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Assessing Children's Internal Representations of Relationships

after Sibling Arrival

using the Storystem Technique.

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ABSTRACT

This study attempted to increase understanding of preschool children's reactions to sibling arrival. The aims were two-fold: First to assess how sibling arrival affected behaviour and internal representations of children's relationships, using a representational measure called the Storystem technique. Secondly, to explore the associations between children's storystem responses and behaviour, along with two maternal functioning factors implicated in affecting mother-child relationships and adjustment to siblinghood. 21 mother-child dyads participated in the pre-birth and post-birth home visits (mean age of children 60.14 months).

Overall, two features of children's internal representations of relationships altered after sibling arrival: story resolution decreased and Disciplinary representations increased. Behaviour problems were unrelated to storystem responses pre-birth and did not increase across transition. Interestingly however, associations were found post-birth: more negative aspects of story responses were related to greater behaviour problems, while more positive aspects were related to fewer behaviour problems. In addition gender differences were found in children's storystem responses: boys' provided more negative stories than girls' and, across transition, became worse to suggest that boys' were more adversely affected by sibling arrival. No differences were found according to first or second time experience of sibling arrival. Maternal functioning was stable and high with respect to marital satisfaction across transition, while mothers' well-being improved. Storystem responses were largely unrelated to maternal functioning, except that greater marital satisfaction was associated with fewer Disciplinary representations pre-birth.

ACKNOWLEDGEMENTS

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CHAPTER ONE

Introduction

This study aimed to investigate the effect of sibling arrival on children's responses to the Storystem technique. The birth of a sibling represents a normal family episode that has stimulated much research interest over the years. As a common event in young children's lives it is often assumed by clinicians to have negative effects on the mother-child relationship, and potential immediate and long-term consequences on children's behaviour (Levy, 1934, 1937; Petty, 1953; Taylor & Kogan, 1973; Thomas & Chess, 1977; Black & Sturge, 1979). Empirical investigation has repeatedly cited the quality of the child-mother attachment relationships as an important predictor of adjustment to siblinghood (Teti, Sakin, Kueera, Corns & Eiden, 1996; Steward, Mobley, Tuyl, & Salvador, 1987; Dunn & Kendrick, 1980, 1982; Kendrick & Dunn, 1982).

Recent developments within the field of attachment theory assert that beyond the period of infancy, assessments must take into account the fact that observable attachment behaviours change as the child matures. In particular, the acquisition of language suggests that it is necessary to shift the focus away from behaviour to a representational level of measurement (Main, Kaplan & Cassidy, 1985). Concurrent methodological progress has made available a representational measure, called the Storystem technique (Bretherton, Oppenheim, Buchsbaum & Emde, 1990a). This provides a basis for inferring internal aspects of young children's most salient relationships. With the addition of this new measure, and the significance of sibling arrival on mother-child interaction, it seem important to explore this natural family

transition further and widen understanding of this complex developmental period.

Indeed, no published study has applied the Storystem technique to the questions

surrounding adjustment to sibling arrival.

This chapter will begin with an overview of the literature on the effects of sibling

arrival on children, with a particular focus on its impact on the mother-child

relationship. The research on attachment and children's construction of internal

relationships is then reviewed, before turning to current methodology on assessing

internal representations of relationships. Lastly, the aims and specific research

questions will be outlined.

1.1 The Arrival of a New Baby Sibling and Child Development

The birth of a sibling has long been perceived as a stressful life-event for young

children. It is associated with disrupted relations between mother and child and

beyond that, is thought to affect social and emotional development and even

personality structure. These views are most evident in the psychoanalytic literature,

which has used the expression 'sibling rivalry' to describe not only the immediate

impact of sibling arrival but also the continuous 'struggle' that remains through-out

the sibling relationship. Interestingly, Freud's (1916) early formulations suggested

that conflicts derived from 'rivalry for parental love' produce potentially positive and

negative outcomes. Thus the birth of a sibling acts to "awaken [his] emotions and

sharpen [his] capacities for thought" (Freud, p.212 1908). This increased alertness in

turn promotes curiosity and differentiation of others and self (Neubauer, 1982).

Similarly, observations made by Anna Freud (1965) also suggested that some

children show a rapid increase in developmental maturity during or after a period of stress, such as transition to siblinghood. However, the majority of psychoanalysts have emphasised the potential pathological effects of sibling arrival and highlighted disruption of the mother-child relationship as critical, with the result that the child may turn away from the primary object (the mother) and seek substitutes too early (Neubauer, 1982). The long-term consequences of this are thought to impose directly on personality organisation and integration and impact mastery of subsequent developmental phases (Freud, 1924).

This negative view is the one often held by many clinicians with the birth of a sibling frequently cited in case histories and child referrals to psychiatrists (Levy, 1934, 1937; Petty, 1953; Thomas & Chess, 1977). Thus psychiatrists tend to agree that sibling arrival creates an immediate stress on the mother-child relationship, however there is disagreement about how much this stress is considered a 'normal' event, and therefore the prognostic significance. Some argue the birth of a sibling is an experience that most children have to cope with, and one that most cope with adequately - indeed 80 % of children have siblings (Dunn, 1983). Yet other psychologists have likened it to a parental death (Moore, 1969). Given these strong historical beliefs about the importance of a sibling birth, it is surprising that little empirical information was available until the work of Dunn and colleagues in the early 1980s. This work is now reviewed before discussion of the factors that have been found to influence children's reactions to the birth of a sibling.

The Effects Of Sibling Arrival

The work of Dunn and colleagues on the effects of sibling arrival on children was inspired by a number of concerns. First, they noticed a gap in what was really known about young children's reactions to this major event. The importance of this was a lack of reliable evidence-based advise for professionals and concerned parents. Second they felt it offered a unique opportunity to consider how a child's understanding of other people develops. Research at that time focused exclusively on the mother-child dyad and failed to take into account the significance and complexity of other relationships. Finally, an awareness that some children are much more vulnerable to stress than others and react differently to changes in their lives, begged the question about why this was so.

In the first study to explore some of these issues, Dunn & Kendrick (1980) conducted systematic and direct observations of mothers and children before and after a sibling's birth in a sample of 40 families living in East Anglia. Their findings indicated almost all children showed significant signs of behavioural disturbance. However, responses were wide ranging. Specifically, children exhibited both increased demanding and difficult behaviour and/or became more clingy, tearful or withdrawn. Interestingly over half of the sample showed improvements in specific behaviours, such as more independence about feeding, toilet behaviour or improved language ability.

In addition to these changes in the child, relations with parents also significantly altered. Patterns of interaction between children and mothers showed marked decreases in maternal playful attention, a measure Dunn & Kendrick felt reflected

the more subtle aspects of a mothers' sensitivity to her child's interests; while at the same time, confrontations between mother and child, involving maternal restraint and prohibitions, increased. Finally continuity was also found such that children's initial responses measured at two and three weeks post-birth was related to behaviour toward the baby sibling 14 months later (Stillwell & Dunn, 1985). Thus children whose initial responses were positive toward their baby sibling remained positive and those who showed antagonism and negative behaviour also tended to continue to do so.

These changes in behaviour after sibling arrival have been attributed partly to individual differences in the child (Dunn, Kendrick, & MacNamee, 1981). Further, the changes in mother-child interaction are suggested to stem from alterations in the mother-child relationship, rather than a reflection of developmental change. Kendrick & Dunn (1980) support this claim with data from 20 families where the pre-birth/post-birth observations were less than 6 weeks apart and the results matched those of observations made between 7 and 15 weeks apart. This suggested to Kendrick & Dunn that the marked changes in the observations they made resulted from changes associated with sibling arrival and not age, as less than 2 months had pasted.

All the studies by Dunn and colleagues were based on a non-random and relatively small sample and they point out the need for caution in generalising from their findings. However, several subsequent studies have corroborated their data and explored the factors that influences children's distress reactions to the arrival of a new baby and these are now briefly reviewed below.

Factors Influencing Children's Reactions to the arrival of a baby

Child Status Variables

Children's varied responses to the arrival of a baby are found to relate in different

ways to different child status variables, such as age and sex ((Dunn et al, 1981;

Nadelman & Begun, 1982; Steward et al, 1987; Teti et al, 1996) and provide a

complex picture. First, the age of the child appears to mediate the level of potential

distress. Infants under the age of 18 months have been found to show comparatively

little distress as compared to children between the ages of 21 and 36 months (Gottlieb

& Mendelson, 1990) and has been explained in terms of the underdeveloped social-

cognitive skills of infants (Hoffman, 1975).

Second, the type of distress shown by preschool age children differs, such that

younger preschoolers display increased use of pacifiers (dummies), bed wetting, sleep

problems and so on, while preschool children over 36 months of age show greater

'proximity maintenance' behaviours, such as following parents around the house and

difficulty in being left with baby-sitters (Dunn et al, 1981; Stewart et al, 1987).

Clearly both age groups display distress, but of a different nature and this makes it

difficult to quantify severity of distress. In fact Dunn & Kendrick (1982) caution

against the use of an overall 'disturbance' rating as this does not capture the

variability of children's responses, nor prove useful in relation to measured changes in

mother-child interactions.

Unlike age, the effect of gender has proved more difficult to replicate (Teti, 1992)

and therefore rather ambiguous. Nonetheless, Dunn et al (1981) suggest that boys

are more likely to become withdrawn than girls and, girls are more likely to show

increased proximity maintenance to their mothers. Apart from these tentative

findings, no other gender differences are reported.

Quality of Mother-child relationship

A second important factor implicated in children's reactions and adjustment to sibling

arrival is the quality of the mother-child relationship (Bryant & Crockenberg, 1980;

Dunn & Kendrick, 1982; Brody, Stoneman & MacKinnon, 1986; Vandell & Wilson,

1987; Teti, Sakin, Kueera, Caballeros & Corns, 1993; Touris, Kromelow & Harding,

1995; Teti et al, 1996) and this has involved consideration of aspects such as,

parenting style and attachment relationships.

Parenting style

In the Dunn & Kendrick (1982) study detailed analyses of the changes in mother-child

interactions revealed two features. First, mothers who 'included' the child in caring

for the new born and were high on 'sensitivity' had children who responded with less

behavioural disturbance and formed a good sibling relationship 14 months later. By

contrast mothers who 'excluded' their child and were low on 'sensitivity' had children

with greater behavioural disturbance and a worse sibling relationship. Maternal

'sensitivity' has been described as a mother who " is able to see things from her

baby's point of view. She is tuned-in to receive her baby's signals; she interprets

them correctly and she responds to them promptly and appropriately" (Ainsworth,

Bell & Stayton, 1971, p 41). Maternal sensitivity is therefore regarded as a crucial

component of good mother-child interactions.

From a different but related perspective, Gottlieb & Mendelson (1990) considered the effects of parental support on adjustment to siblinghood. Their study involved 50 families with firstborn girls between 2 and 5 years of age. They defined parental support as interpersonal transactions which involved expression of positive affect, affirmations or endorsements of other's behaviour, perceptions or opinions and the provision of symbolic or material aid. Mothers were asked to report on firstborn adjustment before and after sibling arrival and the level of support the parents provided.

Girls of mothers who provided little support, either before or after the birth, were the most distressed after sibling arrival. The least distressed post-birth were girls who received the most support. Interesting, this related to each parent in a different way: the level of post-birth distress was related to mothers' support pre-birth and fathers' support post-birth. Further they found firstborn involvement with the new baby was associated with level of parental support, particularly that provided in the postnatal period. Gottlieb & Mendelson (1990) explain their findings in terms of the recognised mitigating effects of social support on stress reduction (Cohen & Wills, 1985).

Security of Attachment

A related area of interest rooted in the mother-child relationship is the child's attachment status. The results of studies concerned with the stability of attachment during sibling arrival have produced mixed findings. Teti et al (1993) found a negative change from secure to less secure attachment using the Attachment Q-set (Waters & Deane, 1985). However, Touris et al (1995) used the Strange Situation

(Ainsworth, Blehar, Waters & Wall, 1978) to compare attachment status over a five month period in a group of 20 infants expecting a sibling and a matched control group. Changes in attachment were found in both directions, with some infants becoming more secure and others becoming less insecure. They explained the positive shift in attachment status as reflective of changes in the mother *before* the birth, like preoccupation with well-being and reduced sensitivity, which after the baby was born may have improved. The reason for a negative change was attributed to changes in the mother *after* the baby arrived, such as increased responsibilities of meeting the needs of two children and the mother's reduced availability to the firstborn.

Touris et al concluded that the birth of a sibling was substantially associated with instability in the child's attachment status. However, their study contained a number of limitations. Specifically they failed to pay attention to such variables as the child's temperament and mother's mental health status. A number of studies have identified child temperament as an important factor affecting the type of distress exhibited after sibling arrival (Dunn & Kendrick, 1982). Further, from the child development literature, research suggests that mothers suffering from poor mental health and in particular depression, show reduced ability to provide quality parenting. As such maternal depression has been associated with difficulties in the mother-child relationship and subsequent emotional, social and cognitive impairments (Cummings 1980, 1987; Murray, 1992).

The Touris et al study also neglected to assess aspects of the family environment, such as parental relations. Indeed from the literature on parenting, parents with good

marital relations are found to have children who display optimal patterns of

development (Belskey, 1981, 1984; Goldberg & Easterbrooks, 1984; Eiden, Teti &

Corns, 1995). In addition, marital quality has been shown to decrease following the

birth of a sibling (Belskey, Spanier & Rovine, 1983), suggesting that this too may

impact children's responses to sibling arrival by altering the family environment. Thus

these maternal functioning and family context variables are important areas of concern

in understanding the complexity of this developmental period for preschool children.

Maternal Functioning and Family Context

A later short-term longitudinal study by Teti et al (1996) in part addressed some of

the above limitations in an attempt to examine how security of attachment, as an

index of adjustment to siblinghood, related to children's age and sex and mother's

psychiatric functioning, marital harmony and parenting behaviour. The study

consisted of 192 firstborn girls and boys aged between 1 and 5 years old. Attachment

status was measured using The Attachment Q-set (Waters & Deane, 1985) completed

by mothers in the last trimester of pregnancy and again 4 to 8 weeks after the birth.

Mothers also completed the Marital Adjustment Scale (Locke & Wallace, 1959) and

the Brief Symptom Inventory (Deorgatis & Melisaratos, 1983) at both time points to

assess marital harmony and psychiatric symptomatology respectively. In addition,

mother and child were observed in a structured play exercise to measure maternal

affective involvement.

Their data revealed a significant reduction in security of attachment after sibling

arrival and this was greatest in children between the age of 2 and 5 years old. In

addition mother's marital harmony and affective involvement predicted attachment

security both before and after sibling arrival, while mother's mental health status only

predicted attachment security after the birth. Teti et al (1996) suggest their findings

provide further "support to the premise that transition to first-time siblinghood is a

stressful period marked by disruptions in firstborns' relationships with [their]

mothers" (Teti et al, 1996, p 591).

The age-dependent finding mirrored previous studies while, sex of the firstborn did

not relate to security of attachment. Teti et al (1996) note that although gender

differences may be evident in behavioural expression following the birth of a sibling,

the attachment research does not report such gender differences. Thus consideration

of security of attachment rather than specific aspects of that relationship, like

becoming clingy, or withdrawn, is unlikely to be associated with sex differences.

Maternal affective involvement, mental health status and marital quality, all related to

children's security scores. Affective involvement significantly and positively related

to security scores and predicted security of attachment after sibling arrival, as did

marital quality. Psychiatric symptomatology however did not relate to child

attachment security before the birth, but predicted attachment status after sibling

arrival. Mother's with greater psychiatric symptoms were associated with children

with reduced security scores post-birth.

Teti et al (1996) highlight the difficulty of determining which way the causal arrow

points using correlational designs, nonetheless their findings are all consistent with

previous research and endorse the assumption that the mother-child relationship is

disrupted by sibling arrival. Further they shed some light on the extent to which this is mediated by child status variables, maternal functioning and family environment factors. It is of note that they did not include the use of a control sample to compare stability of attachment status and this would have improved the design of their study. However, Teti et al (1996) based their hypotheses on the theoretical assumption that, in the early years at least, the primary carer is usually the mother and has the greatest influence on a child's functioning and attachment status. In the face of this, changes in that relationship produce changes in attachment status.

To summarise the effects of sibling arrival, a number of studies have shown that the arrival of a sibling produces considerable variable responses in children and represents a complex developmental period for the firstborn child. The effects of this event and children's responses are influenced primarily by the mother-child relationship, which in turn is effected by child status variables, maternal functioning and family environment factors. Before turning to the specifics of the current study, a general introduction to children's early relationships is provided.

1.2 Attachment and the Construction of Children's Early Relationships

Attachment Theory

In a ground-breaking paper, Bowlby (1958) reformulated psychoanalytic views of the infant-mother relationship in terms of a relationship that served a basic protective function. As such the formation of an attachment relationship, during infancy, led to a pattern of behavioural organisation that regulated the child's interaction with the environment (Bretherton & Ainsworth, 1974; Bretherton, 1980). Bowlby (1969) specified a four-stage developmental course for attachment

behaviour which included (1) undiscriminating social responsiveness, (2) focused

responsiveness to one or a few figures, (3) the emergence of secure base behaviour,

and (4) the transformation of secure base behaviour into a goal-directed partnership

with the primary caregiver. The development of an attachment relationship is

considered a critical socioemotional task that must be accomplished during the

infancy period and provides the basis for children's later love relationships,

competence and effective functioning. Since Bowlby's original theory of attachment,

much attention has been paid to identifying individual differences in patterns of

attachment behaviour and the consequences of these patterns on later development.

In the famous laboratory-based procedure, known as 'The Strange Situation',

Ainsworth et al (1978) devised a classificatory system based on the reunion behaviour

of 12 month old infants following a brief separation from their mothers. The rationale

behind this procedure was that a brief separation would cause anxiety sufficient to

elicit attachment behaviours, such as proximity seeking. The observer would then be

able to judge the extent to which this behaviour was freely exhibited and the distress

promptly alleviated.

Using this procedure, two patterns of attachment behaviour emerged that

characterised infants' responses to mother on reunion (1) Securely attached responses

reflected active and direct proximity seeking after the stress of separation followed by

use of mother as a base for exploration; and (2) Insecurely attached responses, which

were further subdivided into infants who were not readily comforted on reunion and

showed mixed responses, labelled anxious/resistant or

ambivalent; and infants who withheld contact by avoiding the mother, labelled

anxious/avoidant. In both insecure attachment subgroups infants were unable to use

the mother as a base for exploration and mastery of the environment (Ainsworth et al,

1978).

Following the development of this classificatory system numerous studies considered

the importance of the infant-mother attachment relationship for later development and

the benefits of a secure attachment for later emotional, social and cognitive

functioning are now well documented (Sroufe, 1979, 1983; Sroufe & Rutter, 1984;

Bretherton, 1985). The significance of early relationships for later development are

therefore clear.

From theory and research, Sroufe & Fleeson (1986) outline three premises that

underlie attachment theory. First relationships are regarded as 'whole', that is "they

are more than the simple combinations of individual characteristics" (Sroufe &

Fleeson, 1986 p.58). Second the continuity and coherence in the quality of close

relationships is stable over time, although the frequencies of particular behaviours

serving the attachment system may fluctuate. Third there is a two-way transaction

between individuals and relationships and the child internalises both of these so that

"the 'whole' relationship "resides" in each individual" (Sroufe & Fleeson, 1986 ,

p58).

These assumptions underlying attachment relationships have had implications for

research carried out and in particular led to a focus almost exclusively on the infancy

period with the use of measures directed at the behavioural level. However, at

around 18 months of age considerable developmental changes occur. Children begin to experience themselves reflectively as autonomous beings (Lewis & Brooks-Gunn, 1979; Sroufe, 1990) and representational capacities emerge in conjunction with advances in language (Kagan & Moss, 1962; Kagan, 1981). Collectively these cognitive changes allow children to communicate their needs and feelings symbolically and this impacts upon the way in which the mother-child attachment relationship is manifest. Specifically, the child does not need to rely as heavily upon physical closeness or proximity to maintain the attachment relationship but can use more distal ways of interacting such as looking or talking.

Researchers interested in attachment beyond infancy have therefore shifted away from behavioural markers to focus on the internalised representations of relationships and language. They have employed the use of the term 'internal representations of relationships' to formulate their arguments and this construct is now briefly defined.

Internal Representations of Relationships

According to Bowlby (1969, 1973, 1980) representations of attachment figures are formed early in childhood. Bowlby termed these representations "representational models" or "internal working models" that the child constructs of the relationship experienced with a caregiver. These internal working models represent the child's world, self, and relationships in their inner world. They function to allow the child to interpret and predict the attachment partner's behaviour, appraise new situations and guide future behaviour. As they represent both sides of the relationship (Sroufe & Fleeson, 1986) a child who experiences attachment figures as primarily rejecting,

is likely to form a complementary internal working model of the self as unworthy and unacceptable. Similarly, a child who experiences attachment figures as emotionally available and supportive, is likely to construct a complementary representation of the self as competent and lovable.

All children form attachments to a caregiver, the quality of which depends on the quality of care received (Main, Kaplan & Cassidy, 1985). Once early internal working models of self and caregiver are established, these are carried forward and come to determine how future relations are established (Bretherton 1990). However there is also a degree of flexibility such that the internal working models are updated as the attachment relationship develops. Specifically as external events impinge on the child's internal working models, restructuring becomes necessary to reconcile the discrepancy between the inner world and outer reality. Thus "individual differences in [these] internal working models will therefore be related not only to individual differences in patterns of nonverbal behaviour but also to patterns of language and structures of mind" (Main et al, 1985, p67).

Following this emphasis on individual differences in internal representations of attachment relationships, a new focus on investigation of attachment through language and other representational processes began. Observation of young children supports the notion that individuals construct mental representations of their attachment figures and these relate in meaningful ways to their behaviour. For instance by the second or third year of life, toddlers' pretend play and language about emotions demonstrate that information about every day events with caregivers is available to them in schematic form (Bretherton, 1984). In addition anecdotal

evidence suggests that routine events such as having dinner or, going to a birthday

party, enacted by toddlers, represent qualitative aspects of relationships. Specifically

a 2-year-old who re-enacts separations and reunions with a doll may be activating

internal working models of actual experiences with parents (Bretherton, Prentiss &

Ridgeway, 1990b). These preliminary ideas about event representation suggested that

internal working models of self and attachment figures could be studied through

representational measures from late infancy onward and led to pursuit of new

methodology.

The Measurement of Internal Representations of Relationships.

Within the clinical field, it has long been assumed that children use fantasy play to

express and cope with realistic concerns and worries (Klein, 1932; Freud, 1946;

Klinger, 1971, Winnicott, 1971) and a major method of learning about young

children's experience has been through the use of play therapy techniques (Klein,

1932; Erikson, 1940; Axline, 1947). Borrowing from this and more recent

developmental and psycholinguistic research (Watson & Fischer, 1980; Nelson, 1985)

attachment theorists have focused on the use of play narratives to assess young

children's representations of family relationships, conflicts and emotional situations.

Support for this new research paradigm is increasing and was first demonstrated in an

extensive longitudinal attachment study by Main et al (1985).

In their sample of 40 families, a number of representational measures were used

which included: children's responses to a series of photographs depicting increasingly

stressful separations from attachment figures; child responses to a family photograph;

child drawings of the family and parent-child conversations upon

reunion after a one-hour separation. Comparison of data collected at age 12 or 18 months with that collected six years later showed that children classified as secure in infancy gave significantly different responses on the representational measures than children classified as insecurely attached. For example securely attached children tended to give coherent, elaborate, and emotionally open responses to the separation photographs and reported more constructive ideas about what a child might do under these circumstances. This contrasted with insecure-avoidant children who tended to described the child in separation photographs as sad and did not know what the child could do. Similarly the family photograph produced different responses; secure children looked, smiled and commented on the photograph while insecure-avoidant children turned away, dropped or handed the photograph back to the examiner. Differences were also observed in the children's family drawings and parent-child conversations upon reunion.

