.67% 15.38% - 33.96%	66.56% 43.99% - 89.12%	79.50% 68.31% - 90.69%
	Neither well or poorly	28.67% 19.51% - 37.83%	11.45% 4.00% - 26.90%	6.70% 0% - 13.39%
	Poorly/Very poorly/badly	46.66% 36.47% - 56.86%	22.00% 1.79% - 42.21%	13.80% 3.88% - 23.73%
Frequency of consultation about children				
	Often/always/almost always	6.58% 2.50% - 10.65%	42.02% 17.25% - 66.78%	53.41% 39.48% - 67.33%
	Sometimes	3.02% 0.17% - 5.87%	15.97% 0.67% - 32.61%	15.46% 5.22% - 25.70%
	Never/almost never/rarely	90.41% 85.68% - 95.14%	42.02% 18.90% - 65.13%	31.13% 18.53% - 43.73%
Frequency of disagreements between parents				
	Never/almost never/ rarely	44.99% 32.98% - 56.99%	27.04% 6.10% - 48.03%	44.12% 30.46% - 57.78%
	Sometimes/ often/ almost always	55.01% 33.20-76.99%	72.96% 28.60- 88.02%	55.90% 34.21-77.49%-
Frequency of anger/hostility between parents				
	Rare/occasional	70.19% 59.93% - 80.45%	67.20% 43.72% - 90.69%	85.89% 76.16% - 95.61%
	Often/always	29.81% 19.55% - 40.07%	32.80% 9.31% - 56.28%	14.11% 4.39% - 23.84%

Infants aged 2–3 years: Demographic profile

Table 6a and Table 6b present basic descriptive statistics for parents of children aged 2–3 years in different patterns of care. These are the same parents of infants on which Tables 5a and 5b are based but their demographic data are re-collected two years later as part of Wave 2 interviews. It is important to note that (a) some respondents may have declined to participate in Wave 2 or dropped out of the study altogether; (b) some families may have a different care arrangement since Wave 1; and (c) importantly, sample sizes allow us to use the policy care threshold of at least 35%+ nights a year to depict ‘*shared care*’ arrangements at Wave 2. In other words, we have imposed a different analytic frame to the division of overnight care of 2-3 year olds to accurately reflect current socio-legal understandings in Australian legislative and policy thresholds of “shared care”.³⁹

Table 6a (on the following page) presents the socio-demographic characteristics of respondent parents with an infant aged 2–3 years by frequency of overnight stays.

Similar to Table 5a, Table 6a suggests that two of the three separated parent groups – the ‘*rare* (if any) *overnights*’ group and the ‘*Primary Parenting*’ group – fare worse than the ‘*Parents Together*’ group on a number of socio-economic indicators. (The small number of cases in the ‘*shared care*’ group makes it difficult to show statistical differences in parent ratings between this and the other groups.⁴⁰)

Specifically, in relation to families with infants aged 2–3 years, separated parents who reported the occurrence of rare (if any) parent–child overnight stays or ‘*primary parenting*’ were significantly more likely than parents in ‘*intact*’ relationships to:

- Not be in the workforce (66% & 53% versus 42%)
- Have no educational qualification (43% & 41% versus 29%)
- Rely on government income support (78% & 73% versus 42%)
- Be renting (69% & 65% versus 24%), and
- Endorse the experience of hardship in the past 12 months (49% & 45% versus 18%).

Table 6b suggests that separated parents who reported rare (if any) overnight parent–child contact each year were generally more likely than separated parents with ‘*primary care*’⁴¹ to report that they:

- Had not been married to the other parent (78% versus 58%),

³⁹ In Tables 5a and 5b for infants under 2 years, on both developmental and statistical grounds discussed earlier, we used the care threshold of one or more nights a week to depict more frequent overnight contact. This means that those described as having higher levels of co-parenting in both tables may now be in another category. A clue to the presence of attrition or temporal effects is that the distribution of those who report ever being married to the other parent changes markedly between Tables 5b and Table 6b.

⁴⁰ It is interesting to note a quarter (26%) of the reports from the small ‘shared care’ group are from male respondent parents (compared with 1–2% in the other overnight care groups).

⁴¹ The small number of cases in the ‘shared care’ group makes it difficult to show statistical differences in parent ratings between this group and the other groups.

- Had never lived with the other parent (38% versus 15%),
- Now lived 500 kilometres or more from their former partner (19% versus 4%), and
- ‘Never’, ‘almost never’ or ‘rarely’ consulted the other parent about the children (66% versus 36%).⁴²

Parents of 2-3 year olds in shared arrangements were significantly more likely to report higher rates of disagreement with the other parent and more frequent anger and hostility with that parent. Differences on these variables are not evident in the 4-5 year age group, where shared care is defined at the same rate. The finding suggests that sharing the overnight care of young children age 2-3 years may bring additional co-parenting stress than at the later developmental period of 4-5 years.

Children aged 4–5 years: Demographic profile

Table 7a and Table 7b present basic descriptive statistics for parents of children aged 4–5 years in different patterns of care. The data for parents in this table are from two independent samples: Wave 1 of the parents of the K cohort children, and Wave 3 of the parents of B cohort infants – on which Tables 5 and 6 are based – about four years from first interview. The same caveats for Table 6a and 6b (discussed earlier) therefore hold for the latter group. The samples were combined to increase sample size and statistical power.

Table 7a presents the socio-demographic characteristics of respondent parents with a child aged 4–5 years by frequency of overnight stays. Similar to Table 6a, though the patterns are a little more complex, Table 7a suggests that the ‘*Parents Together*’ group were again generally in a stronger socio-economic position than most or all of the separated parent groups.

Specifically, in relation to families with a child aged 4–5 years, separated parents who reported the occurrence of rare (if any) parent–child overnight stays were significantly more likely than respondents in ‘*intact*’ relationships not to be employed (62% versus 41%). It is interesting to note that the shared care group was the least likely of all the groups to report not being employed (25% versus 41–62%), suggesting two possibilities: shared care needs a resource base, and/or a shared care arrangement is more often undertaken by dual-career families with young children.

Parents in ‘*intact*’ families were also more likely than separated parents in the ‘*rare overnight*’ and the ‘*primary parenting*’ groups to:

- Have a tertiary degree (34% versus 9% & 19%), and
- Report wages/salary as the main source of income (46% versus 21% & 33%).

Parents in ‘*intact*’ families were also more likely than separated parents in any of the groups to:

- Fully own or be purchasing a home (76% versus 24–32%)

⁴² It is noteworthy that the shared care group also appeared to differ to the rare (if any) overnights group in relation to the last two findings.

- Not have a Health Care Card (87% versus 41–62%), and
- Not report any hardship in the past 12 months (30% versus 57–68%).
- It is interesting to note that separated parents in the '*rare (if any) overnights*' group were less likely to be re-partnered than separated parents in the '*shared care*' or '*primary parenting*' groups (29% versus 51% & 45%). Table 7b (below) presents co-parental relationship characteristics reported by respondent parents with a child aged 4–5 years by frequency of overnight stays.

Table 7b shows that separated parents who reported '*rare (if any) overnights*' parent–child contact each year were more likely than parents with '*shared care*' or more traditional arrangements to report that:

- They had not been married to the other parent (73% versus 48%)
- They had never lived with the other parent (40% versus 5% & 16%)
- They lived at least 500 kilometres or more from their former partner (25% versus 2% & 6%)
- Their relationship with the other parent was '*poor*'/'*very poor*'/'*bad*' (33% versus 13% & 21%), and
- They '*never*', '*almost never*' or '*rarely*' consulted the other parent about the children (74% versus 3% & 52%).

It is also interesting to note that separated parents who reported '*rare (if any) overnight*' parent–child contact each year were more likely than parents with shared care or more traditional arrangements to:

- Not be employed (62% versus 25% & 46)
- Not have a qualification (47% versus 23% & 30%), and
- Rely on government income support (76% versus 42% & 59%).

Socio-economic factors are thus also likely to play a role in shaping the form that parent–child contact takes after separation (Smyth, Qu & Weston, 2004).

Table 6a. Older infants aged 2–3 years (LSAC B cohort, Wave 2, 2006): Socio-demographic characteristics of the respondent parent by frequency of overnight stays, with shared care at 35%+ overnights

	Parents together (‘Intact’) (n=4,060)	Rare overnight care (<1 overnight a year) per year (n=284)	Primary care (at least 1 night per month & <5 nights per fortnight) (n=179)	Shared care (35% to 50% shared overnights) (n=23)
Age of child (months)	33.88 33.83 – 34.09	33.96 33.72 – 34.59	34.42 34.03 – 34.99	34.04 32.63 – 35.34
Gender of respondent				
Female	98%	99%	98%	74%
Male	2%	1%	2%	26%
Partnered				
Yes	100%	7.78% 4.19% - 11.37%	12.46% 6.53% - 18.40%	7.80% 3.11% - 18.70%
No	0	92.22% 88.63% - 95.81%	87.54% 81.60% - 93.47%	92.20% 81.30% - 100%
Employment status				
Full-time	21.15% 19.65% - 22.65%	12.77% 8.54% - 16.99%	13.59% 8.23% - 18.95%	38.01% 17.37% - 58.65%
Part-time/casual	37.07% 35.30% - 38.83%	21.43% 15.98% - 26.89%	32.99% 25.56% - 40.42%	24.81% 6.12% - 43.49%
Not employed	41.78% 39.77% - 43.79%	65.80% 59.35% - 72.25%	53.42% 44.86% - 61.98%	37.18% 14.84% - 59.53%
Educational attainment				
Degree or higher	31.23% 28.92% - 33.53%	9.29% 5.97% - 12.60%	8.13% 4.62% - 11.63%	26.85% 8.65% - 45.09%
Other qualification	39.44% 37.62% - 41.25%	47.43% 41.48% - 53.38%	50.88% 42.51% - 59.25%	52.65% 30.74% - 74.55%
No qualification	29.34% 27.36% - 31.31%	43.29% 37.00% - 49.57%	40.99% 32.70% - 49.28%	20.50% 1.75% - 39.25%
Housing tenure				
Fully own/purchasing	72.67% 70.82% - 74.52%	17.83% 13.53% - 22.14%	18.09% 11.96% - 24.22%	32.07% 12.22% - 51.92%
Rent	24.21% 22.41% - 26.01%	68.88% 63.41% - 74.35%	65.41% 57.47% - 73.35%	52.07% 30.04% - 74.11%
Other	3.06% 2.47% - 3.66%	13.29% 9.12% - 17.46%	16.50% 9.70% - 23.31%	15.85% 1.01% - 30.70%
Main source of income				
Wages/salary	41.40% 39.50% - 43.30%	19.97% 14.97% - 24.96%	24.13% 17.25% - 31.01%	52.40% 30.25% - 74.55%
Self-employed	7.57% 6.67% - 8.47%	.59% 0.24% - 1.42%		6.94% 2.63% - 16.51%
Gov’t income support	42.05% 39.92% - 44.18%	78.38% 73.16% - 83.60%	72.76% 65.73% - 79.79%	40.66% 18.10% - 63.22%
Other	8.98% 7.81% - 10.15%	1.07% 0.11% - 2.25%	3.11% 1.03% - 5.18%	0
Weekly income				
<\$500	70.88% 69.15% - 72.61%	58.34% 51.82% - 64.86%	50.51% 41.93% - 59.08%	34.34% 12.19% - 56.50%
500-999	20.53% 19.24% - 21.82%	36.44% 30.02% - 42.86%	42.90% 34.55% - 51.26%	39.97% 18.85% - 61.09%
1000-1999	7.50% 6.49% - 8.50%	4.56% 2.29% - 6.83%	5.59% 2.19% - 8.99%	25.68% 8.01% - 43.36%
>2,000	1.09% 0.70% - 1.49%	.66% 0.33% - 1.65%	1.00% 0.50% - 2.50%	0
Hardship – past 12 months				
At least 1 item	18.39% 16.86% - 19.93%	48.88% 42.58% - 55.18%	44.78% 36.47% - 53.09%	31.33% 9.75% - 52.92%

Table 6b. Older infants aged 2–3 years (LSAC B cohort, Wave 2, 2006): Co-parental relationship characteristics reported by the respondent parent by frequency of overnight stays, with shared care at 35%+ overnights

