

Examining the importance of the family on pre-school attachment and children's social development

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A thesis submitted in partial fulfilment of the requirements of Nottingham Trent
University for the degree of Doctor of Philosophy

October 2012

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Abstract

Contemporary accounts of attachment theory are usually provided in terms of the mother-child dyad, isolated from the family. This focus has served to ostracise the caregiving context, once viewed as central to understanding child attachment quality (Bowlby, 1969/1982). While a call for more contextual attachment research has been in place for some time, there remains a lack of ecologically valid attachment research. Observations of naturally occurring family interactions were assessed using the Attachment Q-Set, the Parental Secure Base Support Q-Set, Ainsworth's Sensitivity scale and Bales analysis. In addition, parental and nursery reports of the Teachers Checklist for Social Behaviour and the Child Behaviour Scale were collected. In doing so, the current research expands upon knowledge related to the role of mothers, fathers, family structure, siblings and the stability of attachment in the home.

Study One examined the validity of measuring attachment quality in the presence of the family by establishing links between maternal attachment and both maternal sensitivity and child-peer interactions. Study Two went on to establish similar associations between paternal attachment and both paternal sensitivity and child-peer interactions. Study Three investigated differences between maternal attachment quality, mother-child interactions and child-peer interactions across three family types (those with an absent father, uninvolved father and involved father). Study Four investigated differences in sibling attachment. Study Five explored the role of the child's context in their stability of attachment quality over six months and Study Six extended this by exploring attachment stability in a military family case study over a year.

In summary, the results suggest that a focus on the mother-child dyad limits our understanding of child attachment. Centrally, rather than being a secondary caregiver, paternal attachment quality was associated with both paternal sensitivity and child-peer interactions. The thesis concludes that in order to further our understanding of attachment theory, research should incorporate the child's natural caregiving context with other family members present.

Acknowledgements

Firstly, I would like to thank all the families who took part in the research. Also, to all the staff at the Sure Starts, Children's Centres and private nurseries who were so supportive in helping me to gather the data for this thesis, their help is greatly appreciated.

I would also like to gratefully acknowledge my supervisors, Lucy Betts and Jean Underwood. Without their patience, enthusiasm and expertise this thesis would simply not have been possible.

Lastly, I would like to thank my partner Kirsten, my mum Ann and her partner Phil for their continued support and encouragement during my studies.

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Chapter 1: Attachment Theory; Providing a Context

This chapter provides both the context for the research presented here and an in-depth discussion of attachment theory, which underpins the research. In addition, the chapter discusses the different tools which have been used to assess attachment quality. From a historical perspective, theory and method in attachment research are to an extent intertwined and one particular method, termed the “strange situation” has tended to constrain the concept of attachment. It is this constraint, and specifically exploring this constraint, which the research presented here is concerned with.

Since its origin in the 1960’s, attachment theory has had a role in informing public perception of child development. The theory has also informed political policy and psychological practice. More specifically, attachment theory continues to be central to society’s perception of the differing roles that mothers and fathers play in child development and their individual capacities for parenting. The theory shows a clear pre-eminence of the maternal role with fathers being perceived as secondary caregivers. In this thesis it is questioned whether that influence, in particular the influence on fathers, is always benign.

Attachment theory is a development of Bowlby’s (1940, 1944, 1951) earlier work on the ‘maternal deprivation hypothesis’, where he investigated the links between early caregiver-child experiences and the child’s later life. Bowlby was profoundly influenced by primatology, an area where caregiving is almost exclusively the maternal role and this reverse anthropomorphism was applied to human beings (Bowlby, 1969). Through a combination of primatological influence and Bowlby’s research taking place during a time when parenting was predominantly the mother’s responsibility, only mother-child dyads