Following this Cassidy (1988) compared attachment assessments based on separation-reunion behaviour with responses on a puppet interview and story task in 6-year-olds (n = 52). The story task required children to use a doll family to complete six story beginnings concerned with self-esteem, familial conflict and outside threat in the context of the mother-child relationship, while the puppet interview involved asking the puppet questions about the child which the child answered.

The results of this study suggested that children judged as secure on the basis of reunion behaviour (n = 22) tended to represent themselves in a more positive light in the puppet interview and present the doll protagonist as someone worthy, with a

warm supportive relationship with mother. Insecure-avoidant children (n = 8) tended

to represent themselves as perfect, but made no mention of interpersonal relationships

and depicted the doll protagonist as isolated or rejected. Insecure-resistant children

(n = 6) showed no clear pattern of responses on the puppet interview and showed a

variety of different responses on the story task.

Drawing from this research and theories of event representation, Bretherton et al

(1990b) suggested that event schemata, enacted by children, represent qualitative and

measurable aspects of their attachment relationships. They devised a procedure,

called the storystem technique, to measure internal representations of relationships in

children. This method is now briefly reviewed.

1.3 The Storystem Technique

The storystem technique was developed to provide an observational measure of

children's internal representations of relationships. The procedure contained a

number of story beginnings, or stems, designed specifically to elicit individual

differences in the way children enact story endings with a set of small family figures

and props. The stories themselves contain themes which relate to various attachment

issues, family relationships and dynamic conflicts. Unlike free-play observation

methods, each storystem in the battery is presented according to a standardised

protocol and followed by the instruction, "show me and tell me what happens next"?

A typical example of a story from the Attachment Story Completion Protocol

(Bretherton et al, 1990b) is 'spilled juice'. In this story the family (a mother, a father,

and two children) are seated at the dinner table. The younger child spills orange juice

on the floor, and the mother exclaims about it. The issue presented here is of an

attachment figure in authority in relation to the child.

This technique was used by Bretherton et al (1990b) to compare attachment

classifications obtained using a separation-reunion procedure in children aged 37

months old from twenty-nine families. Each child completed 5 storystems. Detailed

verbal and behavioural transcripts were made and analysed according to predefined

criteria for secure and insecure attachment responses. Following the research by

Kaplan & Main (1985) and Cassidy (1988) the coding scheme addressed both story

structure and content. Secure responses were marked by coherent, fluent and

emotionally open responses and gave benign story resolutions. Insecure responses

tended to be reflected by two features: (1) avoidance of the story issue; and (2)

incoherence or odd responses. Separate criteria were established for each of the 5

storystems.

The results revealed significant concordance between secure versus insecure

classifications on the separation-reunion procedure and storystem. In addition, the

Storystem security scores also highly correlated with the previous attachment Q-sort

measures collected from mothers when their infants were 25 months old, but less so

at 37 months old. The specific type of insecure attachment, avoidant or resistant, was

not however consistent across procedures. Bretherton et al concluded that although

their study only partly corroborated previous research using

representational measures, children as young as 3 years old were able to complete their task. Moreover, specific storystem completions were able to predict security versus insecurity status in the separation-reunion procedure used, even though the types of insecurity was not discernible.

Since the Bretherton et al study, further support for the utility of the storystem technique has emerged and a second battery evolved called the MacArthur Storystem Battery (MSSB; Bretherton, Oppenheim, Buchsbaum, Emde, & The MacArthur Narrative Group, 1990a). Stories from both batteries have been used in several contexts to assess different aspects of children's inner world for example Buchsbaum & Emde (1990) looked at early moral development and family relationships, Oppenheim, Emde, Hasson & Warren (1997a) carried out a longitudinal study of moral development, Bretherton et al (1990b) considered family situations and relationships, Oppenheim, Emde & Warren (1997b) assessed children's representations of mothers, Steele, Steele, Woolgar, Yabsley Croft, Johnson & Fonagy (1997) studied attachment and gender, Warren, Oppenheim & Emde (1996) looked at whether emotions and themes in young children's play predict behaviour problems and most recently McCarthy (1998) examined attachment representations and the self. Collectively these studies support the use of the storystem technique with children as young as 3 years of age up to the age of 10 or 11-years old.

However as a relatively new measure that yields a wealth of data, several coding schemes have been used to score children's responses. A brief overview of the main schemes available is now presented.

Coding Children's Responses to The Storystem Technique

In the main, coding schemes have focused on story content or story quality and have

tended to reflect the specifics of the particular investigation being undertaken.

Therefore although it is possible to draw commonalties between schemes, each

scheme has been to a certain extent tailor-made and varied in complexity.

A good example of the content approach is provided by Oppenheim et al (1997b) in a

study concerning children's representations of mothers. They applied content analysis

to children's detailed verbal and behavioural transcripts and produced 9 category

descriptions of maternal representations. These were scored as either present or

absent and were mutually exclusive, so that each narrative event received only one

content theme code, but could contain several different themes. Three types of

maternal behaviour were identified: 5 positive; 3 negative and 1 disciplinary and these

related to descriptions of parental behaviour in the parenting literature. The positive

representation included mother figures portrayed as helpful, caregiving, protective,

forgiving and affectionate. The negative representation contained mothers portrayed

as physically aggressive, verbally aggressive and bizarre/atypical and the disciplinary

representation just contained mothers portrayed as providing discipline.

Using these 9 categories, Oppenheim et al found that children who represented

mothers in their play narratives as more positive, more disciplinary and less negative

had fewer behaviour problems than children with the opposite representations and

was moderately stable over a 1-year period. This view of mothering derived from the

narrative responses replicated previous parenting studies which have suggested

an associate between parenting styles and children's behavioural and emotional

adaptation (as reviewed in Maccoby & Martin, 1983; Maccoby, 1984). Specifically,

the positive and negative representations seemed to reflect a warmth-coldness

dimension similar to the acceptance-rejection dimension identified by Baumrind

(1971).

The second coding approach has employed rating scales to analyse overall quality of

the narrative along pre-specified dimensions. A number of greatly detailed coding

manuals exist, for example the MacArthur narrative coding scheme (Robinson,

Mantz-Simmons & Macfie, The MacArthur Narrative Coding Manual, unpublished);

and the Hodges & Steele (1993) coding manual- Anna Freud centre/Great Ormond

Street Narrative Project on representations of self and parents in abused/neglected

children. Despite certain differences, some aspects are shared by these two schemes

and these appear particularly useful across research contexts.

Specifically three features seem to mark the way in which the child tells a story.

The first involves the coherence of the narrative, often called narrative coherence.

This focuses on the logical flow of the story line and shifts or inconsistencies in story

structure. The second feature assesses the extent to which the child addresses and

resolves the conflict or major problem presented in the stem. This has been referred

to in coding schemes as 'adaptiveness of responses'. One difficulty with this

dimension is that it addresses two different but not entirely separate issues. First it

concerns the child's level of understanding of the conflict or dilemma embedded in the

story and second it measures the quality of the resolution provided.

However some children's responses may show understanding but remain unresolved. To use the 'spilled juice' story to illustrate, a child may acknowledge the spilled juice but neither clear-it-up or be given any more juice. This appears to complicate coding and may be avoided by separating the two issues. The third dimension rates the child's level of engagement in performing the storystem task. These features have all been scored using a variety of rating scales, where higher scores have reflected a more 'organised' inner life (Main & Kaplan, 1985) and thus been associated with secure attachment status.

A recent study by McCarthy (1998) adopted a story quality approach, based on an earlier scheme devised by Cassidy (1988). In this study (n = 42) concerning children's attachment representations and representations of self in relation to others, six storystems were presented and responses rated on a 5-point scale designed to fit the particulars of each story. Scores at the high end of the scale were assigned to stories reflecting a positive view of the self within the relationship with the attachment figure, while low scores were assigned to negative views of the self.

The results revealed a link between the quality of attachment representations and representations of self in relation to others. Children with secure attachment classifications had the most positive view of the self within the attachment relationship.

Yet another method of analysis is shown in a study by Buchsbaum, Toth, Clyman, Cicchetti & Emde (1992). They used a case-by-case approach to examined emotion regulation, internal representations of relationships and early moral development in

maltreated children and a comparison group. Maltreated children's narratives tended

to involve a greater number of themes reflecting inappropriate aggression, neglect,

and some sexualised behaviours. Self statements also differed and showed a

pervasive lack of people coming to the aid of injured dolls, punitiveness, abusive

language and generally being bad. These responses contrasted with those of the non-

maltreated matched comparison group and also with responses obtained elsewhere

(Buchsbaum & Emde, 1990). Further, when responses were viewed in conjunction

with documented historical and contemporary information, they appeared compelling

as indicators of representational models developed as a response to specific family

experiences.

To summarise this section, although several coding systems exist, secure children tend

to develop story narratives that are benign in outcome, coherent, show open

negotiation and a sense of fair play in stressful situations. They also demonstrate the

ability to turn to adult figures for safety and help. By contrast, insecure children tend

to produce responses that avoid the embedded story issue (extreme defensive

manoeuvres), are less able to seek out support from adult figures, and the outcomes

are often inconclusive, or in more extreme cases, violent or negative.

1.4 Why study the Effect of arrival Sibling using The Storystem technique

There are several reasons for studying the effect of sibling arrival using the storystem technique. First and foremost the literature to date clearly indicates this event carries a potentially profound effect on the pre-existing child's attachment relationship. The necessity of a secure attachment relationships for later overall 'healthy' development of the child is stressed by attachment theory, to the extent that the quality of attachment is associated with cognitive, social and emotional development.

Until recently studies of attachment relationships have relied solely upon behavioural observation techniques such as the Strange situation (Ainsworth et al, 1978), with the assumption that these provide evidence of mental representations. The lack of available age-appropriate measures of the quality of internal representations of relationships has prevented validation of this assumption, although initial evidence is promising. From this perspective it seems important to understand normative, but potentially disruptive events in a child's development and the impact these have on internal representations of relationships.

Similarly, specific studies of attachment instability during transition to siblinghood have employed behavioural measures and suggested changes both from secure to insecure and vice versa (Touris et al, 1995). Although inferences about mental representations can be made, there has been no direct investigation of this natural transition using a representational paradigm.

Second attachment theorists are increasingly interested in how attachment changes over time at the level of internal representations of relationships rather than behaviour. As already stated, attachment theory assumes that there is continuity in underlying quality of relationships despite changes in the course of development. This is true so long as environmental circumstances and the quality of age-appropriate interactions between attachment figure and child remain stable. Thus the way a child internally organises attachment behaviour with an attachment figure will tend to be resistant to change. The birth of a sibling however disrupts the child-mother relationship and provides an opportunity to consider what impact this might have at a representational level.

A third reason for studying this transition period using the Storystem technique relates to appropriateness of previous research methods. As already noted, the research to date has used behavioural observation procedures, such as the strange situation and/or indirect questionnaire methods, based on maternal reports of child attachment, such as The Attachment Q-set (Waters & Deane, 1985). Given developments in attachment theory, both these procedures are problematic.

First The Strange Situation was specifically devised for infants of 12 months old only. As increasing age has marked effects on the child's ability to cope with brief separations and the way in which reunion is responded to, this makes it difficult to classify children's responses and assess attachment status using this paradigm (Schneider-Rosen, 1993). The Attachment Q-set procedure on the other hand was developed to assess attachment across a broader age range, including preschool children. However assessment still relates to behaviourally specific features of the

attachment relationship and not internal representations of relationships. Further it relies on mothers' and/or observers' reports of the relationship rather than directly assessing the child (Teti, Nakagawa, Das & Wirth, 1991). In fact many child development studies rely on indirect approaches. The Storystem technique avoids this as it was designed specifically as a child-centred measure, while also escaping the difficulties associated with self-report procedures in children younger than 8 years old (Silverman, 1991; Perrin & Last, 1992).

Finally from a practical point of view, the impending arrival of a new baby sibling represents a particularly stressful time and many parents feel largely responsible for the amount of disturbed behaviour their child/children show and the quality of sibling relationship that develops (Dunn & Kendrick, 1982). Indeed, the transition period and sibling conflict remain one of the chief concerns families bring to professionals (Newson & Newson, 1970; Baskett & Johnson, 1982). Even though much is now known, there continues to be a need to more fully understand this complex developmental time.

1.5 Implications of the Literature for the Present Study

The reactions of children to the arrival of a new baby sibling are predicted by, among other things, the quality of the mother-child relationship and specifically, the child's attachment status (Teti et al, 1996). The child's attachment status in itself is also associated with instability during this transition time as the family milieu is temporarily disrupted and corresponding quality of the caregiving environment (Touris et al, 1995).

From attachment theory, internal representations of relationships are assumed to be stable and enduring while possessing a degree of flexibility to allow revision as the attachment relationship develops (Bowlby, 1980). The above research findings in conjunction with the assumptions held by attachment theory make transition to siblinghood an ideal event to explore in relation to the development of children's internal representations of relationships. The arrival of a new representational measure, makes possible this investigation. However, as with any new assessment tool questions arise about validity and reliability. With regard to the Storystem technique this is further complicated by the number of coding schemes available, making cross comparison of findings difficult. Nonetheless in the absence of other age-appropriate methods and the emergence of shared themes among coding schemes, insights into aspects of children's inner worlds are beginning to develop.

According to attachment theory, it would be expected that the quality of internal representations of relationships to mothers to change during the transition time, as a result of disruption to the mother-child relationship and change in the caregiving

environment. The direction of this change in internal representation of relationships would be determined by the change in quality of mother-child relationship. Several studies have attended to attachment status during sibling arrival and suggest it is a period of instability. In the main findings support negative changes in quality of attachment (Stewart et al, 1987; Teti et al, 1991; Teti et al, 1996), although one study documents positive changes as well (Touris et al, 1995).

As already stated the bi-directionality of changes in attachment status were accounted for in terms of maternal well-being and sensitivity either *during* the pregnancy or *after* the pregnancy. With this mixed picture of results it therefore seems essential to include assessments of mothers' well-being both before and after sibling arrival in the hope that this may clarify the effect this variable has on the mother-child relationship.

Further, the effect of other contextual factors, such as marital harmony, on adjustment to siblinghood also have been noted. Given the link between marital harmony and children's emotional/behavioural disturbance (Goldberg & Easterbrooks, 1984) it therefore seems important to include assessment of marital quality during transition to siblinghood.

In contrast, the positive impact of transition to siblinghood is also great for a large number of children. Specifically, the literature highlights such changes as improvements in feeding and toilet behaviour or language ability as "signs of being more grown-up" (Dunn et al 1981 p.14.). The research to date however has tended to ignore these developmental improvements by using behaviour check-lists that

exclude positive items and therefore potentially fail to capture the progress also associated with this developmental period.

The literature that has been reviewed on transition to siblinghood suggests that the impact of this event is likely to be further understood if attention is given to children's internal representations of relationships. The advent of a new representational measure makes this possible and forms the main focus of this investigation, while attention is also given to other factors that contribute to the mother-child relationship. The reasons for choosing a representational measure have already been made. In addition to these, the period of transition to siblinghood marks a significant developmental event that is even more interesting to consider from the perspective of internal representations of relationships.

1.6 Aims of the Present Study

This study will attempt to explore the impact of sibling arrival on children's internal representations of relationships, using the Storystem technique. No attempt will be made to classify children's attachment status from their Storystem completions. Instead, the more modest focus will be upon whether or not changes may be observed in specified dimensions of children's responses during the immediate transition period of six to 8 weeks after sibling arrival. To take account of the possibility that other factors may change during the transition period under study and alter the child's caregiving environment, certain aspects of family milieu and maternal functioning will also be measured.

1. Previous studies have used behavioural measures of attachment to infer mental representations. This study will use a more direct measure of internal representations.

2. By using the Storystem technique, this study aims to provide a child-centred approach to gain more information about children's internal worlds during transition to siblinghood. Two child status variables, gender and number of previous sibling transitions will also be considered in relation to responses to the Storystem task.

3. Maternal well-being and marital satisfaction are implicated as important factors contributing to children's adjustment to siblinghood. Assessment of these will be included in this study. First to identify the characteristics of the sample and second

to reduce the possibility that these may change and impact children's responses to the Storystem task.

4. To reduce the possibility that differences in linguistic competence and understanding determine performance on the Storystem task, The Bus story will be used to assess children's language functioning.

5. Positive and negative changes in behaviour are both associated with sibling arrival. This study will use a new and more comprehensive measure of child behaviour in an attempt to capture both the positive and negative changes after sibling arrival.

6. Previous research has noted that differences in children's adjustment to siblinghood correspond to differences in parental caregiving styles, particularly the preparation of the elder child for the transition. As this is a much-written about topic in parenting manuals, a brief assessment of the ways in which mothers have prepared their children for sibling arrival will be made to see whether this relates in any way to Storystem completions.

Hypotheses/Research Questions

1) What impact does sibling arrival have on preschool aged children's responses to the Storystem completion task and behaviour ? It is expected that, as a group, children's stories will show decreases in the quality aspects of their responses to reflect a negative change in their internal representations of relationships following sibling arrival. No specific expectations are held about how content themes may alter during the transition period. It is also expected that children will show an increase in behaviour problems.

2) Is there a relationship between children's storystem responses and their behaviour?

3) Are some aspects of children's Storystem responses more strongly associated with behaviour than others ?

4) To what extent do other factors related to the child affect internal representations of relationships during transition ?

5) Are aspects of maternal functioning associated with children's responses to the Storystem completion task during transition ?

CHAPTER TWO

Method

Overview of Chapter Two

This study aimed to explore the impact of sibling arrival on the inner world and behaviour of 21 preschool aged children. Measures of behaviour and representations of relationships were obtained at two time points: before and after the arrival of the baby sibling. The same measures were used at both time points: representations of relationships were measured using the Storystem task and responses were audiotaped and subsequently scored on several dimensions. Behaviour was assessed using a questionnaire completed by mothers. In addition aspects of maternal functioning were also measured at both time points: mother's well-being was measured using a symptom check-list and marital satisfaction was measured using a pre-existing questionnaire.

2.1 Recruitment of the sample

Participants were preschool age firstborn children expecting a first or second sibling and their pregnant mothers. Mother-child dyads were obtained via advertisements displayed in the Ante natal Clinic of a major central London Hospital and recruitment took place over a six-month period. An attached information leaflet (see Appendices 2 and 3) requested interested volunteers to leave a contact telephone number. The target population specified all pregnant mothers, in the last trimester of pregnancy, with a firstborn child between the ages of 3 to 6 years old. Approximately 117 information leaflets were taken from the Ante natal Clinic. Of

these, 27 (23.1 %) mothers were telephoned to discuss participation in the pre-test

post-test procedure and 22 (81.5 %) mothers fitted the selection criteria.

2.2 Participants

Mother - Child Dyad Participants

Twenty-one children ranging from 42 months to 78 months old (M = 60.1 months,

SD = 10) and their mother's participated in the pre-test, post-test study. Thirteen

children were first-time siblings (8 boys and 5 girls) and eight were second-time

siblings (3 boys and 5 girls) and all attended nursery or playgroup. One mother-child

dyad decided to withdraw from the study after the pre-test visit. At the time of

arranging the second visit, the mother expressed doubts about her child's ability to

complete the Storystem task and therefore the utility of a second visit.

Mothers ranged in age from 27 to 43 years old (M = 33.9 years, SD = 4.4). All but

one of the mothers were married or living with a partner, with relationship length

ranging from 1 year together to 20 years together (M = 10.9 years, SD = 4.9). The

sample was largely middle class, with 71.4% of mothers having 'professional'

occupations and 26.8 % 'non-professional'; 61.9 % had received a university degree

or higher; 9.5 % had received A-Levels; 14.3 % had received GCSEs; 9.5 % held

other professional exams and 4.8 % had no qualifications at all. Mothers were

predominantly of white ethnic origin: 57.1 % were White (UK) and 23.8 % were

White (other); 14.3% were Black and 4.8 % were Asian.

Ethical Considerations

Ethical approval for the study was granted by The Joint UCL/UCLH committees on the Ethics of human Research in July 1997 (see Appendix 1). Every volunteer who qualified for inclusion in the study was given an information sheet to read before they agreed to participate (see Appendix 3). The information sheet gave a brief outline of the research; it also stated that the project was not a standard part of their Ante natal care, participation was voluntary and they could withdraw at any time.

On the first pre-test visit of the project, mothers signed a consent form (see Appendix 3) and were given an opportunity to discuss any queries they had about the project. During the post-test visit mothers were told that a summary of the results of the project would be available in due course and they were welcome to contact the researcher at any time. It was made clear that individual results would not be available.

2.3 Data Collection

Design

The short-term longitudinal procedure of the study used a repeated measures design to consider the degree of association between pre-birth and post-birth measures on the Storystem task and Strengths and Difficulties Questionnaire, as well as detect changes in the caregiving environment.

Procedure

Children were visited twice in their homes by the researcher. The first visit (Time 1) occurred during the mother's last trimester of pregnancy, 1 month before baby's delivery and ranged from 0.5 weeks to 5.9 weeks (M = 3 weeks before baby's birth, SD = 1.5). The second visit (Time 2) occurred 7 to 12 weeks after baby's birth (M = 8.8 weeks postpartum, SD = 1.4). On each visit, the child completed 5 Storystems posing a variety of potentially emotionally charged and relationship acknowledging issues. To maximise validity of children's responses and minimise potential memory effects, 5 new Storystems were used at Time 2. At the end of the second visit the Bus Story Test was administered; its purpose was to provide an index of the child's developmental language status to permit subsequent evaluation of possible effects this might have on performance on the storystem task. The whole procedure was audiotape recorded, at both time intervals, for later transcription and coding.

At Time 1, while the child carried out the Storystem task, mothers were requested to fill out a series of questionnaires designed to measure marital harmony and psychological well-being. In addition they were asked to complete a measure regarding their child's behaviour as well as a background information sheet. Finally mothers were asked in what ways they had prepared their child for the birth of the sibling.

At Time 2, mother's completed a duplicate set of questionnaires, and completed the background information sheet. Each visit lasted no more than 1-hour and the Storystem procedure took approximately 30 minutes to complete. Following is a description of the measures.

2.4 Measures

Narrative storystems

The ten storystems used were selected from the MacArthur Story-stem Battery

(MSSB; Bretherton, Oppenheim, Buchsbaum, Emde, & the MacArthur Narrative

Group, 1990a). The MSSB comprises a series of emotionally laden family

interactions, presented as a story beginning or stem and require the child participant

to enact the ending, using a set of small family dolls and props (see Appendix 5 for a

full description of the dolls and props used). The MSSB was specifically designed to

elicit individual differences in children's portrayals of various 'attachment-related

issues' (Bretherton et al 1990b p.284). It was used here to explore the effect of

sibling arrival on children's 'internal representations' (Cassidy, 1988) of family

relationships over the transition period.

Of the 10 storystems, three stories dealt with conflict. In the first, the child is asked

to watch television by a friend while the mother has asked for quiet as she has a

headache; in the next the child is playing ball with a friend and the younger sibling

asks to play. The friend then refuses to play or be a friend if the younger sibling is

allowed to play. In the third, the child and younger sibling vie to sit in the child's

favourite chair. The remaining seven storystems dealt with emotionally laden and

relationship acknowledging interactions between the child, mother and/or father.