		Rare overnight care (less than 1 night per year) (<i>n</i> =284)	Primary care (at least 1 night per month & <5 nights per fortnight) (<i>n</i> =179)	Shared care (35% to 50% shared overnights) (<i>n</i> =23)
Ever married to PLE	Yes	21.55% 16.00% - 27.11%	42.35% 32.79% - 51.91%	44.49% 16.72% - 72.26%
	No	78.45% 72.89% - 84.00%	57.65% 48.09% - 67.21%	55.51% 27.74% - 83.28%
Ever lived with PLE	Yes	61.90% 54.82% - 68.99%	85.51% 79.48% - 91.54%	87.30% 69.74% - 100%
	No	38.10% 31.01% - 45.18%	14.49% 8.46% - 20.52%	12.70% 4.86% - 30.26%
Distance between households	<5km	21.09% 15.52% - 26.67%	24.34% 16.76% - 31.92%	51.26% 29.34% - 73.19%
	5-19 km	28.49% 22.68% - 34.30%	32.71% 25.16% - 40.26%	35.24% 14.73% - 55.75%
	20-99 km	24.27% 18.36% - 30.18%	32.11% 24.78% - 39.43%	6.83% 2.62% - 16.28%
	100-499 km	6.90% 3.64% - 10.16%	6.74% 3.23% - 10.26%	3.10% 2.97% - 9.18%
	500+ km/Overseas	19.25% 14.36% - 24.14%	4.10% 1.45% - 6.75%	3.56% 3.38% - 10.50%
Co-parental relationship quality				
Get along well/very well		48.83% 42.55% - 55.10%	53.36% 45.31% - 61.41%	48.36% 26.54% - 70.18%
Neither well or poorly		24.17% 18.53% - 29.82%	25.53% 18.54% - 32.51%	30.45% 9.60% - 51.31%
Poorly/Very poorly/badly		27.00% 20.73% - 33.27%	21.12% 14.22% - 28.01%	21.19% 4.97% - 37.41%
Frequency of consultation about children				
Often/always/almost always		21.92% 15.42% - 28.41%	47.33% 38.41% - 56.25%	44.94% 22.41% - 67.47%
Sometimes		12.53% 7.57% - 17.48%	16.60% 10.38% - 22.82%	31.43% 10.12% - 52.74%
Never/almost never/rarely		65.56% 58.30% - 72.81%	36.07% 27.77% - 44.37%	23.62% 4.68% - 42.57%
Frequency of disagreements between parents				
Never/almost never/ rarely		37.18% 28.78% - 45.58%	34.58% 26.88% - 42.28%	4.52% 2.18% - 11.23%
Sometimes/ often/ almost always		62.82% 46.40% - 79.12%	65.42% 50.42% - 80.31%	95.48% 53.91% - 88.67%
Frequency of anger/hostility between parents				
Rare/occasional		79.38% 73.62% - 85.14%	77.44% 70.05% - 84.83%	73.93% 54.59% - 93.26%
Often/always		20.62% 14.86% - 26.38%	22.56% 15.17% - 29.95%	26.07% 6.74% - 45.41%

Table 7a. Children aged 4–5 years (LSAC K cohort, Wave 1, 2004 & Wave 3 B cohort, 2008): Socio-demographic characteristics of the respondent parent by frequency of overnight stays

	Parents Together (‘Intact’) (<i>n</i> =7,832)	Rare overnight care (less than 1x per year) (<i>n</i> =456)	Primary parenting (at least 1 night per month & <5 nights per fortnight) (<i>n</i> =589)	Shared care (35% to 50% shared overnights) (<i>n</i> =70)
Age of child (months)	57.29 57.21 – 57.37	57.36 57.06 – 57.66	57.44 57.20 – 57.68	57.49 56.53 – 58.46
Gender of respondent				
Female	97.75%	97.78%	97.66%	79.52%
Male	2.25%	2.22%	2.34%	20.48%
Partnered				
Yes	100%	29.44% 25.29% - 33.60%	44.71% 40.40% - 49.01%	51.32% 39.24% - 63.39%
No	0	70.56% 66.40% - 74.71%	55.29% 50.99% - 59.60%	48.68% 36.61% - 60.76%
Employment status				
Full-time	17.65% 16.62% - 18.69%	12.33% 9.03% - 15.63%	17.72% 14.30% - 21.13%	26.81% 15.15% - 38.47%
Part-time/casual	41.05% 39.65% - 42.45%	25.59% 21.37% - 29.82%	36.29% 32.21% - 40.38%	47.93% 34.95% - 60.91%
Not employed	41.30% 39.75% - 42.84%	62.07% 57.34% - 66.81%	45.99% 41.51% - 50.47%	25.26% 13.22% - 37.30%
Educational attainment				
Degree or higher	34.08% 31.93% - 36.24%	8.81% 6.13% - 11.49%	18.91% 15.09% - 22.73%	22.01% 11.69% - 32.33%
Other qualification	43.97% 42.34% - 45.59%	44.45% 39.19% - 49.71%	50.65% 45.70% - 55.60%	55.31% 43.22% - 67.39%
No qualification	21.95% 20.56% - 23.34%	46.74% 41.35% - 52.14%	30.44% 25.80% - 35.09%	22.68% 12.56% - 32.81%
Housing tenure				
Fully own/purchasing	76.33% 74.73% - 77.92%	23.64% 19.29% - 27.99%	32.45% 28.24% - 36.66%	24.30% 13.86% - 34.75%
Rent	20.78% 19.29% - 22.27%	67.3% 62.40% - 72.21%	61.29% 56.96% - 65.62%	59.48% 46.79% - 72.17%
Other	2.83% 2.42% - 3.24%	8.64% 5.84% - 11.44%	6.26% 4.04% - 8.49%	16.22% 5.32% - 27.12%
Main source of income				
Wages/salary	45.88% 44.35% - 47.40%	20.86% 16.58% - 25.15%	32.85% 28.93% - 36.77%	52.37% 39.07% - 65.66%
Self-employed	8.39% 7.62% - 9.15%	0.54% 0.21% - 1.29%	1.79% 0.71% - 2.87%	1.16% 1.13% - 3.45%
Gov’t income support	35.87% 34.03% - 37.70%	76.36% 71.84% - 80.88%	59.35% 54.88% - 63.83%	42.33% 28.99% - 55.67%
Other	9.87% 8.90% - 10.84%	2.24% 0.90% - 3.58%	6.00% 4.00% - 8.00%	4.14% 0.61% - 8.89%
Weekly income				
<\$500	65.71% 64.28% - 67.14%	61.33% 56.83% - 65.83%	43.82% 39.14% - 48.51%	39.82% 26.12% - 53.52%
500-999	24.25% 23.12% - 25.38%	33.32% 28.88% - 37.76%	46.64% 41.87% - 51.42%	42.24% 29.65% - 54.83%
1000-1999	8.66% 7.86% - 9.45%	4.80% 2.64% - 6.97%	8.53% 6.00% - 11.06%	17.94% 7.81% - 28.06%
>2,000	1.38% 1.02% - 1.73%	0.55% 0.02% - 1.11%	1.00% 0.26% - 1.74%	0
Health Care Card				
Yes	12.74% 11.44% - 14.04%	58.58% 53.28% - 63.88%	53.91% 49.15% - 58.67%	38.41% 25.60% - 51.21%
No	87.26% 85.96% - 88.56%	41.42% 36.12% - 46.72%	46.09% 41.33% - 50.85%	61.59% 48.79% - 74.40%
Hardship – past 12 months				
At least 1 item	29.65% 28.14% - 31.15%	68.07% 63.44% - 72.70%	56.88% 52.07% - 61.69%	58.91% 45.98% - 71.85%

Table 7b. Children aged 4–5 years (LSAC K cohort, Wave 1, 2004 and Wave 3 B cohort, 2008): Co-parental relationship characteristics reported by the respondent parent by frequency of overnight stays, with shared care at 35%+ overnights

	Rare overnight care (less than 1x per year) (<i>n</i> = 456)	Primary care (at least 1 night per month & <5 nights per fortnight) (<i>n</i> = 589)	Shared care (35% to 50% shared overnights) (<i>n</i> =70)
Ever married to PLE			
Yes	27.41% 22.30% - 32.51%	51.63% 47.16% - 56.10%	52.22% 39.98% - 64.46%
No	72.59% 67.49% - 77.70%	48.37% 43.90% - 52.84%	47.78% 35.54% - 60.02%
Ever lived with PLE			
Yes	59.56% 53.41% - 65.72%	83.85% 79.68% - 88.02%	94.60% 88.17% - 100%
No	40.44% 34.28% - 46.59%	16.15% 11.98% - 20.32%	5.40% 1.03% - 11.83%
Distance between households			
<5km	18.35% 13.88% - 22.81%	21.72% 18.24% - 25.20%	31.42% 19.42% - 43.42%
5-19 km	24.05% 18.69% - 29.41%	29.58% 25.53% - 33.64%	44.06% 30.59% - 57.53%
20-99 km	22.07% 17.33% - 26.81%	30.82% 26.68% - 34.95%	19.06% 9.31% - 28.80%
100-499 km	10.82% 7.42% - 14.22%	12.36% 9.49% - 15.24%	3.11% 1.07% - 7.29%
500+ km/Overseas	24.72% 20.18% - 29.25%	5.51% 3.58% - 7.45%	2.35% 0.93% - 5.63%
Co-parental relationship quality			
Get along well/very well	44.11% 38.93% - 49.30%	52.86% 48.00% - 57.71%	55.72% 43.17% - 68.27%
Neither well or poorly	23.39% 18.71% - 28.06%	26.54% 22.30% - 30.79%	31.38% 19.50% - 43.27%
Poorly/Very poorly/badly	32.50% 27.95% - 37.06%	20.60% 16.95% - 24.25%	12.90% 5.86% - 19.93%
Frequency of consultation about children			
Often/always/almost always	17.47% 13.60% - 21.34%	35.29% 31.16% - 39.43%	78.62% 69.02% - 88.22%
Sometimes	8.95% 5.82% - 12.08%	12.49% 9.23% - 15.75%	18.52% 9.09% - 27.94%
Never/almost never/rarely	73.58% 69.15% - 78.00%	52.22% 47.85% - 56.59%	2.87% 0.07% - 5.81%
Frequency of disagreements between parents			
Never/almost never/ rarely	39.34% 32.98% - 45.70%	37.80% 33.13% - 42.47%	39.13% 26.09% - 52.16%
Sometimes/ often/ almost always	60.66% 49.27-74.05%	62.20% 53.27-71.1%	60.87% 37.74-83.99%
Frequency of anger/hostility between parents			
Rare/occasional	77.20% 72.10% - 82.31%	80.57% 77.0% - 84.12%	75.09% 64.88% - 85.30%
Often/always	22.80% 17.69% - 27.90%	19.44% 15.88% - 23.00%	24.91% 14.70% - 35.12%

Demographics summary

Three clear patterns emerged across the above sets of tables. First, not surprisingly, the ‘*Parents Together*’ group were generally in a stronger socio-economic position than the separated parent groups. Second, parents living apart who reported ‘*rare overnight*’ parent–child contact were more likely to have not been married or to have never lived together than the other separated parent groups – suggesting weaker relationship connections that carried on through time. Third, parents living apart who reported ‘*rare (if any) overnight*’ parent–child contact reported more distant

(emotionally and physically) and conflicted relationships than separated parents of infants/children who stayed overnight at least one night a week or were in shared care. While ‘*rare (if any) overnight*’ parent–child contact each year is not the same as little or no face-to-face contact,⁴³ the consistency across many of the tables in relation to the co-parental relationship and socio-economic variables certainly suggests that troubled family dynamics and resources are important factors to be considered in any analysis of post-separation patterns of care among young children. Accordingly, we include such variables in the statistical modelling that follows in the next section.

One final reflection: although the policy and legislative agenda in recent years has had focus on shared parenting time, the data for the ‘*rare (if any) overnights*’ group in Tables 5 through 7 point to the importance of focusing on the big picture. While many might argue that the big picture is indeed the point of the recent shared care debate in Australia – to lower rates of ‘father absence’ – the jump from little or no overnight care to five nights a fortnight looks large, especially for very young children – with little discussion in Australia of the many possibilities in between (see McIntosh, 2009; Smyth, 2004b, 2005).

⁴³ Frequent daytime-only contact may have been occurring for some of the respondents who reported rare overnight parent–child contact.

II. The relationship between parenting arrangement and developmental outcomes

Our approach to exploring the relationship between parenting arrangement and psycho-emotional outcomes is descriptive and analytic. This section gives both levels of results for each age group in order. In the service of isolating significant independent effects on developmental outcomes of a particular form of parenting arrangement, regression analyses explored four models using the following hierarchical approach:

1. The impacts of overnight care arrangements
2. The impacts of overnight care arrangements, plus parenting style (parental warmth and parental hostility to child)
3. The impacts of overnight care arrangements, plus parenting style, and co-parenting relationship (disagreement, consultation, satisfaction with care arrangements, anger and hostility felt for the other parent)
4. The impacts of overnight care arrangements, plus parenting style, and co-parenting relationship, and demographics (sex of parent, education, employment and weekly income).

The hierarchical order was determined based on the theoretical frame of the study, namely the centrality of parenting in the determination of emotional regulation outcomes. In each model the shared parenting group is the reference against which the other parenting groups are compared.