were examined (Bowlby, 1951, 1953). Specifically, Bowlby investigated the effects of disruptions in the early years of the child-mother relationship (up to the age of five). He found that juvenile delinquency and inter-personal problems in adolescence were related to significant periods of maternal absence and maternal loss in the child's early years (Bowlby, 1944). It was hypothesised that a child's ability to use their mother as a secure base and the mother's ability to provide a secure base during childhood fostered a more general internal working model, or schema for interacting with others in later life. Secure base provision is defined as a caregiver's capacity to act in a manner that can predicatively function as a base from which the child is able to explore their surroundings and return to and receive nurturance in times of need (Bowlby, 1969). Accordingly, attachment comprises of both a caregiver's ability to act in a manner which provides sensitive and consistent care and a child's ability to elicit proximity and nurturance through their behaviour. The child's set of behaviours which function to elicit secure base behaviour are referred to as the 'attachment system' and this system is most readily activated by the threat caused by being separated from a caregiver. Given the dyadic nature of secure-base behaviour, historically the emphasis has been on investigating separation and reunion between mother and child. At the time of its development over half a century ago, the emphasis on mother-child dyads was an accepted rationale, as most families were traditional two parent families, sometimes referred to as 'nuclear families'.

While separation and reunion are central to attachment theory, a focus upon them was not intended to serve to exclude other factors (Marvin & Stewart, 1990). Attachment strategies are learned through interactions within the child's natural caregiving context, usually the home. The influence of the caregiving environment was once central to attachment theory (Bowlby, 1953, 1969) but has over the years been pushed to the margins of the theory, due to attachment classifications predominately being conducted in the laboratory. The

laboratory represents an accepted format for reliably assessing separation/reunion behaviours, from which attachment quality is inferred (see Chapter 2). To reliably assess a child's maternal separation anxiety, the family should be absent. This reliance on using separation anxiety to classify attachment precludes investigation of the child's natural caregiving interactions. Whilst attachment strategies can be reliably classified within the laboratory, variables that act to maintain or disrupt them are not present within this context. Prior to the Attachment Q-Set (Waters & Deane, 1985), it has been difficult to classify a child's attachment quality without relying on separation/reunion episodes. A reliance upon separation/ reunion episodes has resulted in separation anxiety taking precedence above the caregiving context and has now become the 'core' of attachment theory, whereas the family has all but vanished from mainstream attachment theory (Bretherton, 2010; Kozłowska & Hanney, 2002; Lamb, Thompson, Gardner & Charnov, 1985). Consequently, attachment theory itself has become what Bowlby (1969/1982) describes as a 'self-fulfilling truth', whereby what is seen as traditional attachment theory does not reflect the original concepts in full. By placing an emphasis on context, the current thesis corresponds well with attachment theory as it was originally conceptualised. In this line of thinking, while the current thesis overlaps with original attachment theory concepts, it may be seen as at odds with what people have come to perceive as traditional attachment theory, i.e. an entirely dyadic approach. This conflict mirrors that described by Bowlby himself, during which he strived to overcome criticism claiming his views were at odds with Freud's work. Bowlby argued that what had become people's perceptions of Freud's work bore little resemblance to his actual writings and Bowlby's arguments corresponded with Freud's views (Bowlby, 1982). Therefore, the argument here is that an attachment perspective which incorporates an exploration of the caregiving context, including siblings and other caregivers, is not a 'new' attachment theory (Marvin & Stewart,

1990). To the contrary, it is a return to the basic principles of the original attachment theory as outlined by Bowlby (1951, 1953, 1969).

The primary focus on the mother-child dyad influenced the thinking, direction and the boundaries that were to inform future research. The importance of the mother and accordingly, the relative unimportance of other caregivers, is supported by empirical work, demonstrating that when children from a nuclear family are investigated, children are often classified as having a higher degree of security with their mother than their father (e.g., Fox, Kimmerly & Schafer, 1991). Even when a child is securely attached to their father, that attachment has been attributed to the mother's success at providing the child with a secure attachment, due to low associations between infant-father attachment and the father's level of sensitivity (Steele, Steele & Fonagy, 1996). Plausibly there are a number of potential explanations for this discordance, either the father has little role in establishing attachment or a reliance upon investigating separation/reunion is not sensitive to that role (Bretherton, 2010).