In the first, the child discovers their dog is missing. In the next, the child goes to a

party at an unfamiliar neighbour's house. In the next, the child burns their hand after

disobeying the mother; in the next the child observes their parents quarrel over some

lost keys. In the next, the parents ask for some time alone, sending the child to play

in their room. In the next, the child and younger sibling are left over-night in the care

of their grandmother, while the parents go on a trip. In the last, the parents return

from their trip away. The stories used were randomly allocated to either Time 1 or

Time 2. However, as one story exclusively dealt with conflict between siblings, this

was included at Time 2 as some children had no experience of a sibling until the

second visit.

Two pre-existing coding schemes were adapted to fit the particulars of this study.

The first, taken from Oppenheim et al (1997b) provided 6 content themes, relating to

three types of maternal representation. The first was, 'Positive' and included:

protection/caring; affection and helping; the second was, 'Negative' and included:

verbally aggressive and physically aggressive; and the third involved discipline. In

addition two other content themes were devised, labelled prohibition and conflict, to

capture specific aspects pertinent to the current study. As these resembled features of

the discipline theme, they were grouped to produce a third representation called

'Disciplinary' (see Table 1 for summary descriptions of categories).

Categories were scored 1 (present) or 0 (absent) for each storystem. Following

Oppenheim et al (1997b) a recorded theme was only scored once, regardless of the

number of times it occurred in the story. This approach was adopted to avoid

complicated decisions about boundaries of story events involving mother's behaviour.

A score at Time 1 and Time 2 reflecting mother's overall representation was

generated by calculating the mean number of representations in each category across

the storystems used at each time interval. Three composite scores at Time 1

and Time 2 were also calculated to reflect 'Positive', 'Negative' and 'Disciplinary'

representations, based on the three factors found by Oppenheim et al (1997b).

Table 1. summary Descriptions of Categories of Representations of Mothers

Positive Representations

1. *Protective/ Caregiving:* The child is protected from actual/possible danger. example Mother says "be careful, the stove is hot !" And/or the child is taken care of, soothed, fed or emotionally/physically comforted. Example, Mother puts a plaster on child, mother tells children they will be back in the morning.
2. *Affectionate:* The child is kissed, hugged, complimented or interacted warmly with. Example, upon reunion, Child is kissed by parents.
3. *Helpful:* Child is helped/seeks help with a task. Example, Mother helps child look for Barney or older child sticks-up for younger child in 3's a crowd story.

Negative Representations

4. *Verbal Aggression:* Mother/Father/Other is described as verbally critical, punitive, shaming or blaming towards the child. Threatening, attacking, or humiliating. Example Mother says, "Shut up !!", "if you don't stop, I'll kill you." NB: code indication of being cross/angry under here.
5. *Physical Aggression:* Any form of physical attack upon the child.

Disciplinary Representations

6. *Disciplinary:* An authority figure disciplines the child. example, "If you don't clean up, you'll go to your room."

New Categories Representations

7. *Prohibition:* Child is set limits, stopped from doing something. example the child is told they can only sit on the chair for a limited time and then must swap with their brother/sister. Child told off.
8. *Conflict:* Confrontation between mother and child. Any evidence of conflict arising between mum and child, where no initial conflict was presented. It may be shown by: verbal arguments/disputes between parent and child, child becoming confrontation in response to maternal requests or discipline. Escalation in conflict where it already existed.

The second coding scheme derived from Cassidy (1988) and Bretherton et al (1990b)

work contained four story quality dimensions, labelled Key Issue (KI), Story

Resolution (SR), Bizarre / Atypical (BA) and Narrative Coherence (NC), based on

story features found to discriminate between children classified as showing secure and

insecure attachment styles. KI defined the extent to which the child acknowledged

the key conflict or dilemma embedded in the storystem, while SR described the

extent to which a resolution was provided within the context of the storystem. BA

was defined as the extent to which the child developed a narrative which did not

appear to make sense in relation to the storystem and introduced a

sense of bewilderment, bizarre behaviour(s) and or disorganisation and NC reflected the quality of narrative in relation to the ease with which the story or sequence of events was followed. Each dimension was rated on a 4-point scale, ranging from 1 to 4. Scores at the high end of the scale reflected more organised internal representations of relationships, while those at the low end of the scale were reflected less organised internal representations of relationships. For each storystem, guidelines with examples were used to score the four dimensions (see Appendix 6 for a full description).

The Storystem task was chosen as a measure of children's 'internal representations' (Cassidy, 1988, p.120) of relationships for two reasons. First it provided a unique structured representational measure appropriate to the age of the child participants under investigation. Second it provided a child-centred approach, attempting to avoid the problems associated with previous questionnaire-based studies reliant on data from parental reports. The MSSB has good concurrent validity. In comparison with two other measures of attachment status, the strange situation (Ainsworth et al, 1974) and attachment Q-sorts (Waters & Deane, 1985), Bretherton et al (1990b) found highly significant correlations ($r = 0.5$ $p < 0.01$ and $r = 0.6$ $p < 0.001$ respectively).

Storystem Procedure

This procedure was based on that of Bretherton et al (1990b) and took place in the child's home. After initial introductions, the mother was asked to leave the researcher and child alone for about twenty minutes to complete the Storystem task. On each visit administration followed a standard protocol (see Appendix 5).

Visit 1 began with the introduction of the doll family, which contained a Mum, a Dad, two child figures -one older and one baby, a Grandmother and a dog. The two child dolls were always the same sex as the child participant. This was followed by a warm-up story about a birthday party to ensure the child understood the procedure and verbally and physically enacted an ending. The five storystems were presented once the child demonstrated they understood the task, having manipulated the dolls and engaged in dialogue. Each was presented according to a standard protocol and the researcher then asked the child to "show me and tell me what happens next." The researcher moved from one story to the next after the child indicated the story had ended.

All storystems were accompanied by a series of prompts. The first type focused on the story issue and was used only if the child failed to do so. For example, in one story Mum and Dad go away, leaving the children with their grandmother. If the child failed to say what happened, the researcher asked "What do they do while mum and dad are away?" The second prompt was used to clarify who was doing what to whom and the third was used to encourage further elaboration. For example, "Does anything else happen ?" followed by "Is that the end of the story/How does the story end ?"(see Appendix 5 for specific story prompts).

On the second visit, the procedure was repeated, using 5 new storystems. Both visits

were audio-tape recorded and later transcribed for coding. To allow anonymity and

blind coding, each child was given an identification number and this was audio-taped

recorded on to the beginning of the tape at the start of each visit.

Coding children's responses to the storystem task

To assess reliability 25 % of storystems collected (52 individual stems) were coded

by a second rater, a psychology research colleague, who was also blind to all other

information about the child and the research questions. For the eight relationship

themes, inter-rater reliability, calculated using Cohen's kappa (1960), ranged from 1

to 0.7 (median = 0.96) . Inter-rater reliability of the 4 story quality dimensions, KI,

SR, BA and NC, were $r = 0.92, 0.87, 0.96$ and 0.96 respectively. The differences

revealed during reliability checks were only ever by 1-point. These were conferenced

and the consensus scores used for analyses. Next the internal consistency coefficients

of the three composites derived from the content themes at Time 1 and Time 2 were

calculated ($\alpha = 0.3$ and 0.5) for Positive respectively;

($\alpha = 0.9$ and 0.3) for Negative and ($\alpha = 0.4$ and 0.4) for Disciplinary representations

of mothers. The internal consistency coefficients of the aggregated story quality

dimensions at Time 1 and Time 2 were ($\alpha = 0.7$ and 0.8) for KI respectively;

($\alpha = 0.6$ and 0.9) for SR; ($\alpha = 0.7$ and 0.9) for NC and ($\alpha = 0.8$ and 0.9) for BA.

Strengths and Difficulties questionnaire (SDQ P4/16, **Goodman, 1994)**

This new behavioural screening questionnaire, was devised by Goodman (1994) from the Rutter parent questionnaire (Elander & Rutter, 1995) and comprises 25 statements about behaviour, relevant to children between the ages of 4 and 16 years. Sample items include: often unhappy, down-hearted or tearful; picked on or bullied by other children; helpful if someone is hurt and sees tasks through to the end, has a good attention span. Items are scored on a 3-point scale, ranging from 0 (Not True) to 2 (Certainly True) to yield a Total Deviance Score and five sub-scale scores relating to 'Hyperactivity Scale'; 'Emotional Symptoms Scale'; 'Conduct Problems Scale'; 'Peer Problems Scale' and 'Prosocial Scale'. High Total Deviance Scores indicate greater overall behavioural disturbance, while high sub-scale scores reflect difficulties within specific domains. The Total Deviance Score can be further categorised into 'normal' scores (0 to 13) where approximately 80 % of a children within the community fall; 'borderline' scores (14 to 16) where 10 % of the community fall and 'abnormal' scores (17 and 40) where the remaining 10% fall and are representative of a clinical sample.

The SDQ was used to measure children's behaviour to provide an index of pre and post behavioural variations during transition (see Appendix 7). This questionnaire was chosen as it was short, easy to administer and included both behavioural 'strengths' as well as 'difficulties'. This was important given the non-clinical child sample and it enabled a more balanced assessment as well as identifying children who may show behavioural improvement during transition; a possible outcome reported in previous research, Dunn et al (1982). In addition the five sub-scales within the SDQ made more detailed analyses of behaviour possible.

Although the SDQ is a new measure Goodman (1997) reports reliability data based on 403 children between the ages of 4 and 16 years drawn from dental and child psychiatric clinics. Scores derived from the SDQ were highly correlated with those from Rutter questionnaires (Total difficulties/deviance score correlated, $r = 0.88$) and were equally able to discriminate between psychiatric and dental clinic attendees. Given the well-established reliability and validity of the Rutter questionnaires (Elander & Rutter, 1995) this indicates the SDQ has good psychometric properties.

General Health Questionnaire 28-item version (GHQ-28, Goldberg (1979)

The GHQ-28 is an abbreviated version of the original 60-item (Goldberg 1978) self-report screening questionnaire designed to detect current verifiable forms of psychiatric disturbance. Its conceptual basis relies on breaks in normal functioning and assesses four elements of distress: depression; anxiety; social impairment and hypochondriasis. Specifically, the GHQ-28 consists of a check-list of 28 statements asking respondents to compare their recent experience to their usual state on a 4-point scale of severity ranging from 'Better than usual' to 'Much worse than usual'. Example questions include: "Been satisfied with the way you've carried out a task" and "Felt that life isn't worth living ?" Items are scored 0-0-1-1 from left to right on the page, effectively 0 or 1 and both negative and positive items exist to provide a count of symptoms.

Goldberg & Williams (1988) demonstrate that little is gained by using a Likert severity scale, while the 0-0-1-1 scoring scale avoids problems of middle-user response bias. The overall GHQ score is the sum of the items scored and can be

compared to a threshold score to distinguish psychiatric and non-psychiatric groups.

In addition the GHQ-28 may provide four further scales: Somatic symptoms,

(scale A); Anxiety & Insomnia (scale B); Social dysfunction, (scale C) and Severe

Depression (scale D). These were derived using factor analysis, although were not

intended to supply specific diagnoses, but merely to guide subsequent clinical

interviewing.

The GHQ-28 possesses good psychometric properties. Over 50 validity studies are

available (Bowling, 1991; see Goldberg & Williams, 1988 for a review) to suggest

this is well established. One such study considered concurrent validity by comparing

the GHQ to structured clinical interviews and found correlations ranging between

($r = 0.5$ to 0.8, median 0.8, see Goldberg & Hillier 1979). In terms of reliability, a

split-half reliability study with 853 questionnaires found a correlation of

($r = 0.95$, Bowling, 1991) and test-retest reliability studies report correlations ranging

from ($r = 0.5$ to 0.9, Goldberg & Williams, 1988). The GHQ has also been found to

effectively distinguishes psychiatric and non-psychiatric groups from one another.

The GHQ-28 was used to screen for high psychiatric symptomatology. This is

associated with a lack in potential to provide quality mothering (Murray, 1992) and

was therefore likely to confound the data from the storystem task. This measure was

selected as it was easy to administer, used non-threatening and appropriate questions

relevant to the sample and, provided a pure state measure, capable of detecting

changes over the 3-month study period.

The GHQ-28 was completed by mothers at both time intervals. On each visit, mothers were asked to compare their recent experience, (the last **two weeks**), to their usual state. Overall mental health scores at Time 1 and Time 2 were derived for each mother by summing across the 28 items. A study by Watson & Evans (1986) involving mothers with young children recommended raising the threshold score from 4 or 5 to 8 to separate psychiatric from non-psychiatric groups. Following this, the cut-off criterion adopted to distinguish high psychiatric symptomatology was 8.

The Adjusted - Dyadic adjustment scale (ADAS, Spanier, 1976)

The ADAS is a 7-item abbreviated version of the original 41-item Dyadic adjustment Scale (Spanier, 1976) and asks the extent of agreement between couples on matters such as philosophy of life; aims, goals and things believed important; amount of time spent together, and so on. Six items are rated on a 6-point scale ranging from 0 (Always disagree) to 5 (Always agree) and one on a 7-point scale from 0 (extremely unhappy) to 6 (perfect). A study by Hunsley, Pinsent, Lefebvre, James-Tanner & Vito (1995) using 196 married/cohabiting couples found the 7-item form to conserve the construct validity of the full Dyadic Adjustment Scale, which has good face validity in relation to marital quality (Teti et al, 1996) and is able to discriminate between couples judged by clinicians to be either adjusted or maladjusted (Spanier, 1976).

The ADAS was specifically chosen for this study as it is brief and easy to administer. Following Spanier's (1976) scoring instructions, an overall marital satisfaction score

was devised for each mother at Time 1 and Time 2. Higher scores indicated greater

marital satisfaction with a maximum score of 36 (see Appendix 8 for a copy)

The Bus Story: A test of continuous speech (Renfrew, second edition 1991)

The Bus Story is a screening test of continuous speech and was designed to highlight

difficulties with verbal comprehension or expressive language skills in children. The

test presents a child with a four page picture-only story about a bus. The tester

begins by opening page 1 and saying " Now I'm going to tell you a story about this

bus. When I'm finished I want you to tell me the story". Each page contains 3

caption pictures relating to the story being told. At the end of the story, the child is

asked "Now you tell me the story. Once upon a time there was a .....". As the child

tells the story the pages are turned. The child is only given words of encouragement

and prompts are minimal, for example "and then.... So tell me what's happening". If

this failed the next page is presented saying "Now, what happens here?" (see

Appendix 9 for details of the story).

Three scores are obtained from the child's transcript: Information, Sentence Length

and Subordinate Clauses, and scored according to specific rules set-out in the Test

Manual (Renfrew, 1991).

The second edition was standardised on 573 children in South East England and

provides norms for children between the ages of 3 and 8 years old. Test-re-test

reliability, although based on a small sample of only 13 children, found the scores for

Information increased slightly over a two month interval. Renfrew (1991) concluded

these were no greater than would be expected through maturation and

suggests good reliability. Similarly, a small sample validity study based on 27

children found high correlations between teacher's estimates and test results

(Renfrew, 1991). Finally over the twenty years since its original development, the

Bus story has been widely used by clinicians and teachers and previous research has

shown it to possess good predictive validity in identifying speech and language

difficulties (Renfrew, 1991).

The Bus story was chosen because of its ability to provide a language skill index,

against which performance on the Storystem task could be compared. Specifically,

the story nature of the test was seen as more appropriate than measures focusing on

individual skills, as it provides a more comprehensive assessment of language and

gives an indication the child's understanding of story material in general.

It was important to assess this as story-telling ability might interfere with ability to

complete the storystem task and confound the data. As the two tasks were similar, to

prevent confusion between the demands of each, the Bus story was administered after

the storystem task had finished at Time 2 only. Children's responses were audiotape

recorded and coded following the rules set-out by Renfrew (1991) to provide an

Information and Sentence Length score. The Subordinate Clauses score was not

coded as the information this yielded was too specific for the needs of this study and

it required scoring by a speech therapist.

Background information Questionnaire

A demographic questionnaire was constructed for use in this study and required

mother participants to give various details about themselves and their child (see

Appendix 4 for a copy). These included: age; occupation; highest level of education; marital status and length of relationship. In addition the mother completed information about the child participant and the expected baby, including: age/date of birth; sex; nursery attendance; date of birth and sex of the new baby and feeding method, breast, bottle or both. Finally at Time 1 the mother was asked to rate, on a 5-point scale from 1 (awful) to 5 (fantastic), her experience of pregnancy. At Time 2, the mother was asked to rate her experience of the birth on an equivalent scale.

The questionnaire was constructed to avoid consulting patient records and the information requested based on that collected in other related studies (Teti et al, 1997 and Dunn & Kendrick, 1982).

Pre-Birth structured interview

Many parenting manuals offer guidance on how parents can help their child cope with the arrival of a new sibling (for example, Leach, 1998, Woolfson, 1997). The types of suggestion made are varied and include such things as buying a relevant story book, encouraging the child to talk about the new baby and their feelings, and involving the child in the arrangements for the new baby. However all share the aim of encouraging parents to be sensitive to their elder child's needs. As 'sensitive' parenting is shown to positively affect children's emotional status, (Belskey, 1982; Dunn et al, 1981; Gottlieb & Mendelson, 1990) this may have influenced outcomes on the behavioural disturbance measure and the Storystem task. In an attempt to monitor parental behaviour of this type, mothers were asked, at Time 1, " In what way(s) have you prepared your child for the arrival of the new baby ?" after completion of all other questionnaires. Following the parenting literature, responses

were coded into the four categories: 'bought books'; 'talked'; 'bought dolls' and

'encouraged child to buy a gift for baby'(see Appendix 10).

2.5 Data analysis

The coded verbatim transcripts of the storystem task were analysed using t-tests for

repeated measures. Some correlation analyses were also carried out to explore

associations between storystem responses, children's behavioural disturbance and

maternal functioning factors.

CHAPTER THREE

Results

Overview of Chapter Three

This study aimed to address 5 main research questions. These were: (1) What impact does sibling arrival have on preschool aged children's responses to the Storystem completion task and behaviour ? (2) Is there a relationship between children's storystem responses and their behaviour during transition ? (3) Are some aspects of children's storystem responses more strongly associated with behaviour than others ? (4) To what extent do other factors related to the child affect storystem completions ? (5) Are aspects of maternal functioning associated with children's responses to the Storystem completion task during transition ?

The results are presented in three sections and begin by describing the characteristics of the sample along with preliminary analyses of the maternal functioning variables to establish stability across the study period (section 3.1). Next the results of the first three research questions are reported, which are all concerned with changes in children's responses to the Storystem task and their behaviour over the transition period (section 3.2). The final section addresses the results of the fourth and fifth research questions, which examine the effects of child status variables and maternal functioning on children's storystem completions during transition (section 3.3).

3.1 Characteristics of the Sample

Characteristics of the 21 mother-child dyads were collected by means of a

demographic questionnaire (see Appendix 4) and a number of specific background

information measures. Theses included: children's linguistic competence and

behaviour and; mothers' pre and post-birth well-being and marital harmony. First the

children's background information is presented followed by data concerning

characteristics of the mother participants.

Children's background information

The mean age of child participants was 60.1 months (SD = 10 months) and ranged

from 42 months to 78 months. Table 2 below gives details of children's sex and

number of previous sibling transitions.

Table 2. Gender and transitions status data

Transition status:	Girls	Boys
First Transition	5 (23.8 %)	8 (38.1 %)
Second Transition	5 (23.8 %)	3 (14.3 %)

Children's Linguistic Skills

Children's linguistic competence was measured by means of the Bus story, which

provided two scores: Information and Sentence length. Children's mean performance

on Information was 23 units (SD = 8 units) and ranged from 6 units to 41 units.

Mean performance on Sentence Length was 12.4 words per sentence

(SD = 2.9 words per sentence) and ranged from 7.2 words per sentence to 20.6

words per sentence.

Mean performance on the Bus Story Information and Sentence length scales were compared to expected performance for children aged 5 years, the mean age of the sample. Both scores fell within the expected range for children aged 5 years. However, a large range in scores for Information was observed. Although this was partly accounted for by the age range of the sample (42 months -78 months) this warranted further investigation. Individual scores for Information were compared with norm standards according to age. This revealed that 2 children, (9.5 %) of the sample scored below the expected performance range and therefore may have had poor linguistic skills. The effect of this variable on children's storystem responses is considered in section 3.2.

Behaviour Difficulties

Children's behaviour difficulties were measured before and after sibling arrival using the Strengths and Difficulties Questionnaire (SDQ). To establish the extent of behaviour problems within the group before sibling arrival, the number of children classified as falling within the normal, borderline and abnormal categories were calculated using SDQ scores at Time 1. Table 3 below provides details of this data.

Table 3. Children's SDQ categories at Time 1

SQD (Time 1):	Normal	Borderline	Abnormal
Total Deviance score	20 (95.2 %)	1 (4.8 %)	0
Sub-scale scores:			
Conduct problems	16 (76.2 %)	5 (23.8 %)	0
Emotional symptoms	19 (90.5 %)	1 (4.8 %)	1 (4.8 %)
Hyperactivity	19 (90.5 %)	2 (9.5 %)	0
Peer problems	20 (95.2 %)	1 (4.8 %)	0
Prosocial behaviour	19 (90.5 %)	2 (9.5 %)	0

In order to identify which individual children had behaviour problems and which did

not, the borderline and abnormal categories were collapsed into one category. Thus

scores in the borderline or abnormal range on any of the behaviour sub-scales

qualified as a behaviour problem. This revealed that at Time 1, 12 children (57.1%)

were classified as having no behaviour problems and 9 children (42.9%) were

classified as having at least one behaviour problem before sibling arrival.

Maternal Characteristics and background information

The mean age of mother participants was 33.9 years (SD = 4.4 years) and ranged

from 27 years to 43 years. 16 (76.2%) mothers breast-fed their newborn during the

transition period under investigation, 2 (9.5%) bottle-fed and 3 (14.3%) both breast

and bottle fed. In the pre-birth interview only 4 (19%) mothers reported making

special preparations for their older child and this involved buying children's story

books about the arrival of a sibling.

Maternal functioning was indexed by mothers' well-being, measured using the

General Health Questionnaire (GHQ-28) and marital satisfaction, reflected by the

Adjusted Dyadic Adjustment Scale scores (ADAS). The data describing mothers'

pre-birth and post-birth well-being and marital satisfaction are shown in Table 4.

Table 4. Mothers' GHQ-28 and ADAS scores

	Time 1				Time 2			
	Mean	SD	Min	Max	Mean	SD	Min	Max
GHQ-28 Score	7.6	5.8	0	19	5.3	6.1	0	22
ADAS Score	24.7*	3.8	17	31	24*	4.3	15	32

NB: * This mean is based on 20 scores rather than 21.

Maternal Functioning

Maternal functioning is found to effect the mother-child relationship. To assess whether there were changes across transition in either mothers' GHQ-28 or ADAS scores, two paired t-tests were carried out.

Analysis revealed a significant difference between mothers' GHQ-28 scores $(t(20) = 2.5, p < 0.05)$ and scores were highly stable across transition $(r = 0.7, p < 0.01)$. As mothers' mean GHQ-28 scores decreased post-birth this suggested there was a significant improvement in psychiatric symptomatology.

In terms of mothers' ADAS scores, no significant difference was found across transition and scores were also highly stable $(r = 0.8, p < 0.01)$ to suggest mother's marital satisfaction was unchanged. As greater marital satisfaction is indicated by higher ADAS scores, the group was split into low/high marital satisfaction by applying a cut-off criterion of 18 (less than half the maximum score). Applying this criterion pre-birth, 2 (10%) mothers fell by 1-point into the low ADAS bracket, the remainder were within the high ADAS band before sibling arrival. Using the same cut-off post-birth revealed 2 (10%) mothers fell into the low ADAS bracket, the

remainder were within the high ADAS band. Across transition only 1 (4.7%) mother

moved from the high to the low ADAS group, the remaining 19 (90.5%) mothers

stayed in the high group, and 1 (4.7%) stayed in the low group.