Logistic regression was used for dichotomous outcome variables, and odds ratios (OR) calculated for each predictor variable and for each of the 4 levels of the model (the latter are reported in the body of this section). Odds ratios above one indicate increased risk and those less than one indicate lowered risk, with the significance of the findings indicated in our models by the p values⁴⁴.

Linear regression is used for continuous outcome variables, involving the interpretation of R-squared statistics. The R² figure indicates the extent to which the cluster of variables at each of the four levels accounts for the variance seen in the outcome of interest.

For each age group, psychosomatic outcomes are first presented, followed by emotional regulation outcomes. Once again we include the 'Parents Together/Intact' group in some figures and in the appended means tables as a comparison group of interest. The intact group are not included in the regression analyses.

Outcomes are presented in tabular form for all variables, and graphic form for variables where significant differences were found between the reference group (shared care) and one or both of the other overnight care groups. Tables of means, proportions and confidence intervals are appended.

⁴⁴ If $p < .05$ a given effect is considered to be statistically significant. In the text, we also note statistically non-significant trends up to .08 where a) with the benefit of larger samples, effects may be significant given their concurrence with like findings elsewhere in the data, or b) where they illustrate a pattern of interest for future research to consider. Support for this approach is increasingly common; for example, see Sterne and Davey Smith (2001).

Statistical modelling of each variable addresses the significance of the differences when the effects of parenting, relationships and SES are accounted for.

Infants under 2 years: developmental findings

Psychosomatic outcomes for infants under 2

As depicted below and detailed in Table 8, stage one group comparisons showed infants in ‘primary’ care were significantly more likely to have “no” illness with wheezing, relative to infants in shared care (1 night per week or more). Regression modelling showed the following. Group effect size was reduced after parenting, relationship and SES were added into the model, with a remaining non-significant trend ($p=.08$) for higher rates of wheezing in the ‘1 or more overnights care’ group than in the primary care group. Parenting hostility was the greatest independent predictor of illness with wheezing ($OR=1.61$, $p=.005$). (We graph this non-significant trend in Figure 3 to contrast it with findings presented in the following section for the same variable at the 2-3 year old level).

Differences in global health scores between groups were mostly accounted for by SES and parenting factors. Higher health scores were predicted by parental warmth ($OR=7.3$, $p=.001$). Differences in levels of concern about infant development (PEDS) were not significant when modelled across the four steps. Greater number of significant developmental concerns were predicted by low parenting warmth ($OR=.22$, $p=.008$) and low income ($OR=.15$, $p=.003$).

Figure 3. Overnight care group by illness with wheezing: infants under 2 years: Parent report (% reporting none, weighted %)

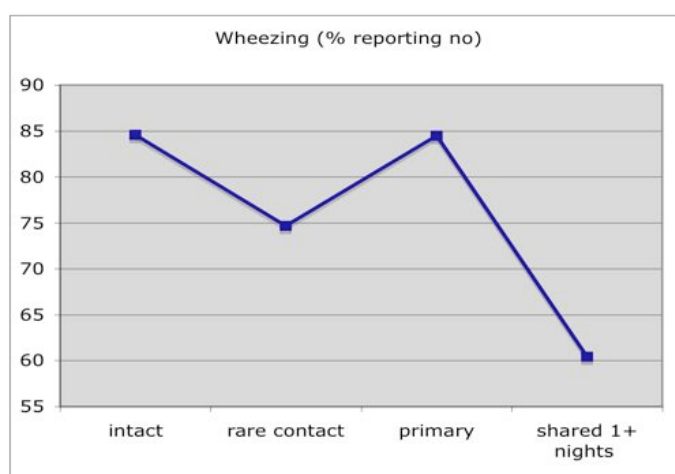


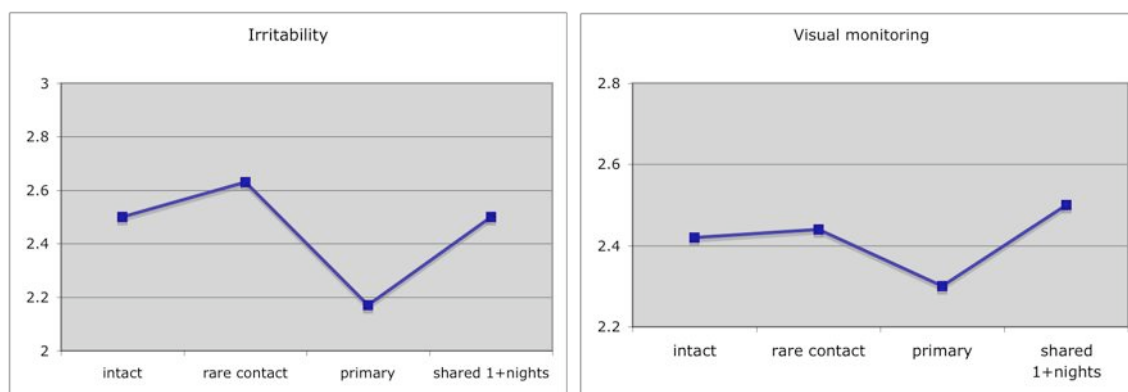
Table 8. Regressions of care arrangement, parenting style, parental relationships and demographics on illness with wheezing, global health and developmental concerns: Infants under 2 years

	Model 1			Model 2			Model 3			Model 4		
	Care Arrangements			Care Arr/t plus parenting style			Care Arr/t plus parenting style and parents' relationship			Care Arr/t plus parenting style, parents' relationship and SES		
Care Arrangement	OR	p		OR	p		OR	p		OR	p	
	95%CI			95% CI			95% CI			95% CI		
Illness with wheezing (ref category = 'no')	n = 247			n = 244			n = 170			n = 162		
Rare overnight care compared to Shared 1+ nights pw	0.52	0.08		0.46	0.04		0.45	0.11		0.45	0.13	
	0.25-1.07			0.22-0.97			0.17-1.20			0.16-1.28		
Primary care compared to Shared 1+ nights pw	0.28	0.05		0.26	0.05		0.29	0.07		0.27	0.08	
	0.08-1.01			0.07-0.99			0.07-1.12			0.06-1.18		
Global health rating (ref health fair/poor/good)	n = 244			n = 244			n = 170			n = 162		
Rare overnight care compared to Shared 1+ nights pw	1.52	0.34		1.73	0.24		1.25	0.69		1.05	0.94	
	0.64-3.62			0.69-4.31			0.42-3.68			0.34-3.23		
Primary care compared to Shared 1+ nights pw	2.18	0.35		2.74	0.20		3.53	0.10		2.50	0.23	
	0.42-11.32			0.60-12.66			0.78-15.85			0.56-11.10		
Significant developmental concerns (PEDS)	n = 246			n = 244			n = 170			n = 161		
Rare overnight care compared to Shared 1+ nights pw	0.96	0.94		1.10	0.85		0.97	0.96		1.02	0.98	
	0.37-2.51			0.41-2.93			0.31-3.07			0.28-3.68		
Primary care compared to Shared 1+ nights pw	0.25	0.21		0.24	0.23		0.32	0.33		0.18	0.42	
	0.03-2.17			0.02-2.40			0.03-3.15			0-11.35		

Emotional regulation outcomes for infants under two

Care pattern was associated with significant differences in infant irritability scores. Infants in the primary care group had lower ratings for irritability than infants in the '1 or more overnights' group ($B = -.31$, $p = .14$) which became significant as parenting ($B = -.40$, $p = .04$) and parent relationship ($B = -.39$, $p = .04$) were added to the model. The difference remained significant when socio-economic status was included in the model. Mean irritability scores for infants in rare overnight care were also higher than for the primary care group.

Figures 4-5. Infants under 2 years: Overnight care type by irritability and visual monitoring (parent report, weighted scale means).



Infants in the '1 or more overnights' group had higher levels of visual monitoring than infants in the primary contact group. This effect was not significant when parenting and socio-economic status were controlled for. Parenting warmth was associated with significantly lower levels of visual monitoring ($OR=.26, p=.006$). Differences between the rare contact and '1 or more overnights' group became significant when parent warmth and hostility and characteristics of parent's relationship were taken into account, and the effect persisted when socio-economic status was controlled for. Thus, infants in the '1 or more overnights' group were significantly more active in their attempts to monitor and maintain proximity to their primary caregiver than were infants in the 'rare (if any)' over-night care group.

There was no significant difference between groups on overt negativity shown by the infant to the LSAC interviewer. However, modelling showed that infants gave significantly more frequent and intense displays of negativity when their parent reported a poor relationship with the parent living elsewhere (PLE) ($OR=7.12, p=.01$) and toxic (hostile or angry) communication with the PLE ($OR=.16, p=.02$).

There was some evidence of an independent effect of the '1 or more overnights' parenting pattern on conflict between the infant and a carer when separated from the primary parent. Given the low response rate on this variable ($n=28$ in final model) we cannot formally report this finding. That said, we note for future research that such a finding would be consistent with the theoretical frame elaborated in the literature overview and is worth further consideration in future studies where sample sizes allow. (We consider this further in the Discussion section).

Therefore, for this group of infants under two years, controlling for parenting, co-parenting relationships and SES variables, regression modelling identified independent effects of the one or more overnights per week pattern for infant irritability, and visual monitoring of the primary

parent. These findings are in the hypothesized directions and are further discussed later in this report. Of the psychosomatic variables (global health, developmental concerns) most of the variance in outcomes between the three parenting patterns was due to factors other than the care arrangement itself. There was a non-significant trend ($p=.08$) for illness with wheezing to be more common in the shared care group than in the primary care group.

Table 9. Regressions of care arrangement, parenting style, parental relationships and demographics on irritability, visual monitoring (parent report), and negative response to stranger (LSAC interviewer report): infants under 2 years.

	Model 1 Care Arrangements		Model 2 Care Arr/t plus parenting style		Model 3 Care Arr/t plus parenting style and parents' relationship		Model 4 Care Arr/t plus parenting style, parents' relationship and SES	
Care Arrangement	B	p	B	p	B	p	B	p
	95% CI		95% CI		95% CI		95% CI	
Irritability	$R^2 = 0.03$		$R^2 = 0.10$		$R^2 = 0.09$		$R^2 = 0.13$	
	n = 173		n = 170		n = 115		n = 110	
Rare overnight care compared to 1+ nights pw	0.18	0.31	0.07	0.69	0.13	0.51	0.17	0.36
	-0.17-0.54		-0.27-0.41		-0.25-0.51		-0.19-0.53	
Primary care compared to 1+ nights pw	-0.31		-0.40		-0.39		-0.37	
	-0.73-0.10	0.14	-0.77--0.02	0.04	-0.76-0.01	0.04	-0.74-0	0.05
Visual monitoring	$R^2 = 0.01$		$R^2 = 0.12$		$R^2 = 0.19$		$R^2 = 0.21$	
	n = 218		n = 216		n = 151		n = 144	
Rare overnight care compared to 1+ nights pw	-0.08,	0.25	-0.10	0.17	-0.22	0.02	-0.22	0.02
	-0.23-0.06		-0.24-0.04		-0.41--0.04		-0.41--0.04	
Primary care compared to 1+ nights pw	-0.17	0.08	-0.17	0.12	-0.18	0.15	-0.15	0.21
	-0.37-0.02		-0.38-0.04		-0.42-0.06		-0.38-0.09	
Degree of negative response to strangers	n = 249		n = 244		n = 170		n = 161	
	OR 95% CI		OR 95% CI		OR 95% CI		OR 95% CI	
Rare overnight care compared to 1+ nights pw	1.43	0.38	1.38	0.44	1.24	0.67	1.02	0.98
	0.64-3.18		0.60-3.15		0.46-3.36		0.31-3.31	
Primary care compared to 1+ nights pw	1.79	0.37	1.67	0.43	1.87	0.37	1.80	0.52
	0.50-6.39		0.47-6.00		0.48-7.29		0.30-10.62	

2-3 year olds: Developmental findings

The following findings employ a definition of shared care at the current policy rate of five or more nights per fortnight (35% of nights, or 128 nights+ per year). Primary care refers to arrangements that involve overnights stays that occur at least once a month but less than five nights a fortnight, while 'rare' (if any) overnight care refers to arrangements that involve less than one overnight stay per year. All regression analyses used shared care as the reference group. For this group of older infants aged 2-3 years, child outcomes differed by care type on a number of variables, as illustrated in the figures below. Means and proportions are appended.

Psychosomatic outcomes: 2-3 year olds

Care pattern did not predict parent reported global health status, although a non-significant trend was noted for lower health scores in the rare care group (.06) relative to the shared and primary care groups. None of the factors within the control groups independently accounted for significant variance in global health reports.