Increasingly, modern family structures can vary on a number of dimensions (Bradshaw, 2011; Callan, Benson, Coward, Davis, Gill, Grant, Percival & Rowthorn, 2007; Haskey, 1998). Mothers may or may not be in employment or education, if they are it may be either full time or part time. There may or may not be a father present in the home. Where there is a father present, it should not be assumed that this necessitates involvement with the child and paternal involvement itself is subjective (Pleck, 2010). For example, in a family where the father works full time away from home while the mother provides the majority of childcare, a child's experiences of being separated from and reunited with each caregiver will naturally differ, in both meaning and frequency. Separation from the mother is seen as a period of threat, as being alone places the child in danger (Ainsworth, Blehar, Waters & Wall, 1978; Bowlby, 1969; Crittenden, 1992, 1995). It cannot be assumed that paternal

separation always has the same potential for threat and should provoke a comparable response from the child (Bretherton, 1985). This is perhaps one of the reasons why separation from a father often fails to activate a child's attachment system, causing the child to be mistakenly labelled as insecurely attached to their father (Bretherton, 2010). Rather than acknowledging that the father's role may differ from the mother's role in a manner that separation/reunion is not sensitive to, fathers have instead often been viewed as having a supporting role, or being stand in caregivers (Grossmann, Grossmann, Fremmer-Bombik, Kindler, Scheuerer-Englisch & Zimmermann, 2002; Lamb, 2012).

As well as informing societal opinion as to the role of mothers and fathers in child development, attachment research has also been used as the foundations of psychological interventions aimed at improving children's attachment security. In order for an intervention to achieve optimal success, it should be evidence based (Lamb, 2012). Research has shown that maternal attachment quality can be affected by changes in the caregiving context (Amato & Dorius, 2010; Teti, Sakin, Kucera, Corns & Das Eiden, 1996; Woodward, Fergusson & Belsky, 2000). It could then be assumed that following on from these data, that clinical interventions would acknowledge the family. Despite this, interventions are predominately dyadic in nature and numerous interventions focus primarily on changing the child's attachment quality directly (Mercer, 2001). More recently, researchers have attempted to acknowledge the family in interventions, which has resulted in a greater success rate (Bakermans-Kranenburg, van IJzendoorn & Juffer, 2003). Where interventions have included the family, the focus has been primarily removing familial barriers to maternal sensitivity. With a deeper understanding of how attachment strategies are maintained naturally by the family unit, interventions success rates are likely to improve.

Accompanied by a clear misunderstanding of attachment theory, more radical ‘therapies’ have emerged, such as re-birthing, coercive restraint therapy and compression therapy (Zilberstein, 2006). Such therapies are not only at odds with attachment theory itself, they are limited in their effectiveness and have resulted in at least one death (Mercer, Sarna & Rosa, 2003). Even with all other reasons set aside, this is a substantial rationale for gaining a fuller understanding of the maintenance of attachment strategies and using that knowledge to help inform more effective and safer interventions. The purpose of the current thesis is to expand attachment theory in order to improve its robustness, with more research fulfilling this aim, the theory can only increase in its usefulness in informing society and psychological interventions.

Findings such as low stability of attachment, poor success rates of child based interventions and the same parent having children with multiple attachment types (see Chapter 3) raised questions about the traditional models of attachment and coincided with the development of the Dynamic Maturational Model of Attachment (Crittenden, 1992, 1995, 2005, 2008). In this model, attachment types are not viewed as fixed psychological constructs, rather they are functional strategies employed within ones context. This model of attachment resonates with Bowlby’s original theory (1969) and previous research (Pederson, Gleason, Moran & Bento, 1998; Seifer, Schiller, Sameroff, Resnick & Riordan, 1996; Smith & Pederson, 1988), in that maternal sensitivity and consistency are important predictors of child security. Less clear is the extent to which sensitivity and consistency themselves are moderated by events and processes in the mother’s life, their own relationships and the child’s siblings. Numerous variables within their context could affect the caregiver’s capacity to be sensitive and consistent. Exploratory research within the home environment is needed to foster a better understanding of what these variables may be.