Given that the high/low distinction involved only a 1-point difference between the

two groups and there was no significant difference between Time 1 and Time 2

scores, mothers' overall mean ADAS score was calculated and was 24.4 (SD = 3.8)

and used in all later analyses.

As the GHQ-28 score can be used to distinguish high and low psychiatric

symptomatology using a cut-off criterion of 8, this is considered next. From Table 4

mothers' mean pre-birth GHQ-28 score (Time 1) was below the cut-off criterion to

suggest low psychiatric symptomatology within the group. However, the range of

scores indicated that some mothers scored above the criterion. Further inspection

revealed that 9 (42.9%) mothers were classifiable as high on psychiatric

symptomatology before sibling arrival.

Similarly mothers' mean post-birth GHQ-28 score (Time 2) was below the cut-off

criterion for high psychiatric symptomatology, while the range of scores suggested

that some mothers scored above the cut-off criterion. Further analysis revealed that 4

(19%) mothers were classifiable as showing high psychiatric.

Across transition, 12 (57.1%) mothers maintained low GHQ-28 scores; 5 (23.8%)

mothers moved from high at Time 1 into the low group at Time 2; 4 (19%) mothers

maintained high GHQ-28 scores, while no mothers went from the low to high group.

3.2 Children's Responses to the Storystem Task and Behaviour

This study set out to explore the effect of sibling arrival on preschool aged children's internal representations of relationships, as well as the relationship this had to their behaviour. This section addresses research question (1), presenting data collected from children's responses to the Storystem task, followed by research questions (2) and (3).

Question 1. What impact does sibling arrival have on preschool aged children's responses to the Storystem completion task and behaviour ?

Children's Storystem Responses

The pre and post-birth Storystem responses collected from the 21 child participants were coded using two schemes. The first coding scheme provided 3 composite representations of mothers: Positive, Negative and, Disciplinary. The data from this scheme are presented in Table 5.

Table 5. Children's mean Composite Representations of Mothers

Maternal Representations	Time 1		Time 2	
	Mean	SD	Mean	SD
Positive	0.14	0.1	0.1	0.09
Negative	0.08	0.07	0.06	0.06
Disciplinary	0.06	0.05	0.1	0.06

To test for significant differences between scores, paired t-tests were carried out. Of the three analyses, only Disciplinary representations of mothers significantly differed across transition such that: 'Disciplinary' scores significantly increased post-birth $(t(20) = 2.55, p < 0.02)$. To explore the stability of individual differences in

children's scores for this variable, Disciplinary scores, across transition, were correlated. This revealed a small and non-significant correlation to suggest instability in individual children's scores.

Associations between composite representations of mothers

The three composite representations of mothers were derived from a scheme developed by Oppenheim et al (1997b) which found that children who represented mothers as more Positive, also presented them as less Negative and more Disciplinary. To assess whether this relationship was evident in the present study, inter-correlations between the three composites were calculated. All the inter-correlations at Time 1 and Time 2 were low, ranging from $r = -0.15$ to 0.005 and none were found to be significant. Thus Oppenheim's pattern of associations between the composite representations of mothers was not observed.

The second coding scheme used to assess children's Storystem responses yielded 4 story quality dimensions, relating to Key Issue (KI), Story Resolution (SR), Bizarre/Atypical (BA) and Narrative Coherence (NC). The data regarding these dimensions are presented in Table 6.

Table 6. Children's mean Story Quality scores

Story Quality Dimensions	Time 1				Time 2			
	Mean	SD	Min	Max	Mean	SD	Min	Max
KI	3.1	0.5	2.2	3.8	3.2	0.5	2	4
SR	2.8	0.6	1.6	3.8	2.5	0.8	1	3.6
BA	3	0.6	1.4	4	3	0.7	1.2	4
NC	2.9	0.6	1.8	3.6	2.9	0.6	1.4	4

Table 6 gives the results of pre-birth and post-birth mean scores on the 4 story quality dimensions. KI, reflected evidence of the dilemma embedded in each story; low scores indicated little evidence and high scores greater evidence. SR reflected the extent to which children provided resolutions in their stories; low scores indicated less resolution and high scores greater resolution. BA, reflected bizarre/atypical responses; high scores indicated less bizarre/atypical and low scores greater bizarre/atypical and finally NC, represented the extent to which children's responses were coherent and gave a logical story. High scores reflected greater coherence and low scores less coherence.

To assess whether significant differences existed between the scores at Time 1 and 2, paired t-tests were carried out. Of the four analyses, only Story Resolution scores significantly differed across transition ($t(20) = 2.1$, $p < 0.05$) and were reduced. In addition, individual children's Story Resolution scores showed stability as Time 1 scores significantly correlated with those at Time 2, $r = 0.5$, $p < 0.01$. Thus children's Story Resolution scores were stable and showed a significant decrease across transition.

Several other points are of interest from Table 6. First on the dimension KI, scores of 1 on the 4-point scale, were assigned to narratives where there was no evidence of the key issue or dilemma embedded observed. At both time points the minimum values observed were greater than 1 to suggest that all children's responses tended to show at least some evidence of the story Key Issue.

Second, for the BA dimension, scores of less than 3 on the 4-point scale included stories with the presence of negative emotional and/or physical behaviour, such as humiliation of the child doll or violent interactions between doll figures. The mean score before sibling arrival suggested that half the scores tended not to contain negative emotional and/or physical behaviour, while the decrease in mean after sibling arrival, suggested an increase in these elements. Although statistical analysis revealed no significant difference this non-significant trend towards an increase post-birth was in the direction expected.

Finally the last dimension NC also showed a non-significant decrease in mean post-birth to suggest a trend towards less coherence after sibling arrival and was as expected according to the research questions.

Associations between story quality dimensions

As previous research has identified that children with a more organised 'inner life' (Kaplan & Main, 1985) and internal representations of relationships produce narratives that reflect benign, coherent and resolved story endings, the associations between the four story quality dimensions were considered next.

Table 7. Inter-correlations between Children's story quality scores at Time 1

Story Quality Dimensions	KI	SR	BA
KI	-	-	-
SR	0.9	-	-
BA	0.6	0.7	-
NC	0.8	0.8	0.9

N.B: all significant at $p < 0.01$

Table 8. Inter-correlations between Children's story quality scores at Time 2

Story Quality Dimensions	KI	SR	BA
KI	-	-	-
SR	0.78	-	-
BA	0.57	0.78	-
NC	0.88	0.76	0.65

N.B: all significant at $p < 0.01$

All inter-correlations were highly significant at Time 1 and Time 2. Thus, at both time points more coherence, story resolution and evidence of embedded key issue were associated with less bizarre/atypical stories. Further, as a group, the four story quality dimensions showed a non-significant trend towards stories becoming less resolved and coherent and more bizarre/atypical post-birth.

Children's Behaviour

Children's pre and post-sibling behaviour difficulties were measured using the

Strengths and Difficulties Questionnaire (SDQ). The scores from this measure are

presented in Table 9.

Table 9. Children's SDQ data at Time 1 and 2

	Time 1				Time 2			
SDQ scores	Mean	SD	Min	Max	Mean	SD	Min	Max
Total Deviance Score	6.9	3	1	14	8.7	6.2	0	21
Sub-scale Scores:								
Conduct problems	1.7	1	0	3	2.1	1.8	0	7
Emotional symptoms	1.4	1.4	0	5	1.9	1.8	0	6
Hyperactivity	3.1	1.7	0	6	3.5	2.5	0	9
Peer problems	0.7	1	0	3	1.2	1.8	0	6
Prosocial behaviour	7.8	1.4	5	10	7.6	2.1	3	10

From Table 9 the mean Total Deviance score at Time 2 fell within the normal range

of scores (0-13 points). Similarly mean performance on all the sub-scales fell within

the normal range. The minimum and maximum scores again revealed that some

children fell within borderline and abnormal ranges across the scales. Collapsing the

scales as at Time 1, 12 children (57.1%) were classified as having at least one

behaviour difficulty and 9 (42.9%) had none.

To assess whether children's behaviour difficulties changed during the transition

period, 6 paired t-tests were carried out and revealed no significant differences

between the SDQ scores at Time 1 and Time 2. It is interesting to note however that

the mean Total Deviance Score, along with 4 sub-scale dimensions: Conduct

problems, Emotional problems, Hyperactivity and Peer problems all tended to

increase after sibling arrival. In addition, the mean Prosocial sub-scale score tended

to decrease after sibling arrival. Table 10 provides details of the number of children classified as falling within the normal, borderline and abnormal categories across the transition time.

Table 10. Children's SDQ categories across transition time

Time 1	Time 2	
	No Behaviour Problems	Behaviour Problems
No Behaviour Problems	7	5
Behaviour Problems	2	7

From table 10, seven (33.3%) children had no behaviour problems at either time point as well as 7 children having problems at both times; 2 children (9.5%) went from problems to no problems and 5 children (23.8%) went from having no problems to problems.

Associations between Language skills and Storystem responses

Because storystem codes were derived from children's narratives and may well have been influenced by their level of language skill, the associations between children's Bus Story scores and pre-birth and post-birth storystem responses were examined next.

Table 11. Correlations between Children's Bus story scores and Storystem codes

| Storystem Codes | Bus story scores | | | |
| | Information score | | Sentence length score | |
	Time 1	Time 2	Time 1	Time 2
Positive	0.4	-0.1	0.6*	0.1
Negative	-0.3	-0.1	-0.4	-0.1
Disciplinary	-0.03	0.6**	-0.2	0.5*
KI	0.3	0.1	0.2	0.5*
SR	0.4	0.1	0.4	0.4
BA	0.4	0.2	0.4	0.4*
NC	0.4	0.1	0.3	0.4

* $p < 0.05$; ** $p < 0.01$

As can be seen from Table 11, five correlations were found to be significant: children with higher Sentence Length scores had a greater number of Positive representations at Time 1, $(r = 0.6, p < 0.01)$; and at Time 2, more Disciplinary representations, $(r = 0.5, p < 0.05)$; higher BA scores, $(r = 0.4, p < 0.01)$ and higher KI scores, $(r = 0.5, p < 0.05)$. Children with higher Information scores at Time 2 also had more Disciplinary representations, $(r = 0.6, p < 0.01)$.

Question 2 and 3 Is there any relationship between children's behaviour and their responses on the Storystem completion task during transition ?

As the Bus Story scores showed some significant correlations with Storystem responses at both time points, partial correlations controlling first for Information and then Sentence length were computed to test for any associations between children's responses on the Storystem task and their SDQ scores at Time 1 and Time 2.

Controlling for Information and Sentence length at Time 1 revealed no significant

correlations between the 6 pre-birth SDQ scores and the 7 pre-birth storystem codes.

The mothers' reports of child behaviour were not associated with children's mean

Storystem responses at Time 1. Tables 12 and 13 below show the correlations for

Time 2.

Table 12. Partial correlations between Storystem codes and SDQ controlling for
Information

Storystem codes: (Time 2)	SDQ scores (Time 2)					
	Total Deviance	Conduct	Emotional	Hyper-activity	Peer problems	prosocial behaviour
Positive	-0.3	-0.3	-0.4*	-0.2	-0.1	-0.1
Negative	0.4	0.5*	0.1	0.3	0.4	-0.2
Disciplinary	-0.2	0.2	-0.3	-0.1	-0.3	0.02
KI	-0.2	-0.01	-0.02	-0.3	-0.2	0.4
SR	-0.3	-0.3	-0.02	-0.3	-0.3	0.4*
BA	-0.6**	-0.5*	-0.1	-0.6**	-0.4	0.3
NC	-0.1	-0.1	0.01	-0.3	-0.1	0.2

*p < 0.05; **p < 0.01

As can be seen from Table 12, six correlations between the SDQ scores and

storystem codes were significant. Thus as bizarre/atypical elements increased in

stories (BA scores decreased), Conduct problems, Hyperactivity and the Total

deviance score increased. Further, as stories became more resolved (SR scores

increased), Prosocial behaviour scores increased. Finally, for representations of

mothers, as Positive representations decreased Emotional problems increased and as

Negative representations increased, Conduct problems increased.

Table 13. Partial correlations between Storystem codes and SDQ controlling for Sentence length

Storystem codes: (Time 2)	SDQ scores (Time 2)					
	Total Deviance	Conduct	Emotional	Hyper-activity	Peer problems	prosocial behaviour
Positive	-0.4	-0.3	-0.5*	-0.3	-0.1	-0.1
Negative	0.4	0.6*	0.1	0.2	0.4	-0.2
Disciplinary	-0.2	0.1	-0.2	-0.1	-0.2	-0.2
KI	0.1	0.4	0.1	-0.04	-0.04	0.2
SR	-0.12	-0.1	0.1	-0.1	-0.2	0.3
BA	-0.5*	-0.3	-0.3	-0.5*	-0.3	0.2
NC	0.1	0.2	0.2	-0.1	0.1	0.1

*$p < 0.05$

After controlling for Sentence length, 4 correlations were significant. As Bizarre/atypical elements increased, Hyperactivity and Total deviance scores increased. Further, as Positive representations decreased, Emotional problems increased and as Negative representations increased, Conduct problems increased.

This pattern of associations suggested that as children's Bizarre/Atypical responses tended to increase, Conduct problems, Hyperactivity and the Total Deviance Score also tended to increase. In addition as children's Positive representations of mothers tended to increase, the Emotional problems score tended to decrease. Finally as Negative representations tended to increase, children's Conduct scores similarly increased.

Section 3.3 Child Status Variables, Maternal Functioning and Children's

Storystem Scores

Previous studies have reported that children's reactions to sibling arrival are affected

by child status variables, such as sex, and maternal functioning, such as well-being

and quality of marital relationship (Teti et al, 1996). This study examined the effect

of gender as well as the child's previous number of sibling transitions on storystem

responses. As an attempt was made to control for variations in maternal functioning,

the relationship between mothers' pre and post-birth GHQ-28 and mean ADAS

scores was also explored. First the data relating to gender and previous number of

sibling transitions is reported before turning specifically to the remaining research

questions.

Question 4. To what extent do child status variables affect children's responses to

the Storystem completion task ?

Gender differences in Children's Storystem Scores

As already noted in the research, the effect of gender on children's reactions to sibling

arrival are mixed. As such, no specific expectations were held about how boys and

girls might vary in their responses to the Storystem task. Table 14 documents the

data concerning gender and storystem responses.

Table 14. Gender differences and Children's mean Storystem scores

Storystem Codes:	Boys				Girls			
	Time 1		Time 2		Time 1		Time 2	
	M	SD	M	SD	M	SD	M	SD
Positive	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1
Negative	0.1	0.1	0.1	0.1	0.04	0.1	0.1	0.1
Disciplinary	0.1	0.1	0.1	0.1	0.1	0.04	0.1	0.1
KI	2.9	0.4	2.8	0.4	3.4	0.5	3.6	0.3
SR	2.5	0.5	1.9	0.5	3.1	0.6	3.1	0.5
BA	2.8	0.6	2.6	0.7	3.3	0.6	3.4	0.5
NC	2.7	0.4	2.5	0.5	3.1	0.5	3.3	0.5

Independent t-tests were carried out to see whether the differences in boys' and girls' scores on the Storystem task were significant. On the three composite representations of mothers, analyses revealed boys' significantly differed to girls' on Positive representations of mothers at Time 1 only ($t(19) = 2.2$, $p < 0.05$), but not on either of the other two composites. None of the three composites significantly differed at Time 2.

On the 4 story quality dimensions, boys' scores significantly differed to girls' in all but two instances at Time 1 and Time 2: Key Issue ($t(19) = 2.5$, $p < 0.05$; $t(19) = 5.9$, $p < 0.01$, respectively); Story Resolution ($t(19) = 2.5$, $p < 0.05$; $t(19) = 5.4$, $p < 0.01$ respectively); and at Time 2 only: Bizarre/Atypical ($t(19) = 3$, $p < 0.01$); and Narrative Coherence ($t(19) = 3.6$, $p < 0.05$).

Thus boys showed significantly less evidence of the embedded story dilemma than girls both before and after sibling arrival and their stories were less resolved than girls. Bizarre/atypical elements in boys' stories were significantly greater post-birth than in girls' stories and their narrative coherence was significantly less than girls.

As the only Storystem code observed to change significantly for the group as a whole was Story Resolution, paired t-tests were carried out for boys and girls separately to see whether gender may have accounted for this. It was found that boys' Story Resolution scores at Time 1 significantly differed to those at Time 2 ($t(10)= 3.8, p < 0.05$). No significant difference was observed in girls' Story Resolution scores across time. Thus, only boys' story resolutions became significantly worse after sibling arrival.

Since the storystem scores were derived from children's narratives and the Bus Story scores significantly correlated with at least a third of stems, gender differences in language skills may have contributed to the observed gender effects in stem completions. An independent t-test reveal no significant differences between boys' and girls' Bus story scores to suggest that their language skills were matched.

Transition status and Children's storystem responses

Previous studies have attended to age affects and children's responses to sibling arrival. However little attention has been paid to how previous experience of sibling arrival might affect reactions. As the sample permitted inspection of this, the effects of first-time versus second-time sibling arrival were explored. Below are the mean scores of children's responses to the Storystem task according to their transition status.

Table 15. Transition status and Children's mean Storystem scores

Storystem Codes:	First-time Transition				Second-time Transition			
	Time 1		Time 2		Time 1		Time 2	
	M	SD	M	SD	M	SD	M	SD
Positive	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Negative	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Disciplinary	0.1	0.04	0.1	0.1	0.1	0.1	0.1	0.1
KI	3	0.6	3.1	0.5	3.2	0.4	3.3	0.7
SR	2.8	0.7	2.4	0.8	2.9	0.4	2.7	0.8
BA	3	0.7	2.8	0.8	3.1	0.6	3.3	0.6
NC	2.9	0.6	2.7	0.5	2.9	0.4	3.1	0.8

Independent t-tests were carried out to see whether differences in first-time and second-time sibling transition scores on the Storystem task were significant. Analyses revealed that no significant differences existed. Again, a paired t-test was carried out to determine whether Story Resolution differed for each group separately. No significant difference was found for Story Resolution across transition.

However it is interesting that the 4 story quality dimension scores were slightly lower than those of the second-time transition group and the pattern remained the same at Time 2. Thus although non-significant the trend observed showed the first-time transition group to perform worse than the second-time group on all four story quality codes. This non-significant trends is as expected if first-time siblings are expected to find transition to siblinghood more difficult than second-time siblings.

Question 5. To what extent does maternal functioning affect children's responses to the Storystem task ?

Previous studies have implicated maternal well-being and marital relations as contributing to the mother-child relationship and consequently, children's adjustment to siblinghood. In this study the aim was to control for these factors by measuring mothers' level of psychiatric symptomatology and marital satisfaction before and after sibling arrival and then explore whether: 1) any relationship existed between these scores and children's responses on the Storystem task and; 2) there was a significant difference in children's scores according to high and low psychiatric symptomatology and marital satisfaction.

Maternal well-being

As already reported in section 3.1, nine (42.9%) mothers at Time 1 and four (19.1%) mothers at Time 2 were categorised at high in psychiatric symptomatology, as measured by the GHQ-28 and the difference between Time 1 and Time 2 mean scores was found to be significant, reflecting an improvement in mothers well-being post-birth.

Across the transition period, mothers fell into one of three groups: a low-low group, where GHQ-28 scores were low at Time 1 and Time 2 (n = 12); a high-low group, where GHQ-28 scores dropped at Time 2 (n = 5); and a high-high group which represented high GHQ-28 scores at both time points (n = 4). The sample sizes were too small to permit meaningful statistical analyses of differences between children's story responses according to the three groups across time. However, it was possible

to compare story responses at Time 1 for mothers' high (n = 9) and low (n = 12) on

the GHQ-28.

Using independent t-tests, no significant differences were observed between

children's story responses according to mothers' well-being at Time 1. To explore

whether any associations existed between mothers' GHQ-28 scores and children's

responses on the Storystem task, 14 correlations were computed between mothers'

GHQ scores at each time point and the 7 Storystem codes. All correlations were non-

significant and low, ranging from (r = -0.03 to 0.3). Children's responses on the

Storystem task at Time 1 were not related to mothers' GHQ-28 scores at Time 1, nor

were they related at Time 2.

Mothers' marital satisfaction

As already reported in section 3.1, no significant differences were found between

mothers' ADAS scores across time and at each time point, only 2 mothers were

classified as low on marital satisfaction by 1 point. Therefore to explore whether any

associations existed between mothers' ADAS scores and children's responses,

mothers' mean ADAS score across the two time points was correlated with the 7

storystem codes. Only one significant correlation was found between children's

Disciplinary representations at Time 1 and mean ADAS, (r = -0.6, p < 0.01), the

remaining 6 correlations were low, ranging from (r = -0.02 to 0.3) and not significant.

Greater marital satisfaction, as reported by mothers was related to children with fewer

Disciplinary representations at Time 1.

CHAPTER FOUR

Discussion

Overview of Chapter Four

This chapter begins with a brief summary of the research questions, methods and main findings of the study. Interpretation of the findings in the context of the research questions, the existing literature concerning transition to siblinghood and the Storystem technique is then offered. Other areas of psychological literature which may help to enhance understanding of the findings is also addressed. Limitations of the study are described and the clinical and research implications are outlined. Some suggestions for future research are made, followed by the conclusions to be drawn from this particular study.

4.1 Summary of the main aims, methods and findings

This study aimed to increase understanding of the effects of sibling arrival into a family by considering children's internal representations of relationships. A new representational measure was used to assess aspects of children's internal representations, approximately 1-month before sibling arrival and 8 weeks after, in order to compare whether differences existed between the two time points. In addition details about the child, their behaviour and mothers' functioning were collected, first to examine whether these changed during the transition period and second, to explore whether there were any associations between these factors and children's representations of relationships. A sample of 21 child-mother dyads participated in this study and all were volunteers. After obtaining consent, mothers completed a number of questionnaires and their children undertook the Storystem

task. Responses to the Storystem task were coded using two schemes and all the data collected analysed using quantitative analyses.

Two significant differences were found in children's Storystem responses after sibling arrival: Disciplinary representations of mothers increased; and Story Resolution decreased. All other aspects of children's internal representations of relationships showed non-significant trends. No significant differences were found between children's behaviour difficulties during transition; and no associations were found between children's behaviour and their storystem responses before sibling arrival. However after sibling arrival, high bizarre/atypical story endings were related to greater overall difficulties, hyperactivity and conduct problems, which was also associated with higher Negative representations of mothers. In contrast, greater Positive representations were related to fewer emotional problems and more resolved story endings were related to high prosocial behaviour.

Significant gender differences were found between boys' and girls' story responses both before and after sibling arrival. Before, boys had fewer Positive representations of mothers, less evidence of the embedded key issue and provided less resolved story endings than girls. After sibling arrival, boys showed less evidence of the key issue, more bizarre/atypical features and less coherent and resolved stories than girls. In addition, boys' story resolutions became significantly worse after sibling arrival, while girls' did not. No significant differences were found between children's previous experience of siblinghood, although first-time siblings showed a significantly greater number of Disciplinary and fewer Positive representations of mothers after sibling arrival.

Mothers' well-being significantly improved after sibling arrival, but no significant associations were found between this factor and children's storystem responses. No significant difference was found between mothers' marital satisfaction during transition, although greater marital satisfaction was related to fewer Disciplinary representations before sibling arrival.