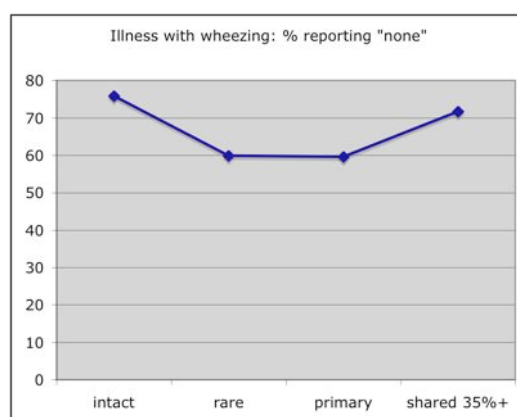
Unlike the infant group, in the 2-3 year old sample, rates of reported illness with wheezing were higher in the rare contact and primary parenting groups than the shared care group. Differences were non-significant until socio-economic status was taken into account. Interpretation is confounded here by apparent interaction effects likely between parent's gender and the shared care group (with mothers in shared care less significantly less likely to report wheezing than mothers in other groups⁴⁵). Reporting bias may impact on this variable. As the reporting parent in the rare and primary care groups saw the child over more days in an average fortnight than parents in shared care schedules, they may have more opportunity to notice wheezing, even if the child is otherwise healthy.

Table 10. Regressions of care arrangement, parenting style, parental relationships and demographics on global health and illness with wheezing (parent report)

	Model 1 Care Arrangements			Model 2 Care Arr/t plus parenting style			Model 3 Care Arr/t plus parenting style and parents' relationship			Model 4 Care Arr/t plus parenting style, parents' relationship, SES		
Care Arrangement	OR	95%CI	P	OR	95% CI	P	OR	95% CI	P	OR	95% CI	P
Global health rating (ref health v.good/excellent)	n = 585			n = 308			n = 236			n = 236		
Rare (if any) overnight care compared to Shared care (35%+)	1.90	0.53-6.78	0.32	2.62	0.57-12.00	0.21	3.25	0.65-16.33	0.15	3.73	0.93-15.04	0.06
Primary care compared to Shared care (35%)	0.97	0.26-3.68	0.97	1.20	0.24-6.06	0.83	1.38	0.26-7.40	0.70	1.53	0.36-6.60	0.56
Child had illness with wheezing (ref none)	n = 581			n = 320			n = 250			n = 250		
Rare (if any) overnight care compared to Shared care (35%+)	1.70	0.61-4.75	0.31	1.86	0.52-6.61	0.34	2.02	0.52-7.92	0.31	4.46	1.18-16.83	0.03
Primary care compared to Shared care (35%)	1.74	0.62-4.89	0.29	1.74	0.48-6.29	0.40	1.78	0.46-6.87	0.40	3.70	1.03-13.25	0.05

45 Mother's wheezing report for 2-3 year olds by overnight group: Pearson Chi-Square=52.65, df=6, p=.000.

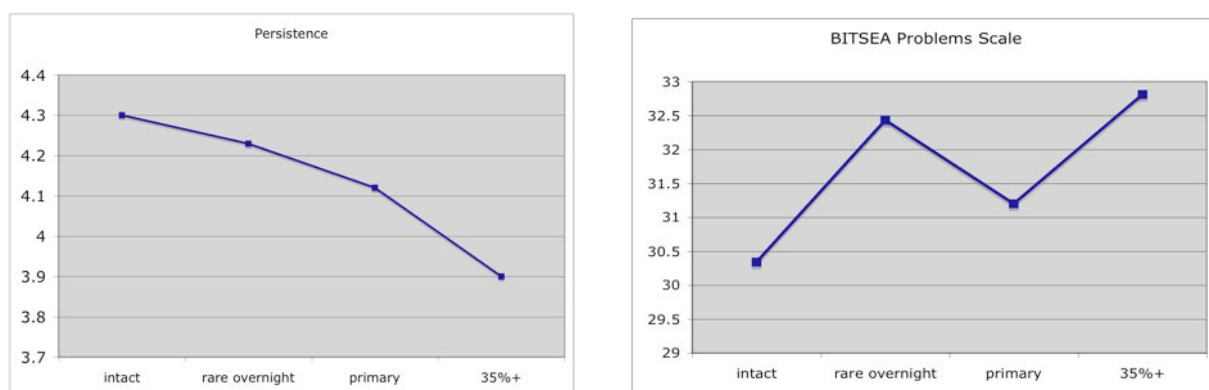
Figure 6. Overnight care group by illness with wheezing: 2-3 year olds: Parent report (% reporting none, weighted %)



Emotional regulation outcomes: 2-3 year olds

The patterns for 2-3 year olds on emotional regulation items are similar to the infant data reported in the previous section. Significant group differences were found, with greater psycho-emotional difficulties for the shared care group evident on the persistence sub-scale and BITSEA problems scale. The direction of scores is shown in the figures below, and results of regression analyses presented in Table 11.

Figures 7- 8. Infants aged 2-3 years: Persistence, and BITSEA problems (carer report) weighted means and proportions



The results of four stage regression modelling (see Table 11) show that 2-3 years olds in the shared care group had significantly lower persistence scores than children in the rare contact and primary parenting groups. This effect was significant for both groups when parent warmth and hostility, relationship and socioeconomic status were taken into account. (Of note, this independent effect is also significant when 2-3 year old shared care is defined at only one night per week or more). Children were rated as significantly more persistent when the primary parent was warmer in their parenting style ($p=.004$).

Children in the shared care group had significantly higher (that is, more problematic) scores on the BITSEA problems scale than children in the primary parenting group. This difference was statistically significant after parent warmth and hostility and relationship were taken into account and remained significant with the inclusion of socioeconomic status in the model. Elevated items scores for the shared care group clustered around distressed behaviour expressed in the context of parent-child interaction (for example, 'Cries or hangs on to parent when he/she tries to leave'; 'Worries a lot or is very serious'; 'Does not react when hurt'; 'Often gets very upset'; 'Gags or chokes on food'; 'Refuses to eat'; 'Hits, bites or kicks parent/s'). Items pertaining to peer conduct, social adjustment, and sleeping were not elevated for the shared care group.

More problematic behaviour was also predicted by poor co-parenting relationships ($B=-2.95$, $p=.001$), low parental education levels ($B=-2.06$, $p=.026$) and higher parenting hostility ($B=.66$, $p=.005$).

Differences in scores on the PEDS emotional functioning scale, carer reported conflict and degree of negative response to a stranger were not significant between the overnight care groups. Parenting hostility ($B=-2.35$, $p=.000$) and low warmth ($B=-5.90$, $p=.002$) were the strongest predictors of emotional symptoms for 2-3 year olds. None of the predictor variables were significantly associated with out of home carer conflict ratings or with the child's response to the LSAC interviewer.

In summary for the 2-3 year olds, the majority of difference between group means on psychosomatic health outcomes was accounted for by factors other than care type. Regression modelling identified significant independent impacts of the shared care group (5 or more nights per fortnight) on two emotional regulation outcomes: persistence and the BITSEA problems scale. Direction of scores was the same on the PEDS emotional functioning scale and Conflict with Carer scales, but differences were non-significant. Poorer emotional functioning of the young child was significantly associated with greater anger and lower warmth in parenting, and with higher rates of disagreement between the child's parents.

Table 11. Regressions of care arrangement, parenting style, parental relationships and demographics on Persistence, BITSEA problems, PEDS emotional functioning (parent report), degree of negative response to stranger (LSAC interviewer report), and carer conflict (carer report): 2-3 year olds.

	Model 1 Care Arrangements			Model 2 Care Arr/t plus parenting style			Model 3 Care Arr/t plus parenting style and parents' relationship			Model 4 Care Arr/t plus parenting style, parents' relationship & SES		
	B	95%CI	p	B	95% CI	p	B	95% CI	p	B	95%CI	p
Persistence	R ² = 0.01 n = 329			R ² = 0.09 n = 319			R ² = 0.13 n = 249			R ² = 0.13 n = 249		
Rare (if any) overnight care compared to Shared care (35%+)	0.31	0.01-0.60	0.04	0.30	0.24-0.58	0.03	0.39	0.12-0.67	0.01	0.42	0.13-0.72	0.01
Primary care compared to Shared care (35%)	0.19	-0.14-0.53	0.26	0.21	-0.11-0.52	0.19	0.29	-0.01-0.59	0.06	0.32	0.01-0.64	0.05
BITSEA problem scale	R ² = 0.01 n = 559			R ² = 0.05 n = 320			R ² = 0.13 n = 250			R ² = 0.16 n = 250		
Rare (if any) overnight care compared to Shared care (35%+)	-0.37	-2.68-1.93	0.75	-0.68	-3.08-1.73	0.58	-1.65	-4.04-0.73	0.17	-1.95	-4.11-0.21	0.08
Primary care compared to Shared care (35%)	-1.60	-3.92-0.71	0.17	-1.82	-4.23-0.59	0.14	-2.75	-5.05--0.46	0.02	-2.92	-4.97--0.87	0.01
PEDS emotional functioning	R ² = 0.01 n = 325			R ² = 0.05 n = 318			R ² = 0.13 n = 247			R ² = 0.16 n = 247		
Rare (if any) overnight care compared to Shared care (35%+)	4.27	-5.23-13.75	0.38	4.32	-4.64-13.29	0.34	6.75	-2.47-15.97	0.15	3.95	-6.40-14.30	0.45
Primary care compared to Shared care (35%)	2.71	-6.91-12.33	0.58	2.73	-6.19-11.66	0.55	4.32	-4.90-13.54	0.36	2.09	-7.77-11.94	0.68
Teacher/carers reported conflict	R ² = 0.03 n = 129			R ² = 0.10 n = 87			R ² = 0.10 n = 60			R ² = 0.11 n = 60		
Rare (if any) overnight care compared to Shared care (35%+)	-0.34	-0.85-0.16	0.18	-0.22	-0.73-0.29	0.40	-0.33	-0.84-0.17	0.19	-0.35	-0.88-0.18	0.19
Primary care compared to Shared care (35%)	-0.04	-0.62-0.53	0.88	0.20	-0.41-0.80	0.52	-0.16	-0.63-0.31	0.49	-0.22	-0.66-0.23	0.33
Degree of negative response to strangers	n = 585 OR 95% CI			n = 320 OR 95% CI			n = 250 OR 95% CI			n = 250 OR 95% CI		
Rare (if any) overnight care compared to Shared care (35%+)	1.33	0.80-2.19	0.27	1.25	0.71-2.21	0.43	1.08	0.57-2.07	0.80	1.11	0.58-2.12	0.74
Primary care compared to Shared care (35%)	0.92	0.44-1.91	0.82	0.56	0.20-1.58	0.27	0.66	0.23-1.95	0.45	0.66	0.22-2.01	0.46

4-5 year olds: Developmental findings

Psychosomatic Outcomes: 4-5 year olds

Differences in parents' reports of global health status and illness with wheezing were not significant between the overnight care groups at the 4-5 year mark when parenting, parenting relationship and SES variables were accounted for. Increased concern about global health was significantly associated with angry disagreement between parents, and angry parenting. Wheezing was associated with both lower parental education and income, and with angry parenting.

Table 12. Regressions of care arrangement, parenting style, parental relationships and demographics on illness with wheezing & global health (parent report): 4-5 year olds

	Model 1 Care Arrangements		Model 2 Care Arr/t plus parenting style		Model 3 Care Arr/t plus parenting style and parents' relationship		Model 4 Care Arr/t plus parenting style, parents' relationship & SES	
	OR 95% CI	p	OR 95% CI	p	OR 95% CI	p	OR 95% CI	p
Child had illness with wheezing (ref none)	n = 1208		n = 1121		n = 988		n = 838	
Rare (if any) overnight care compared to Shared care (35%+)	1.06 .51-2.19	0.86	1.04 .51-2.12	0.91	0.83 .39-1.76	0.63	0.85 .36-1.99	0.71
Primary care compared to Shared care (35%)	1.37 .68-2.74	0.37	1.27 .64-2.49	0.48	1.18 .60-2.32	0.62	1.16 .53-2.56	0.70
Global health rating (ref health fair/poor/good)	n = 1215		n = 1128		n = 994		n = 844	
Rare (if any) overnight care compared to Shared care (35%+)	0.58 0.25-1.31	0.19	0.45 0.18-1.14	0.09	0.53 0.19-1.48	0.23	0.67 0.22-2.05	0.48
Primary care compared to Shared care (35%)	0.65 0.28-1.50	0.31	0.55 0.21-1.44	0.22	0.57 0.21-1.56	0.27	0.73 0.25-2.16	0.57

Psycho-emotional outcomes: 4-5 year olds

Persistence scores did not differ between the overnight care groups at this age. In all groups, poor persistence was significantly associated with higher anger and less warmth in parenting.