Attachment strategies are recognised as functional within a specific context (Crittenden, 1992, 1995, 2005). Research should then examine the child's context in order to understand what makes their strategy function. The argument here is that to advance an understanding of the processes underpinning attachment quality, research should be conducted in the family home. Due to the fixed, episodic nature of separation/ reunion episodes, current laboratory based methods cannot ascertain what role each caregiver plays in maintaining attachment bonds. Research relying solely on separation/ reunion episodes simply cannot gain meaningful insight into naturally occurring interactions associated with attachment quality. Exploratory research conducted within the home provides an opportunity to observe how a caregiver's behaviour functions to maintain a child's attachment strategy. Investigating mother-child dyads in a context where other family members are not present similarly limits our ability to understand the role the family may play in maintaining attachment quality. If a child's natural context includes siblings, the manner in which the mother acts towards a specific child will be different depending on whether the siblings are present or not (Bryant, 1982; Johnson, 2001). Therefore, dyadic interactions in isolation do not represent a child's natural caregiving context.

Triadic observations should provide an integrative view of sibling attachment and help explain how attachment is naturally maintained. While attachment behaviours are most readily observed via separation anxiety, they also exist in the home context. Due to the relative lack of threat in the home, compared with the laboratory, instances of attachment behaviours will likely be fewer in number and of a lesser magnitude. A naturalistic observation taking place in the home context should allow mothers and their children to act normally, so that individual differences in their caregiving behaviours and the resultant attachment quality can be observed, it would also allow the investigation into variables that help or disrupt maintenance of attachment strategies. In addition, this investigation

would allow the role of the father to become clearer. Fathers have been identified in attachment as having the role of play mate, something often viewed as peripheral to attachment (Bretherton, 1985; Lamb, 1975, 2010, 2012), outside of attachment theory the father's role is seen to include facilitation of independence (Broderick, 1993). From this, the father's role is likely to become more pronounced as their child develops the motor skills and capacity for exploration. In order to further investigate a father's contribution to their child's attachment quality, it is clear that this investigation must take place using children aged 12 months and above, in order for the children to have developed the necessary motor and exploratory skills.

Attachment theory has been immensely influential and has helped shape the way that not only researchers and practitioners work, but also how society views parents (Lamb, 2012). Consequently, a theory with such influence should be valid and reliable. A principal application of scientific theory is to inform psychological practise, especially interventions. If interventions based on attachment theory are to be carried out by practitioners, a fuller understanding of how attachment quality is maintained naturally is beneficial. It is hoped that with a fuller understanding of how family members contribute to maintaining attachment, not only would the theory itself become more robust, but psychological practises influenced by attachment theory would also benefit.

1.1: What is Attachment?

Attachment theory is predicated on the assumption that humans of all ages are most comfortable when supporting or by being supported by another. This ongoing pattern of

receiving and providing support is said to start with the primary caregiver, traditionally the mother (Bowlby, 1969/1982). The attachment system is simply a set of behaviours; at its core attachment is an adaptive and innate survival strategy. An attachment strategy is how an individual learns how to best evoke care giving behaviour from his/her attachment figure, via a process of inhibiting or amplifying displays of affect (outward emotional displays).

As Bowlby (1973) states, attachment informs the child about themselves and the world around them. Simply put, if a child receives sensitive care, they will infer that they are worthy of such care, if a child does not receive consistently sensitive care, they will infer that they are not worthy of sensitive care. In addition, through what Bowlby describes as the goal corrected partnership, a child will learn what behavioural displays are required in order to elicit a desired response from another person. This internal working model of the self and others is seen as central to a child's developing sense of well-being. Empirical evidence supports this assertion, such as that by Verschueren and Marcoen (1999) who measured attachment security using hand puppet vignettes and demonstrated a link between attachment security and self-esteem. In addition, there are observable links between an individual's secure base behaviours and their social behaviours with peers (e.g., Cassidy, 1998).

There are three primary types of attachment, set forth by Bowlby (1969) and further refined by Ainsworth et al. (1978). These three types are Secure (B), Insecure-Avoidant/Resistant (A) and Insecure-Anxious/Ambivalent (C) and their subtypes. A fourth category of attachment known as Insecure-Disorganised was later added (Main & Solomon, 1986). This disorganisation often manifested as moments of stilling, rocking or outright apparent disorganisation of behaviour. Insecure-Disorganised attachment strategies were observed (Main & Hesse, 1990; Willemsen-Swinkels, Bakermans-Kranenburg, Buitelaar, van

IJzendoorn & Van Engeland, 2000) to be partly the result of insensitive under stimulation combined with insensitive over stimulation by the caregiver (insensitive in that caregiving actions were not elicited by the child and are not in proportion to the child's own emotional state). An alternative explanation put forth by Hesse and Main (2000) suggests that Insecure-Disorganised children are the result of the child's attachment system being in conflict with a fear of their caregiver(s). Describing a child as 'disorganised' may be misleading. Attachment relationships contain both child and caregiver, the child may be simply re-organising their behaviour to coincide with that of their caregiver (van IJzendoorn, Goldberg, Kroonenberg, & Frenkel, 1992).