4.2 Interpretation of the research findings

The findings of this study are based on a small sample size (N = 21) and must therefore be considered with caution. Studies containing small sample sizes are more likely to involve Type I errors, where a false hypothesis is accepted, and Type II errors, where there is a failure to reject a null hypothesis because of lack of power. Nonetheless, research has not previously explored the effect of sibling arrival using a representational measure and the results of this study are therefore of potential interest.

This section will return to the original research questions, and use them as a guide for interpreting the results. The results that are concerned with children's storystem responses and behaviour over the transition period are considered first, followed by the results of the analyses that examined the potential associations between child and maternal functioning factors and storystem responses.

Question 1. What impact does sibling arrival have on preschool aged children's responses to the Storystem completion task and behaviour ?

Composite representations of mothers

The results of children's storystem responses before sibling arrival suggested that their internal representations of relationships were characterised most by Positive representations of mothers, then Negative, and least of all by Disciplinary representations. After sibling arrival composite representations of mothers significantly increased for Disciplinary representations, while Positive and Negative representations both showed a non-significant decreased trend.

The significant increase in Disciplinary representations appears consistent with data from previous research (Dunn & Kendrick, 1980, Dunn et al, 1981) which found that after sibling arrival, control issues dominated mother-child interactions. The present results are potentially even more interesting, given the unique child perspective adopted. They would seem to suggest that where mothers have been found to report increased discipline in the relationship, supported by observational findings, children also perceive this change after sibling arrival to the extent that it alters internal representations of maternal discipline.

However, this mean-level difference found does require some cautious interpretation since across transition, individual children's Disciplinary representations lacked stability to suggest individual variability and a more complex picture.

Two reasons may account for this instability in children's scores and these both relate to the coding procedure used. First the Disciplinary composite was calculated

on the assumption that discipline, prohibition and conflict themes were similar, given the findings from previous research and in particular, the coding scheme developed by Oppenheim et al (1997b) which derived from factor analysis. The present study however modified Oppenheim's Disciplinary composite to included two new themes: prohibition and conflict. Although the addition of these was based on their apparent similarity, factor analysis may have revealed this was inappropriate. Further the low internal consistency found for this Composite both before and after sibling arrival would suggest that the three underlying content themes were only marginally related. Thus it seems likely that these themes may in fact have been some what separate from one another and could have varied independently to one another to produce instability in individual children's Disciplinary representations.

A second issue concerning stem coding was the use of different stories at Time 1 and Time 2. Although stories were randomly allocated to each time period, there may have been differences in the potential frequencies of themes that each set generated. Instability in children's scores may thus have arisen as a result of differences between sets of stories. The issues regarding the coding schemes are discussed in detail later in the chapter.

The pattern of associations between composites revealed by Oppenheim et al (1997b) were also not replicated in the present study. Disciplinary and Negative representations were slightly associated before sibling arrival, while in the Oppenheim study, Positive representations were related to Disciplinary representations. After sibling arrival, the only slight association suggested that as

Disciplinary representations increased, Positive representations decreased; this again contrasts with Oppenheim's findings.

These discrepancies may be partially accounted for by differences between the studies. First the sample used by Oppenheim was not experiencing the birth of a sibling. From this perspective the children in this research were undergoing a specific life event which was not the case in Oppenheim's study. The present study used the pre-birth storystem responses as a standard against which to compare post-birth responses, although the children's home environment at Time 1 was arguably already altered by the fact that mothers were in the last trimester of pregnancy. The differences between Time 1 composites and Oppenheim's may therefore reflect the impact mothers' pregnancy had on the children's relationship with mothers.

Second, the Oppenheim et al study was conducted in a laboratory and the Storystems coded from video and audiotaped responses. The present study was undertaken in children's homes, in the hope that this would facilitate participation in the Storystem task. In addition the responses were only audiotape recorded to reduce the intrusiveness of the data collection procedure. It is of note that coding the content themes from children's verbatim transcripts proved rather difficult and yielded a large number of 'not present' codes. Had the stories been coded from video material it may well have been easier to identify themes and this scheme may have proved more effective. This point is expanded in discussion of the limitations of the study. The findings concerning children's story quality dimensions are now discussed.

Story quality dimensions

Before sibling arrival, children's internal representations of relationships as reflected

by their story quality dimension scores showed considerable evidence of the

embedded story dilemma, KI, showed moderate resolution, SR, and coherence, NC,

and contained few bizarre/atypical, BA, elements. Further, the highly significant

associations between the four quality dimensions at both time points implied that

children who tended to produce benign stories also showed high coherence, story

resolution and evidence of the embedded dilemma, while those who tended to have

high bizarre/atypical story endings also tended to have low story resolution,

coherence and evidence of the embedded issue.

This pattern mirrors the results of previous studies (Kaplan & Main, 1985; Cassidy,

1988; Bretherton et al, 1990b) which have focused on internal representations of

attachment relationships and the classification of children's attachment status. These

studies have suggested that securely attached children tend to produce stories that are

benign, resolved and coherent. Although no attempt was made to classify individual

children's attachment status in this study, the fact that the four story quality

dimensions showed good internal consistency and shared a previously identified

alliance to one another supported the meaningfulness of this coding approach.

Turning to children's responses after sibling arrival, it was expected that story

resolution and coherence would decrease and bizarre/atypical responses would

increase to reflect negative disruption of children's internal representations of

relationships. No specific expectations were held about how the dimension key

issue might change, given that this assessed evidence of the embedded story dilemma as a measure of engagement in the task. Interestingly only children's group-mean story resolutions became significantly reduced, while non-significant trends were observed in the other three dimensions: coherence tended to decrease and bizarre/atypical and key issue tended to increase. In addition, stability was found in individual children's story resolution scores across transition to suggest that all children tended to perform worse on this dimension.

These findings somewhat corroborate previous studies concerning effects of sibling arrival, which report negative changes in the mother-child attachment relationship after a baby is born (Taylor & Kogan, 1973; Teti et al, 1993; Touris et al, 1995; Teti et al, 1996). Story resolution as an aspect of children's internal representations of relationships reflected the child's ability to cope with the focal conflict/dilemma embedded in the storystem and provide an agreeable outcome. For example, in the story 'Mum's headache' there is a conflict between the mother's wish for quiet and the visiting friend's wish to watch television. The optimal response would reflect a compromise between the two people's needs. Since resolution reduced after sibling arrival, this suggests that children became less able to cope with conflict and provide an agreeable solution. In terms of children's internal representations of relationships, this relates to a reduction in the child's organised 'inner life'.

This finding is interesting and may be linked to the marked changes Dunn & Kendrick (1982) observed in mothers' conversations with their children after sibling arrival. First there was an increase in verbal disputes and confrontations between mothers and children post-birth. Second there was a change in the quality of

discussions about other people. Before sibling arrival, most of the discussions between mother and child concerned the child's own state; post-birth this shifted to a focus on the needs of the new baby.

Thus the reduction in story resolution abilities may reflect children's inability to cope with the significant increase in confrontations and verbal disputes directly after sibling arrival. Indeed, children's Disciplinary representations of mothers also increased across transition to suggest that children perceived mothers as more disciplinary post-birth. However, the external aspects of the mother-child relationship were not addressed and further research would be needed to justify this proposal.

Dunn & Kendrick (1982) also point out that conflicts between caregivers and siblings provide an important arena for internalised experience such that rules regarding how to negotiate, or cope with conflicts involving possession, sharing and so on, are learned over time. The present study involved a short-term perspective only and involved a process family systems researchers refer to as 'a crisis of transition' (Pittman, 1987), where by a family attempts to accommodate a disturbance in equilibrium brought on by a developmental or situational change. Accordingly, from the child's point of view the period directly after sibling arrival (7 to 12 weeks postpartum in the present study) reflected inability to provide resolved story endings. According to theory, in well-functioning families this period will be followed by a return to stability and may even be important in promoting the child's development.

With respect to the lack of significant findings for coherence and bizarre/atypical responses, this may partly be explained by differences between the present story quality coding scheme and that which it was based on. The current story quality coding scheme derived from research by Cassidy (1988) and Bretherton et al (1990b). In their original research, story narratives were rated on a single scale that incorporated resolution, coherence and bizarre/atypical features to yield an overall global score upon which security of attachment classifications were based.

In deciding upon how best to analyse the storystem responses, the original approach of Cassidy and Bretherton et al appeared somewhat restrictive. First it was designed to distinguish securely attached children from insecurely attached children. As already noted, this study did not attempt to classify children's attachment status, but was more interested in considering how sibling arrival affects the organisation of internal representations of relationships.

Second the global rating approach seemed to increase the likelihood of difficult-to-classify cases as a story could show full coherence, slightly bizarre/atypical yet provide no story resolution. To avoid or reduce the incidence of difficult-to-classify story endings, the most salient features of children's narratives described by Cassidy and Bretherton were separated into three distinct dimensions.

It is possible therefore that the non-significant findings were a result of splitting the global rating scale into three dimensions. This would seem to be supported by the non-significant trend observed: bizarre/atypical elements were greater post-birth and narrative coherence decreased; these trends were as expected if in combination all

three features reflect the 'organisation' of a child's inner life. Thus sibling arrival acts to disrupt the mother-child relationship and this in turn effects at least one facet of children's internal aspects of relationships.

This finding may also have implications for global rating approaches. First it is not known whether a single scale would replicate this finding. Second it may imply that story resolution is the most important feature of children's narratives, making the other aspects some what redundant. Alternatively, this could suggest that story resolution is a more pertinent feature during transition to siblinghood than the other dimensions. The issues surrounding the coding schemes will be returned to later in this chapter.

Finally the possibility that all the storystem codes may have been mediated by children's language ability was explored by considering the associations between children's narratives and the Bus story measure. Five correlations were significant, such that before sibling arrival, Sentence length correlated with Positive representations of mothers; at Time 2, with Disciplinary representations; Key issue and Bizarre/atypical and; Information correlated with Disciplinary representations.

These findings contrast with previous Storystem research which have not found significant relationships between language ability and stem responses. However this was the first time that the Bus story had been used as opposed to a measure of one particular skill like expressive vocabulary. The Bus story was specifically chosen as it was felt to provide a more comprehensive assessment of language ability and this may have resulted in the significant findings.

Further it is interesting that Sentence length was associated with more story responses than Information, which concerned the qualitative content and sequence of children's Bus stories. From this perspective the lack of association between the Information score and children's narratives would seem to suggest that children's responses were not just a product of their language ability.

Behaviour difficulties

No significant differences were found between children's behaviour difficulties before and after sibling arrival. This finding contrasts with previous studies (Dunn & Kendrick, 1980, 1982; Dunn et al, 1981; Nadelman & Begun, 1982) which identified several marked changes relating to increases in regressive behaviours, such as bed wetting, clinging and use of pacifiers; increases in conduct and emotional problems and increases in 'more grown-up' behaviours (Dunn et al, 1981).

Several reasons may account for the differences in results. First, although the changes in behaviour were non-significant, the observed trend in scores across transition corresponded with the findings of previous research (Dunn et al, 1981). The Total Deviance score along with 4 sub-scales: Conduct, Emotional, Hyperactivity and Peer problems all increased after sibling arrival and the prosocial score decreased.

Further examination of individual children revealed that after sibling arrival 5 children became classified as having at least one behaviour problem while before they had no behaviour difficulties; and 2 became classified as having no behaviour

problems while before they had at least one behaviour difficulty. The numbers were too small to permit statistical analyses, although and the fact that some children improved while some got worse post-sibling arrival, was in line with previous research and theoretical accounts of child development following periods of stress (Freud, 1965).

Second a study by Stewart et al (1987) suggested the appearance of problem behaviours related to the time since baby's birth and the sex composition of the pair: Firstborns with the same-sex siblings exhibited more problem behaviours at 1 and 8 months postpartum than at either 4 or 12 months. First the numbers in this study were too small to permit meaningful examination of the sex composition of the child-baby pairs and behaviour problems. Had the sample been larger this may have been possible and the results may have reached significance.

It is also of note that the second visit occurred between 7 to 12 weeks postpartum. The rationale behind this time frame was to reduce the likelihood of memory affects confounding the Storystem task, which was the main focus of study. However, with respect to behaviour, the delayed second visit corresponded to the time when fewer behaviour problems may have been evident. Anecdotal support for this comes from the number of mothers who discussed how difficult their child had been directly following the birth, but had settled down by the time of the second visit.

The relationship between children's storystem responses and behaviour is now discussed.

Question 2 and 3. Is there any relationship between children's behaviour and their responses on the Storystem task during transition ?

After sibling arrival several correlations became significant between children's responses to the Storystem task and behaviour difficulties to suggest that the more negative aspects of children's responses related to increases in behaviour difficulties. Specifically after controlling for Bus story scores children who showed greater bizarre/atypical elements in stories had greater Total Deviance and Hyperactivity scores; and as Negative representations of mothers increased conduct problems also increased. In contrast as Positive representations increased emotional problem decreased.

These results support previous studies that suggest a link between internal representations of relationships and measurable behaviour problems (Warren et al, 1996; Oppenheim et al 1997b). Intriguingly, no significant associations were found between children's storystem responses and mothers' reports of behaviour problems before sibling arrival.

One possible explanation for this discrepancy was the fact behaviour problems tended to increase after sibling arrival and this may have lead to non-significant associations reaching statistical significance post-birth. Nevertheless this justification still contradicts previous studies that found a relationship irrespective of the level of reported problems (Warren et al, 1996). Another reason may be that studies that reported such a relationship, differed from the present study in terms of focus and in the behavioural assessment measures used. Nonetheless this does not account for the significant associations found after sibling arrival. However, Dunn

& Kendrick (1982) found that temperamental differences between children were of particular importance to the form of the child's reaction to sibling arrival. As temperamental differences were not measured in this study it is impossible to know what affect this factor might have had on the relationship between children's behaviour and storystem responses.

Finally the lack of any associations pre-birth may again relate back to the small sample size used. Both the Warren and Oppenheim studies had sample sizes of more than double the present sample, (n = 51 in each), and were therefore more likely to detect significant associations. The non-significant findings in this study are still however detrimental to the suggestion that internal representations of relationships are linked to measurable behaviour problems.

The effects of child variables on storystem responses are now discussed before turning to the final research question.

Question 4. To what extent do other factors related to the child affect storystem completions ?

Gender differences

Significant differences were found between mean boys' and girls' storystem responses both before and after sibling arrival. These results suggested that before sibling arrival girls had a greater number of Positive representations of mothers than boys and their stories were more resolved and showed greater evidence of the embedded dilemma. After sibling arrival, girls also showed significantly greater story resolution and evidence of the embedded dilemma, as well as greater coherence and less bizarre/atypical responses than boys.

Boys' story resolution was also found to significantly decrease after sibling arrival, while girls' did not. This suggests that the significant decrease in story resolution for the whole group was in fact attributable to the boys in the sample rather than girls. In terms of transition to siblinghood, this finding fits the data reported in other studies, that boys are more adversely affected by sibling arrival than girls; notably in terms of mothers' reports of increased withdrawal (Dunn et al, 1981). However in relation to attachment studies and transition to siblinghood, no such gender effects are reported (Teti et al 1996).

The interpretation of gender affects and storystem responses is further complicated by the fact that sex differences have been identified in children's narrative themes by other researchers. Oppenheim et al (1997c) found several interesting differences among 4 ½ year olds completions. Girls were more emotionally coherent, had fewer aggressive themes and showed greater relatedness to the examiner than boys. These

observations are consistent with the current findings both before and after sibling

arrival and may have implications for the Storystem technique. First this does not

necessarily imply that boys have 'less' organised internal representations of

relationships than girls as children's narratives may involve a combination of wish

fulfilment, fantasies and representations of actual experiences (Oppenheim et al,

1996). As such, the boys' 'less' organised representations may be partly a result of

gender differences in aggressive themes in children's fantasy stories, as recognised by

Pitcher & Prelinger's (1963).

Zahn-Waxler, Cole and Barrett's (1991) recent theorising also highlights girls'

tendency to emphasise relationships and resolution of conflicts. Taken together, this

may explain why the girls were found to out perform the boys on story resolution and

evidence of the embedded dilemma. Further the greater negative elements, as

evidenced by lower bizarre/atypical scores for boys after sibling arrival may also

reflect the presence of greater fantasy elements. Indeed Field & Reite (1984)

demonstrate an increase in spontaneous fantasy enactments during transition to

siblinghood.

This issue regarding the extent to which storystem responses reflect fantasy elements

is crucial to the validity of this procedure as a means of inferring children's internal

representations of relationships. The present study is unable to clarify this potential

concern as no other assessments of the mother-child relationship were made.

However, where comparisons have been made between documented case histories,

current circumstances and storystem narratives with maltreated children, substantial

correspondence has been found (Buchsbaum et al, 1992). Thus although responses

almost certainly involve an element of fantasy, this may not detract from their ability to capture children's representations of their world as they play out real-life themes.

Finally the gender affects may have arisen as a result of children's language ability. No gender differences were found between boys' and girls' language ability to suggest that this was not a factor. Thus although the boys provided less organised internal representations of relationships than the girls, across transition, the decrease in story resolution suggests that boys' were more affected by the experience than girls. These results are tentative however, given the small sample sizes.

Transition status

No significant differences were found between children experiencing the birth of a sibling for the first time and those experiencing it for a second time and no significant differences were found in story resolution scores across transition. This study was the first to explore transition status affects on children's responses to sibling arrival and as such, there were no specific expectations held.

However it is interesting to note that non-significant trends were detected to suggest that first-time sibling children had less organised internal representations of relationships than second-time sibling children after sibling arrival and may therefore have been more adversely affected. This observation would seem to coincide with psychoanalytically based formulations regarding firstborn's reactions to the arrival of a sibling which emphasise feelings of displacement, anxiety and anger (Levy, 1934; Winnicott, 1964); these feelings being greater the first time around. To explore this more fully much larger sample sizes would be needed, as

the absence of significant findings may again have been due to the small sample sizes. Aspects of maternal functioning are now discussed before turning to the limitations of the study.

Question 5. Are aspects of maternal functioning associated with children's responses to the Storystem completion task during transition ?

Maternal well-being

Unexpectedly the significant difference found between mothers' GHQ-28 scores across transition suggests mothers' well-being improved post-birth. Given that poor quality parenting has been associated with higher psychiatric symptomatology (Cummings, 1987), the observed improvement may well imply that mothers were more able to provide better quality parenting after sibling arrival. This result is exciting given that Touris et al (1993) cite such improvements in mothers' well-being as potential reasons for positive changes in child-mother attachment relationships after the birth of a sibling. It is possible that the observed improvement may well have contributed to the largely non-significant changes in children's storystem responses across transition.

In addition, Teti et al (1996) found that mothers' post-birth psychiatric symptomatology predicted firstborn security scores, high symptomatology being associated with low security scores. Pre-birth scores were found unrelated. Teti et al propose that this may indicate that children are particularly sensitive to alterations in mothers' well-being when they are also attempting to cope with adjustment to the baby's arrival. It is of note that these mothers' mean psychiatric symptomatology scores increased post-birth, although the significance of this was not reported. Thus

there was a tendency for their well-being to decrease and this association fits the

parenting literature on poor maternal mental health and security of children's

attachments.

None of the associations between mothers' GHQ-28 scores and children's narratives

were found to be significant, either before or after sibling arrival. One possible reason

for this may have been the improvement in symptomatology post-birth. Unfortunately

the small sample sizes did not permit examination of the differences between

children's responses according to mothers' psychiatric symptomatology post-birth,

although no significant differences were found before sibling arrival.

Marital satisfaction

Mothers' marital satisfaction was high and stable during transition to suggest that this

aspect of children's home environment remained consistent. The importance of this is

that the birth of a baby has been associated with decreased marital quality (Belskey et

al, 1983) which in turn may create higher stress and emotional upset in the child and

impact behaviour and the mother-child relationship. Only one aspect of children's

storystem responses significantly correlated with mothers' ADAS scores: Fewer

Disciplinary representations were reported by children of mothers' with greater

marital satisfaction before sibling arrival.

This implies that children of parents with good marital relations, perceive their

mothers' as less disciplinary. One explanation of this may be that in these families,

child discipline is shared between parents and thus, mothers are less disciplining than

mothers with poor marital relationships, who perhaps carry more of this

responsibility. Unfortunately the constraints of the storystem coding scheme only examined interactions between the mother and child doll. Otherwise it may have been possible to compare maternal and paternal Disciplinary representations with marital quality.

4.3 Limitations of the study

The limitations of this study will now be considered. As a starting point, this section will consider the limitations of the sample, acknowledging issues relating to the mother and child participants. Secondly, the limitations associated with the design and procedure will be considered before highlighting issues related to the chosen measures of the study.

Limitations of the sample

The mother participants

In any study the major concern regarding the sample is the extent to which it is representative. Although it is important to note that mothers regularly attending an Ante Natal clinic are not representative of mothers seen in the community, this does not affect the representativeness of the sample in this study. As an Ante Natal clinic population of a large London hospital with over 2000 births per year, this sample would appear to be representative of women attending Ante Natal clinics. It represents both private and NHS sector patients, although specific details were not obtained on the numbers of private versus NHS patients.

However, the recruitment procedure used is open to question. This involved mothers responding to advertisements displayed in the clinic and may have lead to sampling bias in terms of interest, motivation and educational level as they were volunteers. This method of selection was favoured by the Ethical Committee as it was felt too intrusive to contact mothers directly and would have required access to confidential medical records.

The mother-child relationship focus in this study was selected in the belief that mothers represented the child's primary carer. This may not have been a fair assumption and no details were obtained regarding this issue. Details relating to fathers were also excluded from assessment of marital quality and this may have compromised the data further. Inclusion of fathers may have allowed for a more in-depth appraisal of children's family milieu and most salient relationships.

Studies to date have shown that the first few weeks postpartum may be the most difficult period for the family to adjust (e.g. Dunn et al, 1981). However this study not only found improvement in mothers well-being postpartum, but low behavioural disturbance and disruption to children's internal representations of relationships. It is conceivable that by 8 weeks postpartum a certain amount of adjustment had already occurred and clarification of this may be possible with a larger sample.

In addition no attention was paid to other major events that may have affected family milieu or the child. For example one mother reported that her mother had died just 2 days before the second visit and this had been far more disruptive than the arrival of the baby. Another mother said her son had just started school and was having

problems settling down. It is difficult to assess the impact of these events without data regarding their occurrence, although it would seem likely that there would be some affect on the family and child in particular.

The most fundamental limitation of this study is its sample size. A larger sample was planned, but recruitment proved more difficult than had originally been anticipated. It is possible that this sample is not large enough to be representative of children's experience of sibling arrival, and the sample certainly had implications for the statistical analyses that were possible. Despite the sample size, the exploration of internal aspects of children's representations of relations during transition to siblinghood have not been attempted before using a representational measure. Interesting findings have been reported and important directions for future research identified. These will be presented later in this chapter.

The child participants

The child participants in this study were recruited necessarily via their mothers who were primarily white and middle-class and the results may not apply to other racial groups or families from lower income backgrounds. This limitation is particularly pertinent to narrative research because narrative practices are strongly embedded in sociocultural contexts (Miller, Mintz, Hoogstra, Fung & Potts, 1992). Second one unanticipated problem that arose and restricted sample selection was the age gap mothers leave between children. The UK population average is 18-months between first and second children. For children to be able to complete the Storystem task, the minimum age is 3-years old. Several mothers expressed interest in participating but were unable to do so as their first child was less than 3-years old.