Table 13. Linear regression of care arrangement, parenting style, parental relationships and demographics on persistence (parent report): 4-5 year olds

	Model 1 Care Arrangements		Model 2 Care Arr/t plus parenting style		Model 3 Care Arr/t plus parenting style and parents' relationship		Model 4 Care Arr/t plus parenting style, parents' relationship & SES	
Persistence	R ² = 0.00 n = 965		R ² = 0.07 n = 964		R ² = 0.07 n = 862		R ² = 0.09 n = 721	
	B	p	B	p	B	p	B	p
	95%CI		95% CI		95% CI		95%CI	
Rare (if any) overnight care compared to Shared care (35%+)	-0.46 -0.31-0.22	0.74	-0.02 -0.28-0.23	0.87	-0.03 -0.30-0.24	0.82	0.04 -0.26-0.34	0.80
Primary care compared to Shared care (35%)	-0.03 -0.29-0.23	0.83	0.00 -0.26-0.26	0.10	-0.03 -0.30-0.23	0.81	0.04 -0.24-0.31	0.79

Apparent group differences on the SDQ total score and emotional symptoms scale (teacher rated) were non-significant throughout the modelling. For each variable, mean scores for the rare (if any) overnight contact group were higher than for the primary care or shared care groups. These differences were not significant when SES, parenting and parent relationship variables were controlled for.

Table 14. Linear regressions of care arrangement, parenting style, parental relationships and demographics on SDQ total, Teacher rating: 4-5 year olds.

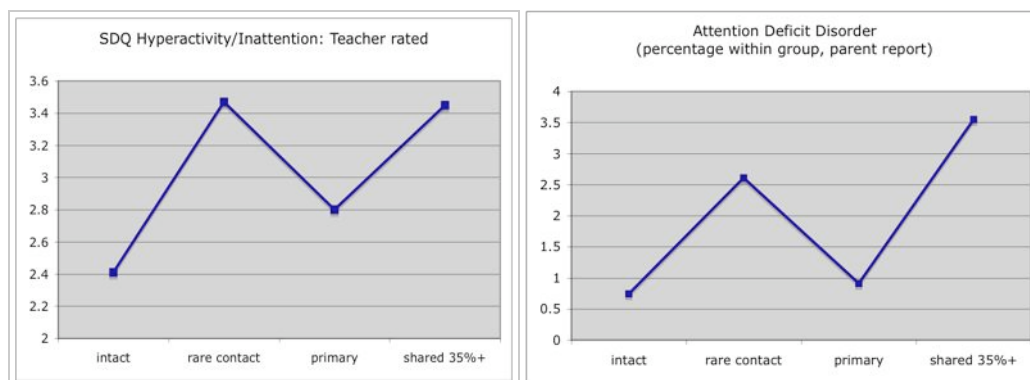
	Model 1 Care Arrangements		Model 2 Care Arr/t plus parenting style		Model 3 Care Arr/t plus parenting style and parents' relationship		Model 4 Care Arr/t plus parenting style, parents' relationship and SES	
SDQ Total (teacher rated)	R ² = 0.01 n = 763		R ² = 0.03 n = 712		R ² = 0.03 n = 645		R ² = 0.06 n = 538	
	B	p	B	p	B	p	B	p
	95%CI		95% CI		95% CI		95%CI	
Rare (if any) overnight care compared to Shared care (35%+)	1.15 -0.87-3.17	0.26	1.26 -0.86-3.38	0.24	1.03 -1.14-3.20	0.35	1.75 -0.30-3.80	0.09
Primary care compared to Shared care (35%)	-0.30 -2.17-1.57	0.75	0.018 -2.17-1.80	0.86	0.09 -1.84-2.03	0.93	0.84 -1.00-2.69	0.37

Four to five year olds in shared care arrangements (and rare overnight care) scored higher on the SDQ hyperactivity scale (teacher rated) than primary care children. These differences were statistically non-significant. Hyperactivity/inattention problems were significantly associated with angry parenting (B=.71, p=.000).

Table 15. Linear regressions of care arrangement, parenting style, parental relationships and demographics on Emotional symptoms and Hyperactivity/Inattention SDQ Teacher rating, 4-5 year olds.

	Model 1 Care Arrangements	Model 2 Care Arr/t plus parenting style	Model 3 Care Arr/t plus parenting style and parents' relationship	Model 4 Care Arr/t plus parenting style, parents' relationship and SES
SDQ Emotional symptoms	R ² = 0.01 n = 763	R ² = 0.09 n = 712	R ² = 0.09 n = 645	R ² = 0.11 n = 538
	B 95% CI P	B 95% CI P	B 95% CI P	B 95% CI P
Rare (if any) overnight care compared to Shared care (35%+)	0.40 -0.08-0.88 0.10	0.23 -0.25-0.71 0.35	0.18 -0.31-0.67 0.47	-0.07 -0.65-0.51 0.82
Primary care compared to Shared care (35%)	0.02 -0.43-0.48 0.93	-0.08 -0.56-0.41 0.75	-0.05 -0.51-0.42 0.85	-0.10 -0.67-0.47 0.73
SDQ Hyperactivity	R ² = 0.01 n = 763	R ² = 0.03 n = 712	R ² = 0.04 n = 645	R ² = 0.06 n = 538
	B 95% CI P	B 95% CI P	B 95% CI P	B 95% CI P
Rare (if any) overnight care compared to Shared care (35%+)	0.02 -1.12-1.17 0.97	0.05 -1.15-1.24 0.94	-0.14 -1.36-1.09 0.83	0.20 -1.02-1.42 0.75
Primary care compared to Shared care (35%)	-0.65 -1.73-0.43 0.24	-0.60 -1.73-0.53 0.30	-0.48 -1.60-0.65 0.40	-0.15 -1.26-0.95 0.79

The Hyperactivity findings, though non-significant, are charted in Figure 9 to assist with further discussion related to post-hoc exploration and developmental patterns across the age groups. Through an attachment lens, we were interested in our post hoc considerations to see if the hyperactivity scale pattern was replicated in the related area of attention deficit⁴⁶, and thus as a first step, explored proportions of ADD reported by parent 1, within groups.

Figures 9 and 10. Care type by SDQ hyperactivity/inattention: Teacher rating (weighted mean scores) & Attention Deficit Disorder among 4–5 year olds: Parent report

⁴⁶ See Clarke, Ungerer, Chaoud, Johnson, & Stiefel (2002), and Schmidt Neven, Anderson & Godber, 2002 for discussion of ADD within an attachment/emotional regulation framework.

Figure 10 shows a similar pattern of group differences on parents' reports of attention deficit disorder with scores for the rare care and shared care groups similarly elevated. Cell sizes were too small for modelling of this variable, thus significance is untested. Proportions (see Appendix 3) are simply flagged here for our later discussion of developmental lines as traced in this study and future research directions.

With respect to the children's interactions with teachers and strangers, once control variables were included, no differences due to overnight care type were found. Reports of conflict with the child by the teacher were significantly more likely with higher levels of angry parenting. Degree of negativity to the LSAC interviewer was not clearly associated with any of the variables examined.

Table 16. Regressions of care arrangement, parenting style, parental relationships and demographics on carer conflict (teacher rated) and degree of negative response to stranger (LSAC interviewer rated): 4-5 year olds.

	Model 1 Care Arrangements		Model 2 Care Arr/t plus parenting style		Model 3 Care Arr/t plus parenting style and parents' relationship		Model 4 Care Arr/t plus parenting style, parents' relationship and SES	
Carer conflict (teacher rated)	R ² = 0.01 n = 762		R ² = 0.03 n = 711		R ² = 0.03 n = 711		R ² = 0.03 n = 682	
	B	p	B	p	B	p	B	p
	95%CI		95% CI		95% CI		95%CI	
Rare (if any) overnight care compared to Shared care (35%+)	0.26 0.03-0.49	0.03	0.22 0-0.45	0.06	0.22 -0.01-0.46	0.06	0.21 -0.05-0.47	0.11
Primary care compared to Shared care (35%)	0.14 -0.06-0.33	0.18	0.10 -0.10-0.31	0.33	0.11 -0.11-0.31	0.32	0.10 -0.12-0.32	0.37
Degree of negative response to strangers (ref = none)	n = 1095		n = 1030		n = 908		n = 778	
	OR	p	OR	p	OR	p	OR	p
	95%CI		95% CI		95% CI		95%CI	
Rare (if any) overnight care compared to Shared care (35%+)	1.91 .96-3.78	0.07	1.82 .89-3.69	0.10	1.78 .86-3.69	0.12	2.05 .86-4.8	0.11
Primary care compared to Shared care (35%)	1.61 .81-3.2	0.18	1.45 .71-2.96	0.29	1.38 .67-2.84	0.38	1.45 .62-3.39	0.39

Thus, unlike the under 4 year old groups, for the 4–5 year old group, the findings do not indicate an independent association between any particular care arrangement and emotional regulation outcomes as examined in this study. The vast majority of variation between groups was accounted for by factors other than parenting pattern, with particular emphasis on the impact of angry parenting and a lack of warmth in parenting on children's self-regulatory capacities at this age.

DISCUSSION

This study applied a theoretical lens adopted from attachment theory and related developmental research to explore the relationship between post-separation over-night care arrangements and developmental outcomes for infants and young children. Our specific focus was on emotional regulatory processes in early development. Emotional regulation manifests somewhat differently across developmental stages, at first as a heavily dependent co-regulatory capacity, wherein the infant is supported through a consistent primary attachment relationship to be soothed when distressed and to manage an array of physical and emotional need states. By age 4-5 years, the growing child is able increasingly to self-soothe, to attend to and independently manage a growing number of feelings associated with being in need. Difficulties with emotional regulation are linked with insecurity in the early attachment relationship, and later with a host of behavioural and interpersonal problems for the young child (Sroufe et al., 2005). Consistency and quality of the primary attachment relationship in infancy are high amongst a psychosocial cohort of factors relevant to emotional regulation outcomes. In this light, our core question was whether the frequency of overnight care was linked to emotional regulation and stress in infants and young children.

Three age groups from the Longitudinal Study of Australian Children (LSAC) dataset were explored: infants under 2 years (B1 cohort), older infants 2-3 years (B2 cohort), and 4-5 year olds (B3 and K1 cohorts combined). Three forms of overnight care were studied. We distinguished higher frequency from lower frequency overnight care, and included a third group who had some day contact but rarely if ever had overnight care. In line with current legislative terminology, we adopted the terms '*shared care*' to reflect the highest frequency of overnight stays groups, and '*primary*' to reflect situations in which the young child lives in a primary home, whilst having steady but lower frequency overnight contact with the non-primary parent.

In this section, we summarise and consider the findings for each of the three age groups in turn.

Summary of findings: Infants under two years

For the under 2 year old infant group, overnight time with the parent living elsewhere (PLE) was defined as 'rare (if any) overnights' (overnights less than once per year but with some day contact), 'primary care' (an overnight stay at least once a month but less than once a week) or 'one or more nights a week' with the PLE. Regression modelling used 'one or more nights per week' as the reference group against which rare (if any) overnight care and primary care were compared.

On the variables examined, overnight care with the parent living elsewhere once or more per week had an independent effect in the following three areas:

1. Higher irritability than infants in primary care. Specifically, items comprising this scale refer to the infant being fretful on waking up and/or going to sleep, difficulty amusing self for a

length of time, continuing to cry in spite of several minutes of soothing, crying when left to play alone. Of all groups, infants in primary care arrangements had the lowest irritability scores.

2. More vigilant visual monitoring of and maintenance of proximity with the primary parent than infants having rare overnight care. This effect remained significant when parenting and SES were taken into account. More vigilant monitoring than infants in primary care was evident at the group level, but this difference was not significant after accounting for parenting and SES. Of all groups, infants in the care of the PLE at least one night a week were most active in monitoring the proximity of their primary parent.
3. A non-significant trend ($p=.08$) for higher rates of wheezing in shared care infants than infants in a primary care arrangement.

Type of overnight care arrangement was not a significant factor in differences observed in global health, global developmental concerns, or degree of negative response to the LSAC interviewer.

Consideration of the infant findings:

Findings indicate some areas of significant difference between infants in overnight care with the parent living elsewhere at the rate of one night per week or more, compared to infants in rare overnight contact or primary care (overnight contact that occurred less than weekly but more than monthly). Shared care at one night per week or more was associated with an added degree of vulnerability relative to primary care in two areas of emotional regulation: irritable behaviours, and greater monitoring of proximity of the primary carer. We also note for further discussion a non-significant trend ($p=.08$) for higher rates of wheezing.

Attachment theory would predict this set of outcomes for infants who experience regular, prolonged disruption to care-giving by the primary carer. High frequency or continuing behaviours such as being fretful and difficult to soothe when separating from the parent, crying, seeking out the primary carer, and being unable to settle to play alone are reliable indices of stress in the context of the parent-child attachment (Ainsworth, Blehar, Waters, & Wall, 1978).