Research by Crittenden (1992, 1995, 2005, 2008) rejects the notion of their being 'types' of attachment. Mindful of labelling children and the potential deterministic harm caused by such labels, the Dynamic Maturational Model instead views attachment types as 'strategies'. Rather than a child being a particular attachment type, they are viewed as using an attachment strategy. Attachment strategies are viewed as functional within their context, if this context is to change, so then will a child's attachment strategy. In the Dynamic Maturational Model of attachment, three strategies are evident in interactions between pre-school children and their mothers. These strategies are defined as secure (traditional B type - secure), defensive (traditionally seen as A type – avoidant/resistant) and coercive (traditionally viewed as C type – anxious/ ambivalent). In addition to these three types, Crittenden argued that some children use a defensive/ coercive (a combination of the two, used interchangeably, often as a result to a change of maternal behaviour). Here two models of attachment emerge, the Main and Solomon model (Main & Solomon, 1986), and the Dynamic Maturational Model (Crittenden, 1992, 1995, 2005, 2008). Primarily these two models differ in terms of how they view disorganisation and the functionality of attachment. Disorganisation in terms of attachment strategy is the

acknowledgement that the child's attachment strategy is sometimes seen to change during an observation. Rapid change would typically be viewed as an indicator of disorganisation, as suggested by Main and Solomon (1986). On the other hand, the Dynamic Maturational Model, with its emphasis on the function of attachment behaviour in light of the caregiving context, would suggest that any change in strategy is likely a re-organisation of the child's behaviour to coincide with their caregiver's changing behaviours. In the Dynamic Maturational Model, this reorganisation is not a separate strategy; it is a shift from one strategy to another. For this reason, the current thesis rejects the existence of a Disorganised strategy and will contain no further mention of it. A functional viewpoint of attachment opens up a myriad of opportunities for broadening our understanding of attachment, such as how each strategy is created and maintained and also, how to change insecure attachments. The current thesis draws upon the Dynamic Maturational Model of attachment and thenceforward, attachment types will be referred to as strategies.

1.2: Description of Attachment Strategies

The following section offers a description of each individual attachment strategy, as defined by the Dynamic Maturational Model of attachment (Crittenden, 1992, 1995, 2005, 2008). Under the Dynamic Maturational Model of attachment, secure (B) has five sub-types. Insecure-Avoidant/resistant (A) and Anxious/Ambivalent (C) both have eight sub-types. The statistically normal and in theory the socially desirable attachment type is Secure (B) (Table 1.2.1). People who are deemed as securely attached to their caregiver(s) have often been well cared for and will normally have enjoyed a sensitive and consistent caregiving context. Parents of children assessed as B strategy will normally react towards

their child in a sensitively predictable manner which reliably reduces the child's anxiety level, thus this strategy requires a high level of affective attunement (the extent to which the caregiver's and child's affective state are in synchrony). The secure child has the ability to take another's perspective, the child realises that the parent has their own plans but he or she is not being abandoned while they carry out these plans. They either trust that their parents will return or negotiate its conditions. Upon reunion they resolve their feelings quickly, finding comfort then move on to other activities, such as environment exploration. In terms of proximity seeking, subtle gravitation towards the caregiver is more common than physical contact, as is the case with younger infants. Upon separation they will actively seek information from caregiver, and engage in self-soothing activities such as play. These individuals are usually observed to be confident, successful with peers and self-reliant.