As a consequence, the project was extended to allow mothers expecting a third baby, where the firstborn met the age requirements. Unfortunately this introduced a further factor of transition status and increased the differences between the children. Even though the differences between first-time and second-time transition storystem responses were non-significant, had a homogeneous sample been obtained, the overall group changes may have been different.

A final point relating to the children was the age range (42 months to 78 months) selected as this raises issues concerning developmental differences in cognitive, emotional and social functioning. Only language ability was assessed as this was felt to potentially directly affect storystem performance, which it did in some instances. However, the Storystem technique may involve more than linguistic competence as it presents emotionally laden family scenarios, demanding conflict resolution and relationship acknowledgement. The broad age range was likely to have produced a number of developmental differences which may have increased variability in children's performance. A narrower age range would have decreased this possibility and reduced the likelihood that developmental differences may have contributed to the non-significant changes observed in children's storystem responses.

Limitations of the procedure

Although the use of different storystems at Time 1 and Time 2 was intended to reduce memory effects, on the second visit some children clearly remembered the first set of stories and this may have interfered with their responses second time around. From coding the stems it did not appear that elements of the first stories

were repeated in the second set, although no assessment of this potential bias was made.

Furthermore the use of two sets of storystems may call into question their equivalence. The MacArthur Storystem Battery although designed to elicit individual differences in children's portrays of 'attachment-related issues' (Bretherton, et al, 1990a), each story presents a particular issue that is weighted towards a particular response. For example, a story presenting conflict will be more likely to produce disciplinary themes than a story without conflict. Although stories were randomly allocated to each time period, this issue is particularly relevant to the composite representations elicited. It is possible that the stories used at Time 1 and Time 2 created differential opportunities for the content themes to arise. Therefore changes in the frequency of themes across transition could have been confounded by changes in the frequency of specific themes likely to be produced. This potential bias may in fact have explained the significant increase in Disciplinary representations of mothers, yet instability in individual scores across transition.

Similarly, collection of children's responses involved audiotape recordings. This study was the first to code storystems without concurrent videotape recordings and verbal transcripts. This point is picked up again under limitations of the measures, however the lack of portable video equipment prevented this and most certainly altered the amount of information available for coding.

The main aim of this study was to assess children's internal representations of relationships and behaviour during transition to siblinghood. However, the selection

of 8 weeks postpartum may not have captured the most disruptive time following a baby's birth and therefore have missed peak disturbances. As already mentioned previous studies have found that 1-month and 8-months post-birth are most associated with children's increased behaviour problems (Stewart et al, 1987). However, repetition of the Storystem task soon after sibling arrival may have reduced reliability and therefore a slightly longer time interval was chosen.

Limitations of the measures

The main limitation of the Storystem task used to assess children's internal representations of relationships was how to interpret the responses they elicited. First and foremost, no coding scheme available captures all the different aspects of children's responses and therefore there is inevitability loss of information. Second, as already mentioned, coding derived from verbal transcripts alone and this again reduced the amount of information available. This was a particular problem in applying the content codes to stems as few themes could be identified and this more than likely accounted for the high inter-rater reliability (median = 0.96), as there were very few opportunities for disagreements to occur.

The questionnaire data collected was all completed by mothers. In terms of children's behaviour, there was a possible problem of 'halo effects', where mothers idealised their child's behaviour and under reported problems. Similarly, this concern was associated with mothers' reports of well-being on the GHQ-28 and marital satisfaction on the ADAS. This issue of response bias is evident in all self-report measures and is only avoidable by using alternative means of assessment, unfeasible in the present study.

It was hoped that the pre-birth interview would elicit the ways in which mothers' had prepared their children for sibling arrival and this could be taken into consideration in terms of children's internal representations of relationships across transition. Unfortunately the assessment made was too broad to determine differences between mothers' parenting styles pre-birth and therefore prevented inclusion of this factor. However, this is not to suggest that mothers had not prepared their children, more that the structured interview inadequately identified meaningful differences between mothers.

It may have been fruitful to have considered the father's role both in terms of family milieu and children's internal representations of relationships. The Storystem task in fact presents the child within a family, containing a mother, father, child, baby and grandmother. The exploration of more than just the mother-child relationship is therefore a potential, but would have been too large a task to study within the constraints of this research project.

4.4 Implications of the study

This section will consider the clinical and research implications of this study, as well as make some suggestions for areas of future research.

Clinical implications

This study found only two facets of children's internal representations of relationships negatively changed as a result of sibling arrival while no increases in behavioural disturbance were detected. However possible reasons for the lack of results reaching significance levels have already been discussed and it seems likely that transition to siblinghood should be considered a time of potential stress for the child and family. It is of note that this research was conducted on a low-risk, volunteer sample and raises questions about whether the findings would be different for a clinical sample. Further research is needed therefore to clarify this issue.

Results of this study also found significant gender differences in children's storystem responses, and this may reflect that this is an event particularly difficult for boys. This is something that can easily be monitored and it is possible that mothers with boys could be targeted and provided with information regarding how best to facilitate transition.

Besides the effects of sibling arrival, the Storystem task itself appears to hold promise as an assessment tool both for clinical and research purposes. First it covers a range of domains in a systematic fashion, unlike spontaneous play techniques often employed in child services. The need for standardised procedures in assessment is

clear when important decisions about children's psychological status are to be made.

Secondly, the Storystem task was found to be a good elicitor of responses regarding

family themes, relationships and conflicts. As such the Storystem Battery may prove

a useful technique for obtaining self-report information from the child as a means of

obtaining views of their inner world to facilitate diagnosis and treatment planning.

Furthermore, children almost unanimously stated they had enjoyed the task and

mothers reported their children looked forward to the second visit, to suggest it was a

non-threatening experience. This may be a particularly pertinent issue when assessing

both very damaged or non-compliant children as they are notoriously difficult patients

to engage in assessment, and may facilitate rapport between the child and therapist.

Finally, this study went some way to suggest a link between children's internal

representations of relationships and external behaviour problems. Thus the Storystem

technique may provide a window into the child's inner world to assess child dynamics

and family situations in children with behaviour problems.

The research implications and suggestions for future research

The results of this study clearly indicate that the use of a presentational measure to

assess internal aspects of children's representations of relationships during transition

to siblinghood requires further exploration. The disturbance of the mother-child

attachment relationship during this event using a behavioural measure has previously

been noted (Teti et al, 1996) but no study has examined this using a representational

measure. As already stated, the Storystem technique is still a relatively new measure

that is gaining importance as a means of inferring internal representations of children's relationships. In order to more fully understand effects of sibling arrival on children's internal representations of relationships, further work is needed to replicate and extend the findings of this study.

Foremost, the coding of children's responses to the Storystem task is in need of standardisation so that a knowledge base about categories/qualities of responses across groups of children can be obtained. This would facilitate the exploration of the effects of sibling arrival on children's internal representations of relationships and increase understanding of this complex developmental period in children's lives. In addition creation of a fixed valid and reliable coding procedures would facilitate comparisons between different studies.

The long-term impact of sibling arrival may also prove an interesting area of study using the Storystem technique. An added benefit of this measure is its focus on family relationships rather than just the mother-child relationships. Beyond the period of infancy, children's relationships expand and different family members may become more prominent, particularly during transition to siblinghood where fathers' involvement may become more important (Dunn & Kendrick, 1982). The Storystem task offers a potential means of exploring this change.

Further research needs to continue to examine the factors that may influence individual children's adjustment to siblinghood. Gottlieb & Mendelson (1990) point out the role of parental support in mitigating the distressing effects of sibling arrival, while child factors are important in regard to the mother-child relationship, which in

turn influences how children react and later interact with their sibling. For all of the

above suggestions, comparison with a control group would give additional

information into specific factors relevant to children experiencing transition to

siblinghood.

CONCLUSION

This study aimed to increase understanding of the effects sibling arrival have on children's internal representations of relationships. 21 mother-child dyads participated in the study. The Storystem technique was used to infer aspects of children's internal representations, before and after sibling arrival. Responses to this task were coded using two schemes, one of which proved more reliable. In addition details about the child, their behaviour and mothers' functioning were collected. It was predicted that children's internal representations of relationships and behaviour would be disrupted by sibling arrival, detected by negative changes in children's storystem responses and increases in behaviour problems. The associations between storystem responses and behaviour were examined along with two features of maternal functioning implicated in affecting mother-child relationships and adjustment to siblinghood.

Only two facets of children's internal representations of relationships altered after sibling arrival: Disciplinary representations of mothers increased; and story resolution decreased. Gender differences were also found between boys' and girls' story responses and these suggested boys' story resolutions after sibling arrival accounted for the observed group mean-level change. Differences due to transition status were not found to be significant, yet first-time siblings had greater Disciplinary and fewer Positive representations of mothers after sibling arrival. Behaviour difficulties did not increase across transition and associations were only found between post-birth behaviour and storystem responses such the more negative features of story endings were related to greater overall difficulties, hyperactivity

and conduct problems and the more positive features related to fewer emotional problems and higher prosocial behaviour.

Mothers' well-being improved after sibling arrival and no associations were found between this factor and children's storystem responses. Mother's marital satisfaction was stable and high across transition and only found to be associated with fewer Disciplinary representations before sibling arrival. No associations were found after sibling arrival.

Transition to siblinghood is a complex developmental time for preschool children and clearly involves more than just the changes in children's internal representations of relationships focused on here, and more research is needed to investigate this further.

REFERENCES:

Achenbach, T.M. (1991a) Manual for the Child Behaviour Checklist/4-18 and 1991 Profile. Burlington, VT: University of Vermont Department of Psychiatry.

Ainsworth, M. D. S., Blehar, M. Waters, E. & Wall, S. (1978). Patterns of Attachment: A Psychological Study of The Strange Situation. Hillsdale, NJ: Erlbaum.

Ainsworth, M. D. S., Bell, S. & Stayton, D. (1971). Individual difference in strange situation behaviour of One-year-olds. In H. R. Schaffer (Ed.), The origins of human social relations (pp. 17-57). New York: Academic Press.

Axline, V. M. (1947). Play therapy. New York: Ballentine Books.

Baskett, L .M. & Johnson, S. M. (1882). The young child's interaction with parents versus siblings: A behavioural analysis. Child Development, 53, p. 643-650.

Baumrind, D. (1971). Current patterns of parental authority. Developmental Psychology Monograph, 4 (No. 1, Part 2).

Belskey, J. (1981). Early Human Experience: A Family Perspective. Developmental Psychology, 17, p 3-32.

Belskey, J. (1984). The Determinants of Parenting: A process model. Child Development, 55, p 83-96.

Belskey, J., Spanier, G. B. & Rovine, M. (1983). Stability and change in marriage across the transition to parenthood. Journal of Marriage and the Family, 45, 567-577.

Black, D. & Sturge, C. (1979). The young child and his siblings. In J. Howells (Ed.), Modern perspectives in the psychiatry of infancy (pp. 262-283). New York: Brunner-Mazel.

Bowlby, J. (1958). The nature of a child's tie to his mother. International Journal of Psychoanalysis, 39, pp.350-373.

Bowlby, J. (1969). Attachment and Loss, vol 1: Attachment. New York: Basic Books.

Bowlby, J. (1973). Attachment and Loss, vol 2: Separation. New York: Basic Books.

Bowlby, J. (1980). Attachment and Loss, vol 3: Loss, Sadness and Depression. New York: Basic Books.

Bowling, A. (1991) Measuring Health: A review of quality of life measurement scales. Open University Press. Milton Keynes. Philadelphia.

Bretherton, I. (1980). Young Children in stressful situations: The supporting role of attachment figures and unfamiliar caregivers. In G. V. Coelho & P. Ahmed (eds.), Uprooting and Development (pp. 179-210). New York: Plenum.

Bretherton, I. (1984). Symbolic Play: The development of social understanding. Orlando, Fla.: Academic Press.

Bretherton, I. (1985). Attachment Theory: Retrospect and prospect. In I. Bretherton & E. Waters (Eds.), Growing points of Attachment theory and research. Monographs of the Society for Research in Child Development 50 (1-2, series No. 209, p3-35.

Bretherton, I. (1990). Open communication and internal working models: Their role in attachment relationships. In R. Thompson (Ed.), Nebraska symposium on motivation: vol. 36. Socioemotional development (pp. 59-113). Lincoln: University of Nebraska Press.

Bretherton, I. & Ainsworth, M. D. S. (1974). Responses of one-year-olds to strangers in a strange situation. In M. Lewis & L. A. Rosenblum (Eds.), The origins of fear 9pp.131-164). New York: Wiley.

Bretherton, I. & Oppenheim, D. (1994, June). Children's family narratives: A new window into their experiences. Symposium presented at the International Society for the Study of Behavioural Development Thirteen Biennial Meetings, Amsterdam, The Netherlands.

Bretherton, I., Oppenheim, D., Buchsbaum, H. & Emde, R. N. & The MacArthur Narrative Group. (1990a). MacArthur Story-stem Battery. Unpublished manual.

Bretherton, I., Prentiss, C. & Ridgeway, D. (1990b). Family relationships as represented in a story-completion task at thirty-seven and fifty-four months of age. In I Bretherton & M. W. Watson, (Eds.), Children's perspectives on the family. (pp. 85-106). San Francisco: Jossey-Bass.

Bretherton, I., Ridgeway, D. & Cassidy, J. (1991). Assessing internal working models of the attachment relationship: An attachment story completion task for 3-year-olds. In M. T Greenberg, D. Cicchetti & E. M. Cummings (Eds.) Attachment in the preschool years: Theory, Research and Interventions. Chicago: University Chicago Press.

Bretherton, I. & Waters, E. (Eds.), (1985). Growing points of Attachment theory and research. Monographs of the Society for Research in Child Development 50 (1-2, series No. 209.

Brody, G. H., Stoneman, Z. & MacKinnon, C. E. (1986). Contributions of maternal-child rearing practices and play contexts to sibling interactions. Journal of Applied Developmental Psychology, 7, 225-236.

Bryant, B. & Crockenberg, S. (1980). Correlates and Dimensions of prosocial behaviour: A study of female siblings with their mothers. Child Development, 51, pp.529-544.

Buchsbaum, H. K.& Emde, R. N. (1990). Play narratives in 36-month-old children: Early moral development and family relationships. Psychoanalytic Study of the Child, 40, 129-155.

Buchsbaum, H. K., Toth, S. L., Clyman, R. B., Cicchetti, D. & Emde, R. N. (1992). The use of narrative story stem technique with maltreated children: Implications for theory and practice. Development and Psychopathology, 4, p603-625.

Cassidy, J. (1988). Child-mother attachment and the self in six-year-olds. Child Development, 59, 121-134.

Cassidy, J. & Main, M. (1985). The relationship between infant-parent attachment and the ability to tolerate brief separations at six years. In R. Tyson & E. Galenson (Eds.), Frontiers of infant psychiatry (vol. 2, pp.132-136). New York: Basic.

Cohen, J. (1960). A coefficient of agreement for nominal scales. Education and Psychological Measurement, 20, pp 37-46.

Cohen, S. & Wills, T. A. (1985). Stress, Social support , and the buffering hypothesis. Psychological Bulletin, 98, pp.310-357.

Cummings, E. M. (1980). Caregiver stability and day care. Developmental Psychology, 16, p31-37.

Cummings, E. M. (1987). Coping with background anger in early childhood. Child Development, 58, p 976-984.

Derogatis, L. R. & Melisaratos, N. (1983). The Brief Symptom Inventory: An Introductory Report. Psychological Medicine, 13, p595-605.

Dunn, J. (1983) Sibling Relations. Child Development, 54, p 787-811.

Dunn, J. (1993) Young Children's Close Relationships: Beyond Attachment. Individual Differences and Development Series volume 4. Sage Publications, Newbury Park, London

Dunn, J. & Kendrick, C. (1980) The Arrival of a Sibling: Changes in patterns of interaction between mother and first-born child. Journal of Child Psychology and Psychiatry, vol 21, p 119-132.

Dunn, J. , Kendrick, C. & MacNamee, R. (1981) The Reaction of first-born children to the birth of a Sibling: Mother's reports. Journal of Child Psychology and Psychiatry, vol 22, p 1-18.

Dunn, J. & Kendrick, C. (1982) Siblings: Love, Envy and Understanding. Cambridge, MA: Harvard University Press.

Eiden, R. D., Teti, D. M., & Corns, K. M. (1995). Maternal Patterns of Attachment, marital adjustment and the parent-child relationship. Child Development, 66, p1504-1518.

Elander, J. & Rutter, M. (1995). Use and development of the Rutter Parents' and Teachers' Scales. International Journal of Methods in Psychiatric Research, 5, 1-16.

Erikson, E. H. (1940). Studies in the interpretation of play: I. Clinical observations of play disruption in young children. Genetic Psychology Monographs, 22 pp.557-671.

Field, T., & Reite, M. (1984). Children's responses to separation from mother during the birth of another child. Child Development, 55, p 1308-1316.

Fivush, R. (1991). The social construction of personal narratives. Merrill-Palmer Quarterly, 37, 59-82.

Fonagy, P., Steele, H. & Steele, M. (1991). Maternal representations of attachment during pregnancy predict the organisation of infant-mother attachment at one year of age. Child Development, 62, p891-905.

Freud, A. (1965) Normality and pathology in Childhood. International Universities Press, New York.

Freud, A. (1946). Psychoanalytic treatment of children. London: Imago Publishing.

Freud, S. (1908). On the sexual theories of children. S. E., 9: 205-226.

Freud, S. (1916-17). Introductory Lectures on Psychoanalysis. S. E., 15 & 16.

Freud, S. (1924). A General Introduction to Psychoanalysis. London, Bone & Liveright.

Greenberg, M. T., KeKlyen, M., Speltz, M. L. & Endriga, M. (1997). The role of attachment processes in externalising psychopathology in young children. In L. Atkinson & K. J. Zucker (Eds.), Attachment and Psychopathology (pp. 196-222). New York/ London: Guilford Press.

Goldberg, D. P. (1978). Manual of the General Health Questionnaire. Windsor, England: NFER Publishing.

Goldberg, D. P. & Hillier, V. F. (1979). A Scaled version of the General Health Questionnaire. Psychological Medicine, 9, 139-145.

Goldberg, D. P. & Williams, P. (1988). A user's guide to the General Health Questionnaire. Windsor, NFER-Nelson.

Goldberg, W.A., & Easterbrooks, M. A. (1984). The role of marital quality in toddler development. Developmental Psychology, 20, p504-514.

Goodman, R. (1994). A Modified version of the Rutter parent questionnaire including items on children's strengths: a research note. Journal of Child Psychology & Psychiatry, 35, 1483-1494.

Goodman, R. (1997). The Strengths and Difficulties Questionnaire: a research note. Journal of Child Psychology & Psychiatry, (in press).

Gottlieb, L. N., & Mendelson, M. J. (1990). Parental Support and firstborn girls' adaptation to the birth of a sibling. Journal of Applied Developmental Psychology, 11, p29-48.

Greenberg, M. T., DeKlyen, M., Speltz, M. L. & Endriga, M. C. (19**). The Role of Attachment Processess in Externalising Psychopathology in Young Children. In pp. 196-222.

Hartup, W. & Rubin, Z. (Eds.) (1986). Relationships and Development. Lawrence Erlbaum Associates, Publishers: Hillsdale, New Jersey, London.

Hodges, J. (1993). Coding Manual - Anna Freud Centre/ Great Ormond Street Narrative Project on Representations of Self and Parents in Abused/Neglected Children. Unpublished.

Hoffman, M. L. (1975). Developmental Synthesis of affect and cognition and its implications for altruistic motivation. Developmental Psychology, 11, p607-622.

Hunsley, J., Pinsent, C., Lefebvre, M., James-Tanner, S. & Vito, D. (1995). Construct validity of the short forms of the Dyadic Adjustment Scale. Family Relations: Journal of Applied Family and Child Studies, vol. 44 (3), 231-237.

Kagan, J. (1981). The second year: the emergence of self-awareness. Cambridge, Mass:. Harvard University Press.

Kagan, J. & Moss, H. A. (1962). Birth to maturity. New York: Wiley.

Kaplan, N. (1987). Individual differences in 6-year-olds thoughts about separation: Predictions from attachment to mother at age 1. Unpublished doctoral dissertation, Department of Psychology, University of California, Berkeley.

Kaplan, N. & Main, M. (1985, April). Internal representations of attachment at six years as indicated by family drawings and verbal responses to imagined separations. In M. Main (chair), Attachment a move to the level of representation. Symposium conducted at the biennial meetings of the Society for Research in Child Development, Toronto.

Kendrick, C. & Dunn, J. (1980). Caring for the second baby: Effects on interaction between mother and firstborn. Developmental Psychology, 16, pp.303-311.

Kendrick, C. & Dunn, J. (1982). Protest or Pleasure? The response of firstborn children to interactions between their mothers and infant siblings. Journal of Child Psychology and Psychiatry, 23, pp.117-129.

Klein, M. (1932). The Psycho-analysis of children. London: Hogarth Press.

Klinger, E. (1969) Development and imaginative behaviour: implications of play for a theory of fantasy. Psychological Bulletin, 72, pp.277-298.

Kramer, L. (1996). What's Real in Children's Fantasy Play ?: Fantasy Play Across the Transition to Becoming a Sibling. Journal of Clinical Psychology and Psychiatry, vol. 37, No. 3, pp.329-337.

Leach, P. (1996). The Parents' A to Z: A guide to children's health, growth and happiness. Penguin Books.

Levy, D. M. (1934) Rivalry between children in the same family. Child Study, 11, p 233-361.

Levy, D. M. (1937). Studies in sibling rivalry. Research Monograph, No 2; American Orthopsychiatric Association.

Lewis, M. & Brooks-Gunn, J. (1979). Cognition and the acquisition of self. New York: Plenum.

Locke, H. J & Wallace, K. M. (1959). Short marital adjustment and prediction tests: Their reliability and validity. Marriage and Family living, 21, 251-255.

Maccoby, E. E. (1984). Socialisation and developmental change. Child Development, 55, p317-328.

Maccoby, E. E. & Martin, J. A. (1983). Socialisation in the context of the family: Parent-child interaction. In P. H. Mussen (ed.), Handbook of child psychology: Socialisation, personality and social development (vol. 4, pp. 1-101). New York: Wiley.

Main, M. & Cassidy, J. (1988). Categories of response to reunion with the parent at age six: Predicted from infant attachment classification and stable over a one month period. Developmental Psychology, 24, p415-426.

Main, M., Kaplan, N. & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. In I. Bretherton & E. Waters (Eds.). Growing points of Attachment Theory and Research. Monograph. 50, p66-104. Chicago: Society for Research in Child Development.

McCarthy, G. (1998). Attachment Representations and representations of the self in relation to others: A study of preschool children in inner-city London. British Journal of Medical Psychology, 71, p57-72.

Miller, P. J, Mintz, J., Hoogstra, L., Fung, H. & Potts, R. (1992). The narrated self: Young children's construction of self in relation to others in conversational stories of personal experiences. Merrill-Palmer Quarterly, 38, pp. 45-67.

Moore, T. (1969). Stress in normal childhood. Human Relations, 22, p235-250.

Murray, L. (1992). The impact of Postnatal Depression on Infant Development. Journal of Child Psychology and Psychiatry, vol. 33, No. 3, pp. 543-561.

Nadelman, L., & Begun, A. (1982). The effect of the newborn on the older sibling: Mothers' questionnaires. In M. E. Lamb & B. Sutton-Smith (Eds.), Sibling Relationships: Their nature and significance across the lifespan (pp. 13-37). Hillsdale, NJ: Erlbaum.

Nelson, K. (1985). Event Knowledge and Cognitive Development. In K. Nelson (Ed.), Event Knowledge pp. 1-19. Hillsdale. NJ: Erlbaum.