Attachment studies over several decades show that repeated and prolonged absence from the primary caregiver creates for the young infant a disruption in sensitive response from that primary caregiver, which is uniquely stressful. At this phase of cognitive development, repeated separation is both beyond the infant's control and beyond their cognitive ability to predict, comprehend or resolve. The resulting stress and distress is typically expressed on reunion with the primary carer, through irritable, unsettled, angry, or ambivalent behaviours, and over time, through psychosomatic symptoms. Across cultures, the causal relationship between sensitive, prompt and reliable responses to the infant's attachment signals, attachment security and regulated emotional responses by the

infant to stress are well documented (Bakermans-Kranenburg, van Ijzendoorn & Juffer, 2003; Belsky & Fearon, 2008; van Ijzendoorn & Sagi-Schwartz, 2008).

In the context of divorce/separation, less is known about the impact of repeated overnight separation from the primary attachment figure (for example, mother) in order to be with another attachment figure (for example, father). Theoretically the impacts are likely to be different than, for example, repeated hospitalisation involving stranger care, repeated foster care, and so on. The current study should not be compared with those types of separation scenarios and their impacts. What this study does describe, however, is a picture of developmental strain for the infant when involved in repeated overnight separation from the primary care-giver, even when the infant is being cared for during that time by their other parent.

These findings echo those of Solomon and George (1999). In the context of divorce, regular, overnight time away from the primary caregiver at the rate of one night per week or more was found by Solomon and George to be associated with greater propensity for anxious, unsettled behaviour in infants when with the primary caregiver, and greater propensity for development of disorganized attachments. In the context of Kibbutzim studies (Sagi, van Ijzendoorn, Aviezer, Donnell, & Mayseless, 1994; Sagi-Schwartz & Aviezer, 2005), overnight time away from the mother made a difference to infant outcomes, with greater rates of unsettled and ambivalent behaviours in infants cared for overnight by a Kibbutzim carer during the week, despite daily contact and weekend night contact with their biological mothers.

While two or more secure attachments are associated with competent outcomes in later childhood and are preferable to one, and certainly to none, Cassidy (2008) summarizes mother–infant attachment studies (Howes, Rodning Galluzzo & Myers, 1988; Main, Kaplan and Cassidy, 1985; Main & Weston, 1981; Sagi-Schwartz & Aviezer, 2005) showing the importance of first consolidating security with the primary caregiver in the young infant’s attachment hierarchy:

“The research that is available suggests that when a child is securely attached to one individual and insecurely attached to another, the child behaves more competently when the secure attachment is with the mother than when it is with the other attachment figure.”
(Cassidy, 2008; p. 17)

In an increasingly complex social world, important questions include: What if the father is the primary attachment figure, and the mother is the parent living elsewhere? Does gender of the primary attachment figure matter? Empirical answers are yet forthcoming, and the LSAC data unfortunately do not permit contrasting the gender of the resident parent, given that in the infant cohort, 99% of respondent parents (the parent who knows the infant best) were mothers.

Emerging developmental neuroscience (Schore, 2010; Ziabreva et al., 2003) suggests that the establishment and consolidation of the infant’s limbic system circuits in the first 24 months is critically enhanced by mother–infant interaction, with the adult female right brain being differentially ‘wired’ for the tasks involved in co-regulating the infant’s developing autonomic nervous system,

such as reading subtle visual cues and facial expressions, contingent responsiveness and emotional regulatory interactions. Schore (in Schore, Siegel, McIntosh, forthcoming) summarises neurological research suggesting that after the age of 24 months, fathers or adult male caregivers are thought to provide crucial support for developing left brain functions, including language, and the management of aggression.

Other aspects of attachment theory suggest that gender of the primary parent is secondary to the sensitivity of each parent's responsiveness to the infant and that much of the variance in infant outcomes is foremost about the resulting security of the primary attachment relationship. Thus, in the context of parental separation, vulnerabilities in infant emotional and psychosomatic outcomes, like those identified in the current study, are not engendered by having two loving caregivers in the infant's life, but by inadvertent disruption to continuity and quality of the infant's attachment relationship with their primary caregiver – whomever that may be. We are hopeful that our findings will encourage the collection of robust yet sufficiently nuanced data that will permit the exploration of these gender questions.

What other explanations should be considered in understanding the associations between overnight care patterns and infant outcomes as explored here? The role of cognitive development and the unique place of overnight separation need to be considered. Infants under two years of age do not have the cognitive capacity for comprehending time, understanding the reasons for separation, predicting reunion, and so forth – all of which are cognitive capacities that can alleviate stress for the older child when moving between home and any other care setting. Developmental researcher Carol George considers the role of cognitive development in managing overnight separations in this way (George, Solomon & McIntosh, forthcoming)⁴⁷

“A baby can't imagine what tomorrow is. With a child we can say 'OK you can go and do this or the other now and tomorrow will be this', which is what we do with children in preschool. Three years tends to be the beginning of a developmental shift, where children don't necessarily understand, but where they can, at least with help from the adults around them, keep these relationships alive with pictures and talking to the other parent on the phone.”

The question also arises; what was it about overnight care that mattered? Why should one or more overnights per week be associated with greater infant irritability and more vigilant monitoring of proximity to the primary parent? Given the majority of LSAC babies in our sample were having some regular daytime contact with the parent living elsewhere, the distinction is important. Neurobiological research (Schore, 2010) shows that at night time the infant is shifting from high arousal to a low arousal sleep state, and that this transition is a critical point where co-regulation of

⁴⁷ Professor Carol George, November 3, 2009. Interview with Jennifer McIntosh for the Family Court Review. Extract used with permission.

affect and homeostasis is required from the caregiver. Sir Richard Bowlby⁴⁸ provides a useful perspective to this question (Bowlby & McIntosh, forthcoming):

“Humans have certain innate fears. These are the fears we’re actually born with, they’re part of our genetic code. And one of them is fear of the dark..... Children do instinctively feel vulnerable at night, and are instinctively driven by their attachment seeking behaviour to seek proximity to their primary attachment figure for safety and security.”

The findings of the Minnesota Longitudinal study of child development suggest that coping with ongoing, chronic levels of arousal of this kind imposes a low grade, constant developmental strain on the young child, a strain which simply makes the psycho-emotional developmental task more difficult. If separated from the primary attachment figure, can a young infant cope during experiences of fear, or during shifts in autonomic arousal if they have to? Alan Sroufe, principal researcher on the Minnesota Longitudinal Study of Child Development provides this interpretation (Sroufe & McIntosh, forthcoming)⁴⁹:

“You are simply making the infant’s job harder. The infant’s job is to try to organise their behaviour to make the world be a predictable and understandable place where they can get their needs met and they won’t be too stressed. Their job is to try and keep their arousal modulated. They’re unable to do that by themselves. Their job is the easiest when things are regular, predictable, and responsive to them. Their job is harder the more transitions they have to deal with, the more uncertainty there is.”

While not significant at the .05 level, higher rates of wheezing in the shared care group relative to the primary care group are congruent within the attachment/stress hypothesis articulated above. As outlined in the literature review, several studies confirm a link between a negative emotional family environment and onset of asthma and wheezing in infancy (Berz, et al., 2007; Klinnert, Kaugars, Strand, & Silveira, 2008; Shankardass, et al., 2009). The ‘domino effect’ in marital conflict and disruption suggested by Troxel and Matthews (2004) occurs via compromised parenting practices, leading to children’s deficits in affective, behavioral, and cognitive domains. These deficits, in turn, are hypothesized to increase health risk by altering physiological stress-response systems, including neuroendocrine, cardiovascular, and neurotransmitter functioning. In this light, we suggest the trend for increased wheezing in infants in regular overnight care found in this study, though non-significant within this small sample size, may thus warrant future exploration within larger datasets.

Finally, we note again that the sample size for the primary care group was relatively small ($n = 21$), and thus findings should be interpreted with this in mind. Other possible explanations and directions of causation to be considered include a bias in the type of infants whose care is more likely

⁴⁸ Sir Richard Bowlby, January 19, 2010. Interview with Jennifer McIntosh for the Family Court Review. Extract used with permission.

⁴⁹ Professor Alan Sroufe, November 5, 2009. Interview with Jennifer McIntosh for the Family Court Review. Extract used with permission.

to be shared. Are irritable, anxious infants simply more likely to be shared? Do their parents want time out? Are environmental factors at play here? Might moving between households more frequently be a factor? Research to explicate the various possibilities is both theoretically intriguing and practically inviting.

Summary of findings: 2 - 3 year olds

For the 2 - 3 year old children, overnight time with the parent living elsewhere (PLE) was defined as 'rare (if any) overnights' (overnights less than once per year but with some day contact), 'primary care' (an overnight stay at least once a month but less than 5 nights per fortnight), or 'shared care' based on the policy definition of five or more nights per fortnight (35%+ overnights) with the PLE.

In the 2-3 year old sample, after parenting, parent relationship and SES controls were included in the statistical model, two independent effects of shared care arrangements (35%+ overnights with each parent) were identified:

1. Lower levels of persistence than either the 'rare' or 'primary care' groups (the ability to play continuously, stay with routine tasks, examine objects thoroughly, practice new skills and return to an activity after a brief interruption, in the presence of the respondent parent). Of all groups, the 'shared care' children had the lowest levels of persistence.

2. More problematic behaviours on the BITSEA problems scale than the primary care group, and non significant trend with respect to the rare contact group ($p=.08$). Specifically, the 'shared care' group relative to the primary care group showed more distressed behaviours in the context of parent-child interaction and caregiving (crying or hanging on to the parent when he/she tries to leave; worrying a lot or seeming very serious; not reacting when hurt; often becoming very upset; gagging or choking on food; refusing to eat; hitting, biting, or kicking the parent).

One effect in the opposite direction was noted:

3. In this age group, and with these definitions of overnight care, parents of shared care children were less likely to report wheezing than were parents of children in rare or primary arrangements. Interpretation of this outcome is complex. Although gender of parent was controlled for in the regression model (level 4), complex interaction effects of gender with care type appear evident. Mothers in shared arrangements were significantly less likely to report wheezing than were mothers in other overnight groups. We were not able to formally test these interactions due to sample size constraints, therefore advocate caution in interpretation. Wheezing was independently predicted by low parental income.

Overnight care arrangement was not significantly associated with emotional functioning, conflict with day carers or degree of negative response shown to the LSAC interviewer.

Thus, for children age 2-3 years, analyses of the LSAC data indicate significant associations between shared overnight care at the rate of five nights per fortnight or more, and problematic behaviour and poor persistence. Lower rates of reported wheezing in the shared care group were evident, but most of the variance was accounted for by the gender of the reporting parent and low income level. As with the Solomon and George (2009) findings, in addition to the care arrangement itself, findings for the 2-3 year olds point to the significant contributions of low parenting warmth, angry parenting, and high rates of disagreement between parents in explaining negative outcomes for this age group.

Consideration of the 2 - 3 year findings

With respect to emotional regulation outcomes in this 2-3 year age group, after parenting, parent relationship and SES controls were employed, two independent effects of shared care arrangements were identified. The first was lower persistence (the ability to play continuously, stay with routine tasks, examine objects thoroughly, practice new skills and return to an activity after a brief interruption). Second, scores on the BITSEA problems scale were significantly worse for the shared care group, with elevated problems evident mainly in the context of the child's interactions with their primary care-giver.

Theoretical explanations from the attachment field for these findings are similar to those considered for the younger infants. Normal development for the 2-3 year old infant is marked by budding autonomy and exploration, growing representational and communication skills. Simultaneously, however, the development of skills necessary for self-soothing and self-protection remains rudimentary. Bowlby (1969/1982) regarded attachment needs and behaviours at 2 - 3 years to be no less intense than for the younger infant. From his extensive studies of this age group, Marvin found that attachment behaviours at this age remained easily activated, and that this was adaptive rather than regressive, with monitoring of proximity to the caregiver still a critical component in the young child's behavioural organization and well-being (Marvin & Greenberg, 1982). Separations from the primary caregiver not within the control of the 3 year old continue to disturb or disequilibrate the attachment system, as they do for the younger infant (Marvin & Britner, 2008). Thus in attachment terms, repeated overnight separation of the 2 - 3 year old from the primary carer, here at the rate of five nights per fortnight, would predictably affect emotional regulation.

Intertwined with the evolution of attachment at this age is the older infant's stage of cognitive development. At this phase of a 2 - 3 year olds' life, particularly in the context of divorce, developing cognitive skill poses something of a 'double edged sword'. Advances in language comprehension, understanding of cause-effect, memory and early verbal reasoning allow for greater comprehension of separation from the primary caregiver. At around 30 months, the ability to communicate about past and future events and emotional states in a narrative begins to emerge (Bretherton, 1993; Dunn,

1994). These growing capacities in turn make the reality of separation from a parent and understanding of the length of this separation more acute, all at a time when consolidation of the primary attachment relationship is still underway (Marvin & Britner, 2008). Thus at age 2 - 3 years, this relationship remains highly vulnerable to disruption in continuity, and through this mechanism, older infants, like young infants, remain vulnerable to the development of emotional regulation difficulties.