Table 1.2.1: *Description of Secure Attachment Sub-Types – adapted from Crittenden (2005)*

Sub Type	Description
B1/2	Individuals classified as securely attached but with tendencies towards Insecure-Avoidant strategies are described as using a B1/2 strategy. Such individuals tend to be quite inhibited in their interactions, but the central aspect of balance between cognition and affect display is still evident.
B3	The B3 strategy is described as being truly securely attached, such individuals are observed to partake in direct communication and have an ability to negotiate openly and to arrive at a mutually satisfactory compromise in their interactions. Individuals with a B3 strategy tend to not distort cognitive or affective information and have a wider repertoire of behaviours due to this lack of distortion.
B4/5	Moving away from being truly secure, individuals which employ the B4/5 strategies have a slight tendency to be more reactive than their truly secure counterparts. Such individuals slightly exaggerate negative affect, being either overly emotional (B4) or irritated (B5), but are essentially balanced.

The second attachment strategy, defensive (avoidant/ resistant/ type A) arises from experiences with a consistently insensitive caregiver (Table 1.2.2). Caregivers often act in a

manner that fails to decrease the child's level of duress, thus fostering a level of independence and a reluctance to rely on others for emotional support. Caregiving behaviour frequently takes the form of ignoring a child or dismissing bids for attention. Punitive behaviour is not unusual and in extreme cases, there may be abuse and/ or neglect and leading to sleep and eating disorders at a very young age (Benoit, Zeanah, Boucher & Minde, 1992). This strategy has the child seeking to maintain protection without alerting the attachment figure to his or her true feelings, or desire for proximity, both of which may arouse the caregiver's anger. They use techniques of subtle inhibition, and are often compulsively compliant (such as talking at reserved caregivers in order to appease them) and can be compulsively caregiving towards their caregiver. They will seek to inhibit displays of affect, regulating their emotions solely through their own efforts or display false positive affect. This false affect prevents activation of the attachment system, thus acting to defend the child (Ainsworth et al., 1978). Most when under duress will rarely look at their attachment figure, often averting their eyes by choosing to look down instead. Some will make small indirect efforts to keep parent nearby, such as highlighting a toy, or asking a question. Often such infants will display 'emotional leakage', in the form of accidental subtle signs of sadness followed by feelings of shame. Defended children may show their actual feelings when their attachment figure leaves. Most worryingly, due to the emotional distancing and consistently insensitive parenting, such children can demonstrate an apparent lack of empathy (Crittenden, 2005).

In play, mothers of defended children will cover negative feelings with over-bright actions such as acting like their child is highly engaged with them. They are also often seen to be unresponsive, withdrawn or depressed. In social settings, individuals employing an A strategy will be 'too good', whereby they will inhibit any displays of negative affect and always aim to please others, even acting against their own desires in this appeasement

process. In practise, despite the links this strategy has with depression in later life, this is the most socially desirable attachment type in western cultures due to the overbearing need for the individual employing the strategy to act in a demeanour desirable to others. Due to the emphasis on attaining fulfilment through performing to appease others, individuals that use an A type strategy are more prone to depression in later years (Styron & Janoff-Bulman, 1997). Insecure-Avoidant individuals can be observed to display false positive affect while inhibiting their actual negative inner state, coupled with feelings of shame at displays of negative affect. An example of such behaviour would be a child with a big smile, shoulders raised to protect the neck, normally with their hands protecting vital areas such as their abdomen.

The use of such a strategy is emotionally draining as the individual rarely, if ever, achieves the result they desire in a social setting. This emotional suppression causes 'invisible' problems that when coupled with an outwardly very agreeable disposition are problematic to genuinely resolve. This strategy can cause over achievement in children, as their performance is the primary source of affection from their caregiver(s), acts such as doing well at school, making people laugh and so on will function to keep them happy and safe in their home setting. Additionally, use of the Insecure-Avoidant/Resistant strategy causes people to respond badly to stress and disapproval from others, thus leaving them open to breakdowns, social isolation, clinical depression and other anxiety and nervous disorders (Shaw & Dallos, 2005).