Neubauer, P.B. (1982). Rivalry, Envy, and Jealousy. Psychoanalytic Study of the Child vol 37, p 121-142.

Newson, J. & Newson, E. (1970). Four years old in an urban community. London: Penguin.

Oppenheim, D. (1997). The attachment doll-play interview for preschoolers. International Journal of Behavioural Development, vol. 20 (4) pp.681-697.

Oppenheim, D., Emde, R. N. Hasson, M. & Warren, S. (1997a). Preschoolers face moral dilemmas: A longitudinal study of acknowledging and resolving internal conflict. International Journal of Psychoanalysis, vol. 78 (5), 943-957.

Oppenheim, D., Emde, R. N. & Warren, S. (1997b). Children's Narrative Representations of Mothers: Their Development and Associations with Child and Mother Adaptation. Child Development, 68, (1)Feb, p.127-138.

Oppenheim, D., Nir, A., Warren, S. & Emde, R. N. (1997c). Emotion regulation in mother-child narrative co-construction: Associations with children's narratives and adaptation. Developmental Psychology, vol. 33, No. 2, 284-294.

Oppenheim, D. & Waters, H. (1995). Narrative processes and attachment representations: Issues of development and assessment. Monographs for the Society for Research in Child Development, 60(2-3), 197-215.

Perrin, S. & Last, C. G. (1992). Do childhood anxiety measures measure anxiety ? Journal of Abnormal Child Psychology, 20, pp 567-578.

Petty, T. A. (1953) The Tragedy of Humpty Dumpty. Psychoanalytic Study of the Child, 8, p 404-412.

Pitcher, E. G. & Prelinger, E. (1963). Children tell stories-an analysis of fantasy. New York: International University Press.

Pittman, F. S. (1987)> Turning points: Treating families in transition and crisis. New York: Norton.

Renfrew, C. E. (1991). The Bus Story: A test of continuous speech. Second Edition, Published by C. E. Renfrew, 2a North Place, Old Headington, Oxford.

Robinson, J., Mantz-simmons, L. & MacFie, J. & the MacArthur Narrative Working group. (1995). Narrative coding manual. Unpublished manual.

Rutter, M. (1967) A Children's behaviour questionnaire for completion by teachers: preliminary findings. Journal of Child Psychology & Psychiatry, 8, 1-11.

Rutter, M. (1977) Individual Differences in Children. Child Psychiatry, Modern Approaches. (Edited by RUTTER, M. & HERSOV, L.A). Blackwell, London.

Schneider-Rosen, K. (1993). The Developmental Reorganisation of Attachment Relationships: Guidelines for classification beyond infancy. In M. T Greenberg, D. Cicchetti & E. M. Cummings (Eds.) Attachment in the preschool years: Theory, Research and Interventions. Chicago: University Chicago Press.

Silverman, N. (1991). Attachment Maternal Behaviour and preschool competence at age three. Unpublished doctoral dissertation, Boston University.

Spanier, G. B. (1976). Measuring Dyadic Adjustment: New scales for assessing marriage and similar dyads. Journal of Marriage and the Family, 1, p15-28.

Sroufe, L. A. (1979). Socioemotional Development. In J. Osofsky (ed.), Handbook of infant development (pp. 462-516). New York: Wiley.

Sroufe, L. A. (1983). Infant-caregiver attachment and adaptation in the preschool: The roots of competence and maladaptation. In M. Perlmutter (Ed.), Minnesota Symposium in Child Psychology, vol. 16. Hillsdale, NJ: Erlbaum.

Sroufe, L. A. (1990). An Organisational Perspective on the self. In D, Cicchetti & M. Beeghly (Eds.), The self in Transition. University of Chicago Press.

Sroufe, L. A. & Fleeson, J. (1986). Attachment and the construction of relationships. In W. Hartup & Z. Rubin (Eds.), Relationships and Development. Hillsdale, N.J.: Erlbaum.

Sroufe, L. A. & Rutter, M. (1984). The domain of developmental psychopathology. Child Development, 55, p17-29.

Sroufe, L. A. & Waters, E. (1977). Attachment as an organisational construct. Child Development, 48, p1184-1199.

Steele, H., Steele, M., Woolgar, M., Yabsley, S., Croft, C., Johnson, D. & Fonagy, P. (1997). Attachment, gender and the MacArthur Story Stem Battery in longitudinal perspective. Symposium Presentation at SRCD, Washington, April.

Stern, D. (1985). The interpersonal world of the infant. New York: Basic Books.

Stewart, R. B. (1983). Sibling attachment relationships: Child-infant interactions in the strange situation. Developmental Psychology, 19, 192-199.

Stewart, R. B., Mobley, L. A., Van Tuyl, S. S., & Salvador, M. A. (1987). The firstborn's adjustment to the birth of a sibling: A longitudinal assessment. Child Development, 58, p341-355.

Stillwell, R. & Dunn, J. (1985). Continuities in Sibling Relationships: Patterns of Aggression and Friendliness. Journal of Child Psychology & Psychiatry, vol 26, p 627-637.

Taylor, M. K. & Kogan, K.L. (1973) Effects of birth of a sibling on mother-child interactions. Child Psychiatry and Human Development, 4 (1), p 53-58.

Teti, D. M. (1992). Sibling interaction. Handbook of social development: A lifespan perspective (pp. 201-226). New York: Plenum.

Teti, D. M., Nakagawa, M., Das, R. & Wirth, O. (1991). Security of Attachment between preschoolers and their mothers: Relations among social interaction, parenting stress and the mothers' sorts of the Attachment Q-Set. Developmental Psychology, 27, p440-447.

Teti, D. M., Sakin, J., Kucera, E., Caballeros, & Corns, K. M. (1993, March). Transitions to siblinghood and security of firstborn attachment: Psychosocial and psychiatric correlates of change over time. Paper presented at the biennial meeting of the Society for Research in Child development, New Orleans, LA.

Teti, D. M., Gelfand, D. M., Messinger, D. S. & Isabella, R. (1995). Maternal depression and the Quality of Early Attachment: An Examination of Infants, Preschoolers, and Their Mothers. Developmental Psychology, vol. 31, No. 3, 364-376.

Teti, D. M., Sakin, J., Kucera, E., Corns, K. M. & Eiden, R. D. (1996). And Baby Makes Four: Predictors of Attachment Security among Preschool aged Firstborns during the Transition to Siblinghood. Child Development, 67, p 579-596.

Thomas, A. & Chess, S. (1977). Temperament and Development. Brunner-Mazel, New York.

Touris, M., Kromelow, S. & Harding, C. (1995). Mother-firstborn attachment and the birth of a sibling. American Journal of Orthopsychiatry, 65(2), 293-297.

Vandell, D. L. (1987). Baby sister/baby brother: Reactions to the birth of a sibling and patterns of early sibling relations. Journal of Children in Contemporary Society, 19, 13-37.

Vaughn, B., Egeland, B., Sroufe, L. A. & Waters, E. (1979). Individual differences in infant-mother attachment at twelve and eighteen months: Stability and change in families under stress. Child development, 50, 971-975.

Warren, S. L., Oppenheim, D. & Emde, R. N. (1996). Can Emotions and themes in children's play predict behaviour problems ? Journal of the American Academy of Child and Adolescent Psychiatry, 34, 1331-1337.

Waters, E., & Deane, K. E. (1985). Defining and Assessing individual differences in attachment relationships : Q-methodology and the organisation of behaviour in infancy and early childhood. In I. Bretherton & E. Waters (Eds.), Growing points of Attachment theory and Research (pp. 41-65). Monographs of the society for Research in Child Development, 50 (1-2, serial No. 209).

Waters, E., Posada, G., Crowell, J. A. & Lay, K. L. (1994). The Development of Attachment: From control Systems to Working Models. Psychiatry, vol. 57, Feb, pp.32-42.

Watson , M. & Evans, S. (1986). An example of cross-cultural measurement of psychological symptoms in post-partum mothers. Social Science and Medicine, 23, 869-874.

Watson , M. & Fischer, K. (1980). Development of social roles in elicited and spontaneous behaviour during the preschool years. Developmental Psychology, 16, 483-494.

Winnicott, D. W. (1964). The child, the family and the outside world. London: Penguin.

Winnicott, D. W. (1971). Playing and reality. London: Tavistock.

Winnicott, D. W. (1977). The Piggle. Hogarth Press and Institute of Psychoanalysis, London.

Woolfson, R. (1995). Sibling Rivalry. Thorsons: Harper Collins Publishers.

Zahn-Waxler, C., Cole, P. M. & Barrett, K. C. (1991). Guilt and Empathy: sex differences and implications for the development of depression. In J. Garber & K. A. Dodge (Eds.), The development of emotion regulation and dysregulation (pp. 243-272). Cambridge, England: Cambridge University Press.

APPENDICES

Appendix 1. Letter granting ethical approval

Appendix 2. Information sheet advertising the project

Appendix 3. Information sheet and consent form received by mothers

Appendix 4. Demographic questionnaire completed by mothers

Appendix 5. Storystem procedure

Appendix 6. Storystem coding schemes I and II

Appendix 7. The Strengths and Difficulties Questionnaire (SDQ)

Appendix 8. The Adjusted Dyadic Adjustment Scale (ADAS)

Appendix 9. Bus Story

Appendix 10. Pre-birth structured interview

UCL
HOSPITALS

The University College London Hospitals

The Joint UCL/UCLH Committees on the Ethics of Human Research

Committee Alpha Chairman: Professor Andre McLean

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Dr H Steele
Lecturer in Psychology
UCL
Sub-department of Clinical Health Psychology
Gower Street

17 July 1997

Dear Dr Steele

Study No: 97/0236 *(Please quote in all correspondence)*
Title: **Becoming a sybling: assessing internal representations of relationships in transition to siblinghood using a narrative story stem technique**

Further to Zoe Lineton's letter addressing queries raised by the Committee, this application has now been approved.

Please note that it is important that you notify the Committee of any adverse events or changes (name of investigator etc) relating to this project. You should also notify the Committee on completion of the project, or indeed if the project is abandoned. Please remember to quote the above number in any correspondence.

Yours sincerely

Professor Andre McLean
Chairman

cc.
Ms Zoe Lineton
1 Antrim Road
Belsize Park
London NW3 3XS

Sub-Department of Clinical Health Psychology
UNIVERSITY COLLEGE LONDON
GOWER STREET LONDON WC1E 6BT
Dr Howard Steele
Tel 0171 380 7777Ext 5941

VOLUNTEER INFORMATION SHEET

A BABY IS BORN
PROJECT

Are you a mother
with a child between the ages of
3 and 6 years of age ?

If so
you and your child
are invited to volunteer
for a project looking at
how children react to the arrival
of a new baby.

Read on if you are interested !

If this does not apply to you,
I am sorry that you are unable to
volunteer at this time.
Thank you for your interest.

The birth of a child is a common family event, followed by a period of adjustment for all concerned. For a child, it is perhaps the 1st major life event, found to produce a whole variety of reactions.

To date, research on the arrival of a new baby has relied upon parental reports. To gain a more complete picture of this event it is important that we can also gain the child's point of view.

My study, which forms part of a Doctorate in Clinical Psychology at University College London, aims to do this using a play technique, called the **Storystem technique. This** provides a means for children to express their feelings and thoughts about family life in general.

The Storystem has been widely used in child development research, although this project is among the first to apply it to the question of how children react to the arrival of a baby brother or sister. It is hoped that this will increase understanding of normal child development during what is a common family event.

THE PROJECT

To Volunteer, 2 visits will be made to your home. The 1st will be 1 month before the birth of your baby and the 2nd will be 2 months later. I will ask your child to complete a set of 5 storystems. on each visit

The **Storystem task** presents an every day family situation and asks your child to provide the end to a story using a set of family doll figures and props.

Previous studies have found that children find this task fun and enjoyable. Your child's stories will be audio-recorded and later coded. Your part in the study will involve completing a range of questionnaires concerning family life and your child's behaviour.

The whole procedure is anticipated to take a maximum of 1 hour.

The Principal Investigator supervising this study is **Dr Howard Steele (Psychologist 0171 380 7777 Ext. 5941).**

Zoe Lineton (Clinical Psychologist in training) will be the person you have contact with. Should you wish to Volunteer, please complete the attached slip and place it in the **orange box at reception.** To discuss any aspect of the study, you may speak to Zoe Lineton in the Antenatal clinic on Wednesdays or telephone **0171 722 6795.**

You do not have to take part in this study if you do not want to. If you decide to take part you may withdraw at any time without having to give a reason. Your decision whether to take part or not will not affect your maternity care in any way.

Sub-Department of Clinical Health Psychology
UNIVERSITY COLLEGE LONDON
GOWER STREET LONDON WC1E 6BT
Dr H Steele
Tel 0171 380 7777 Ext 5941

CONFIDENTIAL

I am writing to invite you to participate in a project concerning firstborn childrens' reactions to the birth of a sibling. This project is part of my Doctorate training in Clinical Psychology at University College London, and has the support of the Midwifery Service of the Obstetrics Department and has been considered by the joint UCL/UCH Committees on the Ethics of Human Research. The project will be supervised by Dr Howard Steele, Lecturer in Psychology at University College and Mr Peter Fuggle, Consultant Clinical Psychologist Head of Child and Adolescent services for Camden and Islington health trust.

An information sheet is available in the Antenatal Clinic to provide you with an overview of the project. If you should wish to discuss the project further, or have any queries, speak to **Zoe Lineton** in the Antenatal Clinic on **Wednesdays or telephone 0171 722 6795** (There is an answer phone and you may leave a message).

If you are interested in volunteering for the project, please complete the slip below and place it in the **orange box at reception**. I will then contact you to discuss your interest and answer any questions you may have.

Yours faithfully,

Dr H Steele	Mr P Fuggle	Zoe Lineton
Lecturer in Psychology	Clinical Psychologist	Clinical Psychologist in training

C:\...|parlet.wpd

✂

I would like to volunteer for the A Baby is Born project

Name:..

Address:..

Telephone No..

Please circle the best time(s) and day(s) to contact you:

Monday / Tuesday / Wednesday / Thursday / Friday / Saturday / Sunday

9.00a.m.-12.00p.m. / 12.00p.m.-2.00p.m. / 2.00p.m.-5.00p.m. / 5.00p.m.-8.00p.m.

Sub-Department of Clinical Health Psychology
UNIVERSITY COLLEGE LONDON
GOWER STREET LONDON WC1E 6BT

Dr Howard Steele
Tel o171 380 7777 Ext 5941

CONFIDENTIAL

Volunteer ID No.:

BECOMING A SIBLING
PARENTAL CONSENT FORM

To be completed by Mother: Delete as necessary

1.   Have you read the information sheet about the study ?   YES / NO

2.   Have you had an opportunity to ask questions and   YES / NO
      discuss this study ?

3.   Have you received satisfactory answers to all your   YES / NO
      questions ?

4.   Have you received enough information about the study ?   YES / NO

5.   Which psychologist have you spoken to about the
      study ?
      ....

6.   Do you understand that you are free to withdraw from this study -
            -- at any time
            -- without giving a reason
            -- without affecting your maternity care   YES / NO

7.   Do you agree to take part in this study ?   YES / NO

8.   Do you agree to allow your child to take part in this study ?   YES / NO

Signed...Date...........

Print Name...

Psychologist...

Sub-Department of Clinical Health Psychology
UNIVERSITY COLLEGE LONDON
GOWER STREET LONDON WC1E 6BT

Dr H Steele
Tel 0171 380 7777 Ext 5941

Volunteer id No.:

Date:

BECOMING A SIBLING:
VOLUNTEER BACKGROUND INFORMATION QUESTIONNAIRE

Please complete the following background information details

1) Your age:............................... Partner's age:..............................

2) Please describe your ethnic origin...

Please describe your partner's ethnic origin...

3) Your highest educational qualification:...

Your partner's highest educational qualification:..

4) Your Occupation:..

Your partner's Occupation:...

5) Length of time you and your partner have been a couple/married..................

6) How would you descibe your pregnancy so far ?...

....

....

Please answer the following questions about your firstborn child.

1) Your child's date of birth:.. age:...........................

2) Your child's sex:..

3) Does your child attend nursery/play group ? YES / NO

Please complete the following questions about your new born baby.

1) Date of birth:.............................2) Sex..

3) How would you describe the birth ?..

....

4) Are you breast feeding or bottle feeding your baby ? ....

c:\...\demogr.wpd

A

INTRODUCTION OF FIGURES

E: **Look who we have here** (bring out the family). **Here's our family. This is grandma, this is mom, this is dad, this is the big sister/brother and her/his name is Amy/Micheal, and this is the little sister/brother, and her/his name is Jane/Bob, and this is their dog and his name is Barney.** (Show them to the subject as you name them).

E: **Who do we have here?** (get child to name each family member, with help if necessary).

Set-up

Tommy
Nico

Table

Mom
Grandma
Dad
Amy/michael
Jane/Bob
Barney

Study
child

Experimenter
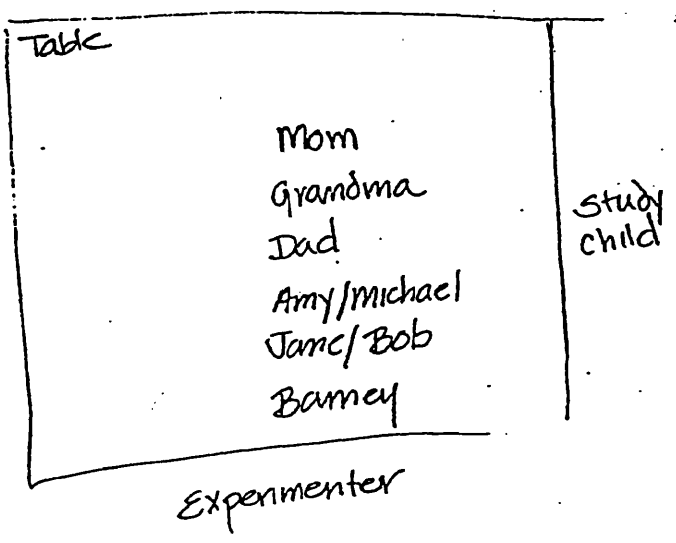
WARM UP: AMY/MICHEAL'S BIRTHDAY

E: You know what, it is Amy/Micheal's birthday, and Mom made
her/him this beautiful cake (bring out cake). It is time for the party.

M: "Come on Grandma and Dad, Jane/Bob and Amy/Micheal, it is
time to celebrate Amy/Micheal's birthday."

E: Will you put the family around the table so that they can celebrate?

E: Show me and tell me what happens now.
(Let the subject play with the figures or tell a story yourself if the
subject is in need of help. Really show the subject how the figures
can move and talk: lots of verbalizing and actions)

INQS: If the child wants to sing "Happy Birthday" join him/her and sing along.

Show me how they eat the cake.

What might Amy/Micheal say about her/his beautiful cake?

Mom
GM
Dad
A/M
J/B
Barney

Table +
cake

Study child

Experimenter

MOM'S HEADACHE

E: Mom and Amy/Micheal are sitting and watching TV. (mom turns to the child).

M: "Oh Amy/Micheal, I have such a headache! I just have to turn this TV off and lie down! (mom gets up and turns the TV off) "Amy/Micheal, can you find something quiet to do for awhile?"

C1:   "OK Mom, I'll read a book" (mom lies down on the couch and Amy/Micheal remains in chair and reads a book).

E: (Make a doorbell sound) It's Amy/Micheal's friend Laura/Dave.

C3:   "There's this really neat TV show on. Can I come in and watch TV with you?"

E: Show me and tell me what happens next.

INQ 1:   (if Amy/Micheal doesn't turn on the TV)
C3:   "Oh come on! I know you'll really like it!"

INQ 2:   (if Amy/Micheal or friend turn on the TV)
M: "I have such a headache" (expressing mild pain)

INQ 3:   (if child does not respond to INQ 2)
M: "I asked you to turn the TV off" (mildly angry)

D J

onflict resol^n.

[TV]

[mom

^mes: [crossed out] A

Grandmth - GM

mum
Dad.
C1 - michael/Amy
C2 - Bob/Jane.
C3 - Friend.
C4 - All other child figures
M2 - Other mum
D2 - other Dad.

(a) LOOKING FOR BARNEY (THE DOG)

E: Amy/Micheal has been thinking about playing with her/his favorite puppy Barney ever since s/he woke up this morning.

Cl: "Mom, I am going out into the backyard to play with Barney. "

M: "OK Amy/Micheal"

E: So Amy/Micheal goes out to the yard.

Cl: "*Oh no!!,* Barney's gone! (worried voice)

E: Show me and tell me what happens now.

Note: Children frequently run to the prop box and ask for Barney. If they do, say: You will get Barney later, but now, show me what Amy/Micheal does in the story.

(b) BARNEY RETURNS

E: (Bring Barney back and place on the edge of table). Look who's back (in excited tone).

E: Show me and tell me what happens now.

D J

Lpful.

M

A

(Barney)
↑
when Barney returns

New Neighborhood

another mom is standing closest to experimenter's side and kids are in groups. Micheal/Amy is at the door.

E: Michael/Amy and his/her family have just moved to a new neighborhood. Michael/Amy has been invited to a party at the neighbors, but he/she doesn't know anybody there (said with nervousness).

E: ding dong (the doorbell rings) Mom opens the door.

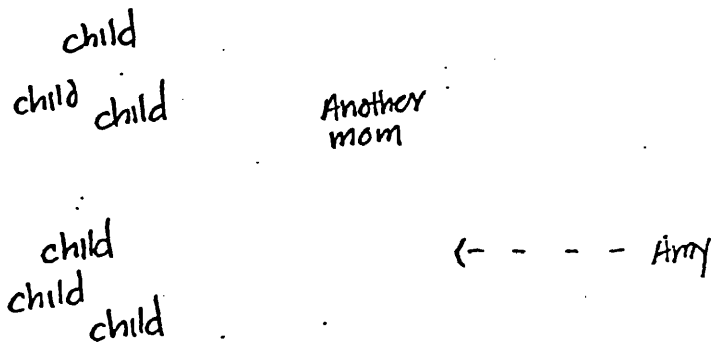M: Oh, you must be Michael/Amy. Why don't you come in.

Children, this is Michael/Amy. He just moved here from far away.

Show me and tell me what happens now.

ames.

ncluded
Excluded.

child

child child

Another mom

child
child
child

(- - - - Amy

HOT GRAVY

E: Mom and Amy/Micheal are at the stove. Dad and Jane/Bob are sitting at the table.

M: "We're going to have a good supper but it's not ready yet. Don't get too close to the stove."

C1:   "Mmmm, that looks good. I don't want to wait. I'd like some now."

    (Amy/Micheal knocks the pot of soup off the stove)

C1:   "Owl I've burned my hand! It hurts!!"

E: Show me and tell me what happens now.

INQ 1:   (if no one helps child)
        E: What about Amy/Micheal? S/he got burned.

        Does anyone do anything about Amy/michael's burnt hand?

        (if no response)
        What do they do about the hurt hand?

INQ 2:   Does anyone do anything about the spilled ~~gravy~~ *food*?

        (I usually use this prompt)

*a retaking
objective
scipline*   D   J

                    [stove]

            mom

                Amy

THE LOST KEYS

E: Amy/Micheal comes into the room and sees Mom and Dad looking at each other like this. Look at my face. (show angry expression)

M: (angrily) "You lost my keys!"

D: (angrily) "I did not!"

M: "Yes you did, you always loose my keys!"

D: "I did not lose them this time."

E: Show me and tell me what happens now.

INQ 1:   (if child does not enact end or resolution of conflict)
           E: What's going to happen about Mom and Dad's
                 argument?