Supporting the idea that frequent overnight absence from the primary carer at this age may engender growing insecurity in that attachment relationship, the elevated BITSEA problems scale items for 2 - 3 year olds in the 'shared care' group clustered around distressed behaviours expressed in interaction with the primary caregiver, rather than those to do with social or peer functioning. Indeed, one could imagine many ways in which frequent time away from the primary carer would bolster peer skills, and confer social confidence through greater exposure to different people (friends and family of the second parent) and greater opportunity to experience supported social challenges. The social and language specific developmental sequelae for young children in frequently shared care may also differ, and need to be considered in future research.

With a focus on emotional and behavioural regulation, 'shared care' at the policy definition of 35% of nights, was associated with a cluster of developmental problems indicative of significant stress in the young child. It is noteworthy that children were not the only ones stressed. Findings show that the co-parenting system was more stressed in a shared care arrangement at this younger developmental stage than when sharing care of 4-5 year olds, with much higher rates of reported disagreement between parents of the 2-3 year old children. The developmental stage of older infancy is quite a different phase in the family life cycle compared to the kindergarten and early school phase, with a number of different stressors that relax somewhat through the course of the preschool and early school years. At 2-3 years, the need for close physical supervision and proximity is still high, feeding and toileting are not independent, day sleeping is still common, and the need for active parental support of the older infant's early social and peer interactions, and co-management of their reactions and behaviours is much higher than for the more socially and physically competent 4-5 year old.

In attachment terms, the caregiving system of the primary parent during the 2-3 year old stage of development is still highly primed or geared to read and respond to attachment related signals of the child. Bowlby (1969/1982) postulated the presence of a caregiving behavioural system that operates instinctively within the parent, as the attachment system operates within the child. George and Solomon (2008) describe the primary goal of the caregiving behavioural system as providing protection for the child. Activation of the caregiving system occurs via the parent's perception of dangerous, stressful or fear-inducing situations for the child, including separation, endangerment and the child's signals of discomfort or distress.

According to George and Solomon (2008):

“Once activated, the parent instinctively responds with behaviours such as retrieval, maintaining proximity, carrying, following, signalling the child to follow, calling, looking and smiling, all of which work to establish proximity, care and comfort. As the child’s attachment system is terminated by proximity, or physical or psychological contact with the attachment figure, the attachment figure’s caregiving system is also terminated by physical and psychological proximity and signs that the child is comforted, contented and satisfied.” (p. 835)

It may be therefore that, in the context of separation or divorce, the primary caregiver who is frequently separated from their very young child is anxious when unable to retain proximity with that child, more so than they would on separation from an older and more autonomous child. Thus, parents’ caregiving instincts may create fertile and frequent ground for co-parenting disagreements, particularly over frequent separations from still-dependent young children. It seems important for future research to systematically consider the impact on the primary parent as well as the non-resident parent, of lengthy and repeated separation from their older infant. Does unwanted rather than mutually agreed frequent separation differentially impact parenting qualities?

With respect to health outcomes, at this 2 - 3 year old stage of development, global health scores were not significantly different between care groups. The wheezing variable is of interest, as differences between groups were not significant until socio-economic status was accounted for. Thus, being in a higher income and education bracket in combination with shared overnight time with the PLE was associated with lower rates of wheezing in 2 - 3 year olds. While the wheezing outcome at age 2-3 years is an opposite picture to that found with infants under two, where weekly or more overnight care was associated with somewhat higher rates of reported wheezing, differential reporting by mothers and fathers on this variable, together with small sample size, confounds interpretation of the findings.

Several studies have demonstrated significant differences between mother and father reports on children’s outcomes (Davé, Nazareth, Senior, & Sherr, 2008; Leblanc & Reynolds, 1989; Tarullo, Richardson, Radke-Yarrow, & Martinez, 1995). In the context of divorce, McIntosh, Wells and Long (2009) found fathers under-reported on children’s adjustment measures relative to mothers’ report, and on some variables, relative to children’s report. With 26% percent of respondent parents in the shared care group being fathers, differential reporting by gender and by overnight group needs to be borne in mind when interpreting findings, as does the relatively low sample size of the 2-3 year old shared care group.

Summary of findings: 4 - 5 year olds

For the 4 - 5 year old group, the same overnight care categories were used as for the 2 - 3 year group. Specifically, overnight time with the parent living elsewhere (PLE) was defined as ‘rare (if any) overnights’ (overnights less than once per year but with some day contact), ‘primary care’ (an overnight stay at least once a month but less than five nights per week), or ‘shared care’ based on the policy definition of five or more nights per fortnight (35%+ overnights) with the PLE.

1. By four to five years, independent effects of care arrangement on emotional regulation and related psychosomatic outcomes were no longer evident.
2. The vast majority of variation between groups in this 4 - 5 year old group was accounted for by factors other than overnight care patterns, with particular emphasis on the impact of angry parenting and lack of warmth in parenting on children’s self-regulatory capacities at this stage.

Consideration of the 4 - 5 year findings

The children in this cohort were either attending an early childhood program such as kindergarten or pre-school, or were in their first year of school, thus at the beginning of their juvenile years. With this age comes a myriad of cognitive and psycho-emotional shifts. At 4 - 5 years, cognitive development gives the child the assured ability to understand absence and to predict reunion, “*to know what tomorrow means*” (George, Solomon and McIntosh, forthcoming).

In the context of low-risk care, attachment theory both predicts and explains a lessening impact for 4 - 5 year olds of overnight stays away from the primary attachment figure. By this stage, the hierarchy of attachments has a different shape and function, with the move away from the importance of the primary attachment relationship, the development of other attachment bonds, and the ability to use other adult caregiving relationships for comfort and guidance.

From extensive research Marvin and Greenberg (1982) and Marvin and Britner (2008) suggest the organization of the attachment system changes significantly around ages 4 - 5 years. Children were less distressed by brief separation from the primary caregiver (in this case the mother), provided they were left in the care of friendly adults and provided they had formed a clear plan with the mother about the separation and the reunion, before she left. However, at age three, children were not able to make such a shared plan. In keeping with Bowlby’s (1969/1982) description of attachment becoming “*goal corrected partnership*” around this age, rather than a co-regulatory one, children at age four years are less dependent on physical proximity to and contact with the primary caregiver in order to maintain a sense of security, provided they are in the care of responsive, caring adults (Marvin & Greenberg, 1982; Marvin & Britner, 2008).

Five component skills were identified in these studies that enabled the shift in the organization of the attachment system around age 4 - 5 years, to support amongst other things greater periods of well managed separation from a primary attachment figure. For most four year olds raised in low-risk settings, these skills were: the ability to recognize the thoughts, goals, feelings and plans of the attachment figure, the ability to distinguish between self and other points of view, the ability to infer (from logic or experience) what controlled the caregiver's plans and actions, and the ability to influence the caregiver's goals and plans in a way that supported the attachment needs of the child. Thus, having a plan for proximity and availability in case of need, rather than requiring proximity itself, increasingly becomes the more important goal of the attachment system for most 4 - 5 year olds raised in low risk settings. Marvin and Britner (2008, p.283) write that

“by age 4, most children are becoming competent at one of our species’ most sophisticated communication skills: thinking and conversing about the feelings, goals and plans of others with whom they are interacting.”

This skill has important implications for the organization of attachment, with the child and his/her attachment figures now able to have shared goals and plans, and the child more able to inhibit attachment behaviours.

The neurobiology of attachment adds this important perspective (Schore, in Schore, Siegel and McIntosh, forthcoming⁵⁰):

“Attachment in the first year of life, when the brain circuits for attachment are still setting up, is different from attachment in the third or fourth year of life, when the system is going, so to speak. That is to stress a developmental system while it is organizing in the first year will have a much more negative impact in response to the same stressor than if you did it when the child was four”.

In the context of a sample of predominantly low-risk separated families from the general population, where shared care is likely to be a self selected arrangement, the attachment framework again helps to explain the findings of the current study with respect to the 4 - 5 year old group. At this age, independent associations of overnight care pattern were not found for any of the emotional/behavioural regulation variables examined. In other words, where shared overnight care predicted poorer emotional and behavioural regulation for infants under 4 years, it did not for early juvenile children. Equally, primary care patterns and rare (if any) overnight care did not independently predict outcomes. At this age, the factors accounting for most variation in self-regulatory capacities between the care groups were the quality of the co-parental relationship and lack of warmth in parenting. (Both, of course, may be inter-related to a degree.)

Higher scores for the ‘shared care’ group relative to the ‘primary care’ group on Hyperactivity/Inattention were noted. While statistically non-significant, the patterns or directions in these variables

⁵⁰ Allan Schore, November 13, 2009, interview with Jennifer McIntosh for the Family Court Review. Extract used with permission.

echo those found elsewhere in this study and in Part 1 of this project (McIntosh, Smyth, Wells, Long, 2010), and we therefore suggest the finding is of clinical interest and worth exploration in future datasets with sufficient sample sizes and measurement. The present study found links between more frequent overnight care and both higher irritability in infants under two years, and lower persistence in 2 - 3 year olds. Current thinking in neuroscience would place high irritability and low persistence in infancy, and later attention problems in early childhood on a similar developmental line (Schoore, 2010). The associations unfortunately could not be explored in the current study, given very small numbers of infants in the LSAC database who sustained shared care arrangements across the preschool years. However, given similar direction of scores identified in another recent study (McIntosh, Smyth, Wells, & Long 2010), it is an area that we urge future researchers to explore. That study, also commissioned by the Attorney-General's Department, explored longitudinal data from a sample of high conflict families (Children in Focus database: CIF) with school aged children. Children in the CIF sample who had shared care at the rate of at least 35% of nights for more than three years were found to have a significantly different trajectory over time on the SDQ Hyperactivity/Inattention sub-scale⁵¹. Like the LSAC data, overnight care pattern at any one time (cross sectional analyses) did not predict more problematic SDQ scores. It was the continuation of the shared pattern over several years in the context of ongoing parental conflict that did (suggesting an accumulation or additive effect).

Over time, with further waves of LSAC data, it will be possible to explore within a general population sample the pathways of children through various forms of care and parental conflict. At the cross sectional level, parental conflict played a minor role in the outcomes explored for 4 - 5 year olds in the current study. By this stage, parents in a shared care arrangement reported lower levels of disagreement than parents did when sharing the overnight care of a 2 - 3 year old.⁵² It could be said then that for normative, low risk families, the kindergarten and early school years represent a shift in the family life cycle, wherein shared overnight arrangements become more possible and less stressful. That said, sharing care of 4-5 year olds at the rate of five or more nights a fortnight was a very uncommon arrangement within this general population sample. Primary care arrangements (between 1-10 nights per month with PLE) were nearly nine times more likely.

(Continued.....)

⁵¹ Mother and father report: teacher report data not available in that study.

⁵² This is not to say that being caught in the middle of radiating parental conflict does not matter – especially in litigating high conflict samples.

Study limitations and strengths

While on the rise, shared care in Australia still remains an uncommon post-separation pattern of care that is generally exercised by well-educated, dual career former couples who live near each other and have primary school-aged children (Smyth, 2009). This means that obtaining a large, representative sample of children, and particularly infants who live in a shared care arrangement, is extremely difficult, and that most surveys, even those of substantial rigour such as LSAC, typically yield samples with little statistical power. At several points, we have noted that the numbers of infants and young children in shared overnight arrangements were inevitably small – particularly at the policy definition of 35% nights per year. This methodological challenge results in three limitations: some cross-sectional findings of apparent statistical significance had to be treated speculatively; use of data from the parent living elsewhere was not possible; and longitudinal tracking of infants through care arrangements over time was also not possible. To our advantage, however, with the 4 - 5 year old group, LSAC's cross cohort design allowed us to combine two samples, thereby increasing statistical power. Finally, LSAC has an enormous number of variables to serve the needs of many researchers with many questions. In conducting the analyses for the current study, we have used a clear theoretical framework to justify selection of variables, to ensure reducing the possibility of finding spurious associations between variables.

With so little known about the psycho-emotional outcomes of Australian infants at present, the Longitudinal Study of Australian Children (LSAC) is the most comprehensive database available and represents the best way forward with policy relevant questions at this stage⁵³. Although not attachment-specific, the array of outcome measures captured by LSAC and its longitudinal framework gave the possibility of applying a different and very focused lens to questions addressed in this study about the development of emotional regulation, and links to post-separation care arrangements. In the absence of attachment measures within LSAC, we do not claim this as a study of attachment. The LSAC data did however permit us to re-cluster items and scales to form indicators of emotional dysregulation associated with attachment distress. We would hope on the strength of this and related studies that consideration be given to funding future data collections in such a way that supports the large scale collection of attachment-specific data in infancy.