Table 1.2.2: *Description of Insecure-Avoidant/Resistant Sub-Types - adapted from Crittenden (2005)*

Sub-Type	Description	Potential Issues in Later Life
A1/2	The first sub-type of the A strategy is A1/2, observed by a large propensity to inhibit one's own emotional state.	
A3	The A3 strategy comprises of compulsive caregiving, such individuals aim to protect the self through protecting their attachment figures. Individuals employing an A3 strategy often attempt to cheer up upset attachment figures, and can be seen to be acting as stand-in caregivers for a younger sibling in the case of a depressed mother for example. The A3 strategy normally appears in the pre-school years.	In adulthood A3 individuals will often seek employment helping others, especially those most in need. Linked with depression.
A4/5	Individuals that employ an A4 strategy are deemed as being compulsively compliant, often anxious and agitated; this repressed anxiety often manifests itself somatically. This pattern normally develops in adolescence upon the realisation that strangers are the only apparent source of interpersonal closeness. Such individuals will avoid genuine intimacy while maintaining contact with others.	The A5 strategy often leads to becoming compulsively promiscuous. They can be seen to demonstrate false positive affect including, but not limited to sexual desire orientated towards people they know very little.
A6	A6 individuals are categorised as being compulsively self-reliant, this pattern usually develops in adolescence after the realisation that they cannot themselves regulate effectively the behaviour of their attachment figure. Often, such people can function normally in social settings such as work and so on where there are implicit and/or explicit rules on conduct and behaviour.	A6 individuals suffer in close relationships due to the pervasive propensity to keep partners at a distance.
A7	The A7 strategy involves delusionally idealising their attachment figures. This often develops in adulthood and is viewed as an extremely desperate strategy whereby the individual imagines their attachment figure will protect them when they will not or cannot. For ease of understanding, this can be conceptually linked with 'hostage syndrome'.	As with all A sub-groups, A7 strategies are linked with adult clinical depression.
A8	The A8 strategy is known as the externally assembled self, it involves an absolute reliance on others to form a notion of 'self', often seen in severe abuse cases whereby the individual has had over exposure to professionals, they will often use diagnostic terms to describe themselves.	As with all A sub-groups, A8 strategies are linked with adult clinical depression.

The third attachment type is known as Insecure-Anxious/Ambivalent (C) (Table 1.2.3). Such children are coercive and often make threats, combined with a refusal to enter negotiation with their mother that may result in compromise. Threats are communicated via anger to alert the attachment figure to the presence of a problem and to their responsibility of resolving it, taking no responsibility themselves. These displays falsely imply the child's powerlessness. C children often display over-bright babyishness, such coy behaviour is designed to promote proximity with the caregiver. There are seen to be three sub groups of coercive children, the first being punitive children, these will seek to openly shaming or embarrassing the attachment figure. Secondly disarming children, such children will attempt to pacify their attachment figure through coyness. Thirdly helpless children, these children will attempt to imply they are powerless. However for these strategies to work, coercive children must continually monitor and react to their caregiver.

When the caregiver is present and the child is under duress insecure-anxious/ ambivalent children are so concerned with these displays of affect that some actually use the absence of the caregiver to free them for exploration. When the child is under duress and displaying the aforementioned displays of affect, mothers of coercive children are often overly empathetic to the extent of actually sharing their child's emotions, to the point that they cannot be helpful. During play the mothers often fail to assume parental situational ownership. They can be unpredictable or passive and many tease or frustrate their child. Within the relationship each appears to be in power at the expense of the other. Generally parents of coercive children are very dependent on the approval of the child and thus experience frustration at their inability to appease them. They are also unresponsive to all but the most intense signals yet do not mind physical closeness. This way, the child cannot reliably and consistently ascertain aid from them, yet does not block them out in the manner that defended children would.

Children employing an Insecure-Anxious/ Ambivalent strategy are often individuals whose main caregiver is inconsistent and unreliable, often with life problems of their own. The key component is a lack of a stable contingency, a secure child will learn that in times of danger/ need their caregiver will be available, an insecure-avoidant child will learn that in times of need their caregiver will not be there for them. The insecure-anxious/ambivalent child learns that in times of danger/ need they do not know whether anyone will be there. This is a problematic contingency, as the child learns that they cannot elicit care when needed and consequently view themselves as unworthy of such care. Caregivers of children employing a C type strategy are often pre-occupied with their own significant life circumstances, causing them to often miss the child's cues. Due to this unresponsiveness it often takes a comparatively pronounced display of affect to elicit any form of response from their attachment figure. By this process they learn that in order to elicit a response they must exaggerate negative affect. When exhibiting stress, both attachment figure and child can be observed to have a shared escalation of affect displays