INQ2:   What happened about the keys?

Jane

mom

Dad

Amy

Ball/Amy/Michael, Bob/Jane, Laura/Dave) 3-14-94

THREE'S A CROWD

E: **Mom and dad are talking to the neighbors. Amy/Micheal is playing with her/his friend Laura/Dave and her/his new ball (place figures and ball on table).**

E: **Show me how they play with the ball.**

E: **They're playing with Laura's/Dave's new ball.** (Place ball close to friend)
   Amy's/Michael's

E: **Jane/Bob, the little brother/sister, runs out of the house and says, "Can I play with you?'**

ₑL C1: **"Sure!"**

| C3: **"No way! If you let your sister/brother play, I won't be your friend
DAVE anymore!"**

E: **Show me and tell me what happens next.** ·

(BOB /JANE)
INQ 1:   (if Amy/Micheal doesn't come to Jane's/Bob's defense)
    C3: **"But Amy/Micheal, I'm your sister/brother!"**
      2

INQ 2:   (if C2 (sib) is included by C1) ·
    C3: **"But I said I don't want to play with your little sister/brother. I'm leaving!"** (angrily)

D M J

onflict resol⁵

Amy

  (ball)
Laura

NEW NARRATIVES

Favorite Chair (Anger)

(Set up Michael/Amy in chair watching TV. Parents are off to the side).

E: Michael/Amy is sitting in his/her favorite chair watching TV. He/She is very comfortable.
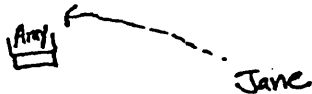
(Bring little brother/sister into the room).

Bob/Jane: I want to sit in that chair (little brother/sister pushes Michael/Amy off the chair).

Michael/Amy: Ow! You hurt my foot!

Show me and tell me what happens now.

Prompt: So, who gets the chair? (If this is unclear)

conflict resolt.

attachment:

THE EXCLUSION STORY (revised)

E: Mom and Dad are sitting on the couch talking.

NOTE: For girls have mother ask the child to leave, and for boys have
        father ask the child to leave.

M/F: "Mom/Dad and I would like some time alone. Will you go up to your
        room and play with your toys? Please shut your door so it is quiet."

(Dad/mom *kisses* mom/dad immediately after saying this. Make sure
child sees)

After the kiss, initially let child do whatever he/she wants to do.
Then say (if child hasn't already gone to his/her room):

Can you show me how Amy/Micheal goes to his/her room? (child
must go to his/her own room).

E: Show me and tell me what happens now.


INQ 1:   (if child goes to his parents have same-sex parent say:)
         "We asked for some time alone, didn't we?" (in mildly irritated
         voice)

E: (When the story is done, experimenter must ask how child felt
         at point he/she went to his room. Must also re-play the story up
         to that point to remind child). *include kiss* ———

         How does Amy/Micheal feel? How come? Is Amy/Micheal
         angry with anyone? How come?

         If child complies with parent's request, complete story by
         having M & D say, "OK Amy/Micheal, thanks for letting us have
         some time alone."

Jane/Bob

couch → other parent

→ same sex parent
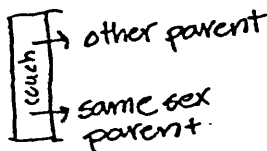
Amy/Michael

attachment

DEPARTURE STORY

E: Jane/Bob and Amy/Micheal go outside to play. (place figures on table)

E: You know what it looks like to me? It looks like Mommy and Daddy are going on a trip. The car is parked In front of the house. (bring out car)

M: "OK girls/boys, your Dad and I are leaving on our trip now. See you tomorrow. Grandma will stay with you." (bring out Grandma)

little
bro/sis: But, I don't want you to go.

M: But, we have to.

E: Show me and tell me what happens now.

IMPORTANT: E should let the subject put the figures in the car and make them drive off. Only intervene if subject seems unable to make the car drive off. If the subject puts the children in the car say, "No, only the Mom and Dad are going." After the subject (or if necessary, the Examiner) makes the car drive off, then E puts the car under the table, out of sight. If the subject wants to retrieve the car, E replies: "No, they're not coming back yet."

E: And away they go! (as the car is moved under the table) E prompt if subject does not spontaneously mention: What are the children doing while the parents are away? Use other prompts to clarify actions, or actors and to ask subject to act out what is being described.

| car |

mom   Amy
Dad   Jane

grandma

REUNION STORY

Bring the car with the two parents back out from under the table, and set it on the table at a **DISTANCE** from the family (ie. keep it near E, so the subject has to reach for it and make it drive home). If the subject has put the children and grandmother figures in the middle of the table during the previous story, put them back close to the subject to create a distance between the returning car and the child figures.

E: (in a fairly neutral voice) It's the next day and Grandma looks out the window and she says, "Look girls/boys, I think your mom and dad are home from their trip. I think I can see their car."

E: (Bring out car from under the table. Do not move it toward subject!) Show me and tell me what happens next.

E: Prompt if subject does not spontaneously take the figures out of the car. What do they do now that the mom and dad are home?

[car]

Amy Jane
grandma

Storystems Coding Scheme I: 4 quality dimensions

Key Issue (KI): This dimension assesses the extent to which the child acknowledges the key conflict/dilemma/ embedded in the storystem. This is not bases on whether the story is resolved or left unresolved as this feature is taken into account by **Story Resolution (SR)** and coded separately.

Low (KI) scores are reflected by stories where: the child shows little/no engagement with the task, (often prompted by Researcher, says " I don't know" at least more than once) or there is little/no evidence of the central conflict/dilemma.
High (KI) scores are given to stories which reflect the central conflict/dilemma. NB it is not necessary for these stories to have a conclusion/ending/resolution.

Story Resolution (SR): This assesses the extent to which a resolution is provided within the context of the focal conflict/dilemma embedded in the storystem.

KI & SR: Each story is rated on a 4 point scale:

1 = No evidence of KI at all;	1 = completely unresolved;
2 = A little evidence of KI;	2 = a little unresolved;
3 = Some what more evidence of KI;	3 = Some what resolved;
4 = KI completely evident.	4 = completely resolved.

See below each story for coding examples.

Scoring guidelines:

1. MUM's HEADACHE

Mother and child are sitting watching the television. Mother announces she has a headache and turns the TV off, asking the child to find some quiet activity. A friend of the child arrives and asks if they can watch TV together.

KI: Conflict between the mother, an attachment figure and the friend. How is the conflict resolved ?

Features to look for in rating KI:
1. Evidence of the TV on/off status present ?
2. Evidence of the different mum/friend needs (evidence of Mum's headache/ friend's wish to watch TV) ?

Features to look for in rating SR:
Resolution should involve some compromise between Mum's needs and the friend. This might include:
1. the programme is video recorded;
2. children watch elsewhere;
3. children engage in quiet play together

2 (a). LOOKING FOR BARNEY (the dog) / (b). BARNEY RETURNS

The child is hoping to play with their favourite pet dog. On going out to play, he/she discovers the dog is not there. Later, the dog returns.

KI (a/b) : The child is presented with a potential loss. How will the child cope?

Features to look for in rating KI
1. Evidence of Barney's disappearance ?
2. Evidence of the child looking for the Barney?
3. Evidence of the child seeking help in looking for Barney from anyone?
4. Evidence of the dog's return/ child's response ?

Features to look for in rating SR:
Resolution should demonstrate some acknowledgement of Barney's disappearance and desire to search for him. His return should be acknowledged.
This might include:
1. A search for Barney with help from Mum, Barney being found and greeted in a reunion
2. A search for Barney with help from another person, Barney being found and greeted back in a reunion
3. The above and/or Barney being punished for getting lost

3. NEW NEIGHBOURHOOD

The family have moved to a neighbourhood and the child is invited to a party at the neighbours, but doesn't know anyone there.

KI : The child is placed in a novel social situation, how will he/she cope ?

Features to look for in rating KI
1. Does the child demonstrate that they do not know anyone at the party, e.g. are there any introductions ?
2. Is there reference to old friends/house ?
3. Is the child included at the party?
4. If the child is excluded, does the other mum come to his/her assistance ?
5. Do the children engage in some kind of party activity, a game ?

Features to look for in rating SR:
An ideal resolution might show that despite the child being new to the neighbourhood, he/she has a sense of enthusiasm/hope while also missing the old and familiar.
This might include:
1. The child being included, either by the children, or by the other mother present
2. Introductions of names of all present, followed by a party game
3. Introductions of names of all present, followed by some other party activity, e.g. eating party food

4. BURNT HAND/HOT GRAVY

Mother is cooking in the kitchen and warns the child not to come too close to the hot cooker. The child is unable to wait for the food and knocks the pot off the stove, burning their hand in the process.

KI : Direct disobedience in relation to the attachment figure resulting in injury to the child.

Features to look for in rating KI
1. Is the child's burned hand acknowledged ?
2. Is the burnt hand responded to ?
3. Is the spilled food acknowledged ?
4. Is the spilled food responded to ?

Features to look for in rating SR:
Resolution should demonstrate parental acknowledgement of the child's injury, followed by response to it. The child may be reprimanded for his/her disobedience, but this must come after attendance to the burnt hand.
This might include:
1. A plaster being put on the child, followed by the food being cleared-up and the family meal continuing

5. LOST KEYS

Parents are involved in a heated argument over the loss of a set of keys.

KI : The child is faced with parental conflict, how will he/she cope ?

Features to look for in rating KI
1. Does the child acknowledge the argument in any way ?
2. Are the keys found ?

Features to look for in rating SR:
Resolution should show that the parents are able to manage their argument, without the child needing to step in and "solve" it for them (e.g. taking blame themselves for loosing the keys/ assuming responsibility for finding the keys). The parental row should not escalate into greater physical/verbal aggression.
Features might include:
1. Parents searching together to find the keys
2. Parents deciding to get a new set of keys cut
3. The argument stopping and then the keys being found

6. THREE'S A CROWD

The child and the child's friend are playing in the garden while Mum and Dad are talking to the neighbours. The child's younger sibling asks to play with them. The child agrees, but the friend refuses stating he/she will no longer be friends if the younger sibling is allowed to play.

KI: How will the child resolve the conflict of interest between the friend and sibling?

Features to look for in rating KI
1. Does Michael/Amy show awareness of the conflicting interests between friend/sibling ?
2. Is Bob/Jane defended by anyone ?
3. Does the conflict in interests resolve in any way?

Features to look for in rating SR:
An optimal resolution should involve a happy compromise between both younger sibling and friend. However, if the child needs to enlist the help of a parent to resolve the conflict, this scores lower than if the child reaches a compromise alone.
Possible solutions may involve:
1. letting the younger sibling play for part of the time
2. letting him/her play in the next game
3. allowing younger sibling to play with a different "special" toy of the older child's

7. FAVOURITE CHAIR

The older sibling is sitting comfortably in his/her favourite chair watching television. The younger sibling enters and pushes the older sibling off the chair, hurting the older siblings foot in the process.

KI: How will the child resolve the conflict of interests between their younger sibling and themselves ?

Features to look for in rating KI
1. Does the child acknowledge the conflict in any way ?
2. Does the child try to re-gain possession of the chair in any way ?

Features to look for in rating SR:
An ideal resolution should demonstrate the older child's ability to be flexible, e.g. have a favourite chair that others can sit in sometimes.
This might be achieved by:
1. the older child demonstrating an ability to share the chair with the younger sibling
2. the child may initiate a swap after a certain length of time to allow younger sibling to sit in the chair

8. EXCLUSION STORY

The parents are sitting on the sofa. The same sex parent as the child in the stem asks the child to leave the room and go and play upstairs so that the parents can have some time alone.

KI: How does the child deal with the sense of exclusion following the parent's request?

Features to look for in rating KI
1. Evidence the child able to leave the parents alone/express wish to remain in their company?
2. Is the child able to occupy themselves with an alternative activity ?
3. Does the child indicate intention to return to parents ?
4. Does the child seek confirmatory affection on reunion ?

Features to look for in rating SR:
Resolution should involve the child complying with the parents' expressed need to be alone, as well as, seeking reunion with the parents.

This might include:
1. The child leaves the room, plays upstairs, comes back down and knocks on door. Affectionate reunion.
2. Child plays upstairs, parents say child can come back, reunion is affectionate.

9. DEPARTURE STORY

The parents leave for an over night trip, while Grandmother stays to look after the children.

KI : Separation anxiety.

Features to look for in rating KI
1. Are the children able to let the parents leave?
2. Do the children express their feelings about the parents absence ?
3. Do they play anything or use Grandmother for security/comfort while parents are away?

Features to look for in rating SR:
Resolution should portray the children as able to tolerate the parents absence, while also showing some signs of anxiety. The children may attempt to stay in touch with their parents, by phone and should be able to derive comfort/security from their Grandmother.

This might include:
1. One or other of children crying on parents' departure. Playing with Grandmother while parents are away
2. Telling parents they will be missed. Grandmother putting them to bed.

10. <u>REUNION STORY</u> -

The parents return from their night away.

KI: How does the child cope after a brief separation?

<u>Features to look for in rating KI</u>
1. Is the parents return marked/acknowledged in any way ?
2. Is there evidence of both parties being pleased to see one another ?

<u>Features to look for in rating SR:</u>
An ideal resolution would be both parents and children swapping stories of what each has been up to and then some joint activity. Affection may be shown as well.
This might include:
1. Parents' return, all kiss and hug and celebrate with a family meal

Bizarre/Atypical (BA):

The child develops a narrative containing features which do not appear to make sense in relation to the storystem. The defining feature is that the response is incongruent to the story, introducing a sense of bewilderment, bizarre behaviours and disorganisation. Scores LESS THAN 3 indicate the presence of negative emotional/physical behaviour.

Each story is rated on a 4 point scale:

1 = Atypical / completely bizarre
2 = Moderately atypical / several bizarre elements;
3 = a little atypical / a bizarre element;
4 = Typical / not bizarre

Examples
- 3's a crowd story: Little brother is made to stand on brother's head;
- Lost keys: Parents are fighting, one parent leaves to bake a cake;
- Favourite chair: Older child jumps on younger sibling's head to re-gain chair;
- General: Child says " mum goes to sleep and will never wake up.

Narrative Coherence (NC):

This assesses the quality of narrative and the ease with which the story or sequence of events can be followed. Specifically, does the story have a Beginning, a Middle and an End ? Are there shifts in the story line which disturb the flow ?

This is rated on a 4 point scale using the following guidelines:

1= Completely incoherent:
   Sequence of events presented are totally disjointed and display illogical shifts in the narrative and there is no clear sense of a beginning, middle and end.

2= Some incoherence:
   There is some evidence of a story line, but illogical shifts are still present. The story may lack a beginning, a middle or an end.

3= Moderate coherence:
   The sequence of events presented provide a story line, but there are illogical shifts and no marked ending.

4= Completely coherent:
   The events in the story follow a beginning, middle and end format and are related to the storystem.

Storystems Coding Scheme II: Representations of Mothers
(from Oppenheim, Emde, Warren, 1997)

Representations of Mother:
Codes will be based on the presence or absence of the following themes through-out each narrative.

(NB These are for mother to child (C1) only)

Positive presentations

1. *Protective/Caregiving (PC):* The child is protected from actual/possible danger. Example mother says "be careful, the stove is hot !" The child is taken care of, soothed, fed or emotionally/physically comforted. Example Dad puts a plaster on child, Grandmother tells children Mum and Dad will be back in the morning.
2. *Affectionate (A):* The child is kissed, hugged, complimented or interacted warmly with. Example, upon reunion, child is kissed by parents.
3. *Helpful (H):* Child is helped/seeks help with a task. Example, mother helps child look for Barney or older child sticks-up for younger child in 3's a crowd story.

Negative presentations:

1. *Verbal Aggression (VA):* Mother/Father/Other is described as verbally critical, punitive, shaming or blaming towards the child. Threatening, attacking, or humiliating. Example Mother says, "Shut up !!", "if you don't stop, I'll kill you." NB Code indication of being cross/angry under here.
2. *Physical Aggression (PA):* Any form of physical attack upon the child.

Disciplinary presentations

1. *Discipline (D):* An authority figure disciplines the child. Example, "If you don't clean up, you'll go to your room."
2. *Prohibition (PH):* Child is set limits, stopped from doing something. Example the child is told they can only sit on the chair for a limited time and then must swap with their brother/sister. Child told off.
3. *Conflict/Confrontation between child and adult dolls ©:*Evidence of conflict arising between mum and child, where no initial conflict was presented. It may be shown by: verbal arguments/disputes between parent and child, child becoming confrontation in response to maternal requests or discipline. Escalation in conflict where it already existed

The presence or absence of each of the above categories in each narrative is coded. More than one code may be present, but only one code per category regardless of the number of times a category may occur.

Coding sheet / Child Code No.

RELATIONSHIP PRESENTATIONS								
CONTENT VARIABLES ___ STORYSTEM	C	A	H	VA	PA	PH	D	AC
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

VARIABLES STORYSTEM	DF	KI	SR	BA	NC
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Strengths and Difficulties Questionnaire

P4-16

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of your child's behaviour over the last six months.

Your Child's **ID** .... Male/Female

Date of Birth ....

	Not True	Somewhat True	Certainly True	
Considerate of other people's feelings	☐	☐	☐	☐ 12
Restless, overactive, cannot stay still for long	☐	☐	☐	☐ 13
Often complains of headaches, stomach-aches or sickness	☐	☐	☐	☐ 14
Shares readily with other children (treats, toys, pencils etc.)	☐	☐	☐	☐ 15
Often has temper tantrums or hot tempers	☐	☐	☐	☐ 16
Rather solitary, tends to play alone	☐	☐	☐	☐ 17
Generally obedient, usually does what adults request	☐	☐	☐	☐ 18
Many worries, often seems worried	☐	☐	☐	☐ 19
Helpful if someone is hurt, upset or feeling ill	☐	☐	☐	☐ 20
Constantly fidgeting or squirming	☐	☐	☐	☐ 21
Has at least one good friend	☐	☐	☐	☐ 22
Often fights with other children or bullies them	☐	☐	☐	☐ 23
Often unhappy, down-hearted or tearful	☐	☐	☐	☐ 24
Generally liked by other children	☐	☐	☐	☐ 25
Easily distracted, concentration wanders	☐	☐	☐	☐ 26
Nervous or clingy in new situations, easily loses confidence	☐	☐	☐	☐ 27
Kind to younger children	☐	☐	☐	☐ 28
Often lies or cheats	☐	☐	☐	☐ 29
Picked on or bullied by other children	☐	☐	☐	☐ 30
Often volunteers to help others (parents, teachers, other children)	☐	☐	☐	☐ 31
Thinks things out before acting	☐	☐	☐	☐ 32
Steals from home, school or elsewhere	☐	☐	☐	☐ 33
Gets on better with adults than with other children	☐	☐	☐	☐ 34
Many fears, easily scared	☐	☐	☐	☐ 35
Sees tasks through to the end, good attention span	☐	☐	☐	☐ 36

Please turn over - there are a few more questions on the other side

Overall, do you think that your child has difficulties in one or more of the following areas: emotions, concentration, behaviour or being able to get on with other people?

	No	Yes - minor difficulties	Yes - definite difficulties	Yes - severe difficulties
	☐	☐	☐	☐

If you have answered "Yes", please answer the following questions about these difficulties:

* Do the difficulties upset or distress you child?

	Not at all	Only a little	Quite a lot	A great deal
	☐	☐	☐	☐

* Do the difficulties interfere with your child's everyday life in the following areas?

	Not at all	Only a little	Quite a lot	A great deal
HOME LIFE	☐	☐	☐	☐
FRIENDSHIPS	☐	☐	☐	☐
CLASSROOM LEARNING	☐	☐	☐	☐
LEISURE ACTIVITIES	☐	☐	☐	☐

* Do the difficulties put a burden on you or the family as a whole?

	Not at all	Only a little	Quite a lot	A great deal
	☐	☐	☐	☐

Signature ....   Date ....

Mother/Father/Other (please specify:)

Thank you very much for your help

The following are a series of questions about your relationship with your partner (If you do not have a partner currently please answer the questions in relation to how you felt about your last relationship).

Most people have both agreements and disagreements in their relationships. Please indicate below the approximate extent of agreement between you and your partner for each item:

		Always agree	Almost always agree	Occasion-ally disagree	Frequent-ly Disagree	Almost always disagree	Always disagree
1.	Philosophy of life	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
2.	Aims, goals, & things believed important	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
3.	Amount of time spent together	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

How often would you say the following events occur between you and your partner:

		Never	Less than once a month	Once or twice a month	once or twice a week	once a day	Several times a day
4.	Have a stimulating exchange of ideas	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
5.	Calmly discuss something	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
6.	Work together on a project	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

The dots on the following line represent different degrees of happiness in your relationship. The middle point, "happy", represents the degree of happiness of most relationships. Please circle the dot which best describes the degree of happiness, all things considered, of your relationship:

```
    •        •        •        •        •        •        •
-----------------------------------------------------------
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| 7. | Extremely unhappy | Fairly unhappy | A little unhappy | Happy | Very happy | Extremely happy | Perfect |

ADMINISTRATION:

General

1. Each child should be tested on his/her own. Anyone else present should be warned not to comment or prompt during the test.

2. The examiner and child should share the same picture book.

3. Open at page 1 and let the child look at the pictures for a few moments.

4. Say, "Now I'm going to tell you a story about this bus. When I'm finished I want you to tell me the story."

5. Tell the story keeping strictly to the text printed in the manual, adjusting the speed of your speech to match the child's ability to concentrate.

6. When you have finished the story telling, switch on the tape recorder. Turn back to page 1.

7. Say, "Now you tell me the story. Once upon a time there was a . . . . ." Turn the pages as the child tells the story. Say nothing apart from words of encouragement when necessary. If the child blocks, prompting should be minimal and indirect, e.g. "And then . . . .", "So . . . ." "Tell me what's happening". If this fails, go on to the next picture saying, "Now, what's happening here?"

THE BUS STORY

Page

1. Once upon a time there was a very naughty bus.
   While his driver was trying to mend him, the bus decided to run away.

2. He ran along the road beside a train.
   They made funny faces at each other and raced each other.
   But the bus had to go on alone, because the train went into a tunnel.
   He hurried into the city where he met a policeman who blew his whistle and shouted, "Stop, bus".

3. But the naughty bus paid no attention and ran on into the country.
   He said, "I'm tired of going on the road".
   So he jumped over a fence.
   He met a cow who said, "Moo, I can't believe my eyes".

4. The bus raced down the hill.
   As soon as he saw there was water at the bottom, he tried to stop.
   But he didn't know how to put on his brakes.
   So he fell in the pond with a splash and stuck in the mud.
   When the driver found where the bus was, he telephoned for a crane to pull him out and put him back on the road again.

TRANSCRIBING

The articulation of many children deteriorates when they are talking in spate, so it is worthwhile to take notes of any words or phrases that are not pronounced clearly while the child is retelling the story. When the child is sitting close to you, you hear him/her more distinctly and have the advantage of watching the mouth movements. It is particularly important that you should transcribe from your tape and notes as quickly as possible after making the recording. Write out the first transcription exactly as the child has spoken it, then re-write it in separate sentences according to the following rules on which the norms are based:

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Dr H Steele
Tel 0171 380 7777 Ext 5941

CONFIDENTIAL

Volunteer ID No.:
Date:

BECOMING A SIBLING:
VOLUNTEER PRENATAL QUESTIONNAIRE

1) In what ways have you prepared your firstborn child for the birth of their baby sibling ?

....

....

....

....

....

....

....

....

Prompt: (bought books / talked / bought dolls / encouraged child to by a gift for the baby ?)