This study is the beginning of systematic enquiry in Australia into infant outcomes in divorce and specifically in post-separation care arrangements. Its focus was specifically on emotional and behavioural outcomes. Future studies into other aspects of development, particularly cognitive and social outcomes will be of interest.

⁵³ AIFS (Kaspiew et al, 2009) has conducted some analyses of the LSAC database with respect to overnight care arrangements. In some respects their findings differ to those identified here, and three factors need to be borne in mind by the reader in considering points of difference. AIFS did not (a) analyse the Birth cohort data (infants under 4 years), (b) select the same variables for examination, and (c) do not appear to have applied a theoretical framework to the analytic work involved.

Reflections and Implications

This study explored links between overnight care arrangements after parental separation/divorce and the psycho-emotional outcomes of infants and young children aged between 0-5 years. Applying a lens from attachment and neurobiological research, the study explored a large random sample of children in the general population, with the aim of identifying markers of developmental strain within various overnight care configurations. Such markers might help parents consider sensibly what arrangements may best meet their young children's psycho-emotional needs at various points in early childhood development, and similarly assist legal professionals, judicial decision-makers, mediators and counsellors who help parents to reach child-sensitive parenting arrangements.

Contrasting the outcomes of children and infants in three overnight care arrangements ('*rare, (if any) overnight care*', '*primary care*', and '*shared care*') this study identified a cluster of developmental vulnerabilities independently associated with shared overnight care at two different thresholds: for infants at the rate of 1 night or more per week, and for young children aged 2 - 3 years at the current policy definition of 5 nights or more per fortnight.

At these rates, shared overnight care independently predicted higher irritability, higher proximity seeking behaviours, and higher problem behaviours and lower capacity for persistence in 2-3 year olds. Neither rare overnight care nor primary care predicted the outcomes studied.

In contrast, at 4 - 5 years, neither shared care nor the other two overnight care arrangements were significantly associated with outcomes. In other words, at the age of 4-5 years, an independent effect of overnight care arrangement was no longer evident with respect to emotional and behavioural regulation and psycho-somatic health symptoms. Low parenting warmth and high parenting anger were the greatest predictors of psycho-somatic symptoms and emotional and behavioural regulation problems for this age group.

By implication, this study has identified specific warning flags that may warrant attention in the course of decision-making about the overnight care of children under four years of age. Specific markers for young infants under two years were irritability, vigilant efforts to monitor the presence of the primary parent, and for 2 - 3 year olds, higher rates of problem behaviours and poor persistence in activities and exploration. This study has described at length the possible mechanisms through which these risks occur, namely repeated disruption to the primary attachment relationship whose function is to co-regulate the developing infant while emotional regulatory systems of the brain are at a critical period of establishment.

These findings are from a normative group: a relatively well resourced, low conflict, *low risk* sample. What are the implications for higher risk, more complex Family Court populations, for whom the Family Law Amendment on Shared Parenting is most often evoked? In court samples, parents frequently lack the equipment needed for an effective shared care arrangement, for example,

adequate co-parenting communication, conflict management skills, and pragmatic infra-structure (Johnston, Gonzalez, & Campbell, 1987; McIntosh, 2009; McIntosh, Smyth, Wells, Long, 2010; Maccoby & Mnookin, 1992; Smyth, 2004 a). Echoing the findings of Solomon and George (1999), ‘shared care’ infants in higher risk divorce populations thus may accrue both normative risk through their sheer developmental vulnerability, and additional risk through the domino impacts of parental conflict, and pre-occupied or otherwise compromised parenting. Given the nature of the general population data used in this study, these group findings will not be relevant to outlying cases and circumstances. We return to the phrase “all else being well”. For example, more frequent overnight care may arguably be in an infant’s best interests when it is essential for the primary parent’s physical or mental health. By contrast, where children have experienced or are likely to be exposed to continuing domestic violence or abusive parenting, any face-to-face contact at all may be highly inappropriate given the serious long-lasting effects of these forms of trauma in early childhood.

In the main, our findings collectively say something about a naturally occurring developmental window of opportunity in which – all else being well – frequent overnight (shared) care comes at a lower cost to the kindergarten/early school-aged child than it does for the infant under four years old. By implication, this in turn says something about timing the introduction of overnight arrangements in the service of minimizing risk. Specifically this implies the need for appraising the attachment, cognitive and broader psycho-social context of each child, and waiting for these aspects of development to be at a point where they enable frequent overnight time to add to, rather than detract from, the young child’s emotional and behavioural security.

We urge future researchers to replicate and extend these findings, employing sensitive attachment oriented measures including where possible rigorous observational data to further explore links between post-separation care, psycho-emotional development and the growing capacity for ‘settledness’ and focus in the young child. Longitudinal depth studies covering the span of infancy, with sufficient sample sizes, will be of particular importance.

Infants and very young children are among the least able in society to articulate their needs, desires or experiences of the world. In the study of their outcomes, standard ways of assessing their wants and well-being do not apply. The challenge for practice, research and policy is to be able to find ways of hearing the voices of very young children. The LSAC data have great utility in this pursuit. There remains significant need for data sources that help to articulate the sum of the parts of early caregiving experiences that most impact the developmental security of very young children in separated families, and thus enable the infant’s pre-verbal experiences to be better understood and acted upon within the family law arena. In this endeavour, the developmental flags identified in this current study may provide a useful beginning.

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Appendices

Below are tables of weighted means (continuous variables) and proportions (categorical variables) for each of the 3 age groups, for the selected developmental outcome variables.

Appendix 1: Developmental outcomes for infants under 2 years by parenting groups

Table 18: Infants Under 2 years: Developmental variables by parenting groups (with ‘Shared Care’ defined as once weekly or more overnight care)

	Intact	Rare overnights (Less than 1 night per year)	Primary care (1x per month to 1x per week overnight)	Shared care (1+ overnight per week)
	Mean/ % 95% CI (n)	Mean/ % 95% CI (n)	Mean/ % 95% CI (n)	Mean/ % 95% CI (n)
STRESS RELATED HEALTH / DEVELOPMENT OUTCOMES				
Global Health Measure “very good to excellent”*	87.18% 86.01-88.34% (4543)	85.32% 78.30-90.62% (161)	88.61% 73.37-100% (21)	78.14% 66.12-90.15% (64)
Illness with wheezing % saying none	84.57% 83.38 - 85.77% (3834)	74.66% 67.17 - 82.14% (121)	84.50% 68.68 - 100% (18)	60.41% 46.11% - 74.71% (38)
Significant concerns about development % saying none	90.95% 90.06 - 91.85% (4130)	84.86% 78.40- 91.32% (138)	95.62% 87.06 - 100% (20)	84.38% 74.32 - 94.45% (53)
EARLY EMOTIONAL REGULATION OUTCOMES				
Irritability	2.50 2.47 - 2.53 (3851)	2.57 2.48 - 2.86 (115)	2.17 1.85 - 2.49 (14)	2.50 2.22 - 2.76 (43)
Visual monitoring of parent	2.41 2.40 - 2.43 (4041)	2.40 2.31 - 2.48 (141)	2.31 2.15 - 2.46 (18)	2.48 2.37 - 2.60 (59)
Carer Conflict scale (N too small to report)				
Degree of negative response to stranger (Observer rated: % reporting none)	76.67% 74.21 - 79.13% (3484)	75.14% 66.96 -83.33% (123)	70.71% 47.77 - 93.65% (14)	81.21% 70.89 - 91.52% (51)

* Frequencies did not allow us to dichotomize this variable in the usual manner of “good to excellent” and “fair to poor”.

Appendix 2: Developmental outcomes for older infants 2-3 years by parenting groups

Table 19: Older infants 2-3 years: Developmental variables by parenting groups (with Shared Care defined as 35%-50% overnights with each parent)

	Intact	Rare overnights (<1 overnight a year)	Primary care (at least 1 night per month & <5 nights per fortnight)	Shared care (5+ nights per fortnight)
	Mean/ % 95% CI (n)	Mean/ % 95% CI (n)	Mean/ % 95% CI (n)	Mean/ % 95% CI (n)
STRESS RELATED HEALTH / DEVELOPMENT OUTCOMES				
Global Health Measure "very good to excellent"*	85.96% 84.75-87.16% (3952)	75.56% 70.40-80.71% (60)	85.80% 80.19-91.41% (200)	85.44% 70.11-100% (25)
Illness with wheezing % reporting none	75.87% 74.43 - 77.32% (2995)	59.84% 53.67 - 66.01% (214)	59.62% 51.59 - 66.92% (118)	71.67% 51.64 - 91.71% (18)
EMOTIONAL / BEHAVIOURAL REGULATION OUTCOMES				
BITSEA problems scale	30.35 30.16 – 30.53 (3833)	32.43 31.77 – 33.09 (346)	31.20 30.43 – 31.98 (191)	32.81 30.61 – 35.00 (22)
PEDS Emotional functioning	74.38 73.83 – 74.93 (3952)	73.78 71.66 - 75.89 (360)	72.22 69.35 - 75.09 (200)	69.51 60.30 - 78.72 (25)
STST Persistence scale	4.27 4.24 – 4.30 (2997)	4.24 4.11 – 4.36 (207)	4.13 3.95 – 4.30 (103)	3.93 3.66 – 4.20 (19)
Carer Conflict scale	1.49 1.45 – 1.53 (931)	1.59 1.41 – 1.77 (81)	1.88 1.55 – 2.23 (43)	1.94 1.47 – 2.40 (5)
Degree of negative response to stranger (Observer rated: % reporting none)	68.71% 66.30 - 70.59% (2715)	62.21% 55.50 - 68.92% (224)	68.75% 61.34 - 76.17% (137)	71.34% 51.24 - 91.43% (17)

* Frequencies did not allow us to dichotomize this variable in the usual manner of "good to excellent" and "fair to poor".

Appendix 3: Developmental outcomes for children 4-5 years by parenting groups

Table 20: Children 4-5 years: Developmental variables by parenting groups (with ‘Shared Care’ defined as 35%-50% overnights with each parent)

Combined wave 1 K Cohort and Wave 3 B Cohort	Intact	Rare overnights (<1 overnight a year)	Primary care (at least 1 night per month & <5 nights per fortnight)	Shared care (5+ nights per fortnight)
	Mean/ % 95% CI (n)	Mean/ % 95% CI (n)	Mean/ % 95% CI (n)	Mean/ % 95% CI (n)
STRESS RELATED HEALTH OUTCOMES				
Global Health Measure “very good to excellent”*	87.5% 86.54-88.43% (7525)	84.6% 81.38-87.86% (518)	86.1% 82.95-89.15% (624)	90.5% 83.73-97.32% (70)
Illness with wheezing % reporting none	83.66% 82.71-84.60% (7479)	80.28 76.46-84.09% (514)	75.95% 72.20-79.70% (621)	81.28% 71.05-91.50% (70)
EMOTIONAL / BEHAVIOURAL REGULATION OUTCOMES				
Attention Deficit Disorder Diagnosed, % yes : parent report	0.74% 5.30% - 9.48% (7831)	2.61% 1.07% - 4.14% (456)	0.91% 0.18% - 1.65% (589)	3.55% 1.63% - 8.73% (70)
Teacher/Carer report: SDQ Hyperactivity	2.41 2.33 – 2.49 (5632)	3.47 3.05 – 3.90 (260)	2.80 2.52 – 3.09 (395)	3.46 2.45 – 4.45 (51)
SDQ Emotional symptoms	1.06 1.01 – 1.11 (5630)	1.36 1.12 – 1.59 (260)	1.18 0.98 – 1.38 (395)	0.97 0.65 – 1.29 (51)
SDQ Total	5.93 5.76 – 6.09 (5629)	8.43 7.61 – 9.24 (260)	6.97 6.38 – 7.57 (395)	7.28 5.53 – 9.02 (51)
Conflict with teacher/carers	1.42 1.40 – 1.43 (5628)	1.58 1.48 – 1.67 (260)	1.52 1.44 – 1.59 (395)	1.45 1.22 – 1.66 (52)
Persistence scale	3.92 3.89 – 3.94 (6412)	3.70 3.58 – 3.82 (397)	3.72 3.62 – 3.82 (511)	3.75 3.51 – 3.99 (55)
Degree of negative response to stranger (Observer rated: % reporting none)	81.00% 79.67% - 82.33% (6071)	75.67% 71.30% - 80.05% (393)	78.61% 75.02% - 82.20% (490)	85.57% 77.50% - 93.65% (60)

* Frequencies did not allow us to dichotomize this variable in the usual manner of “good to excellent” and “fair to poor”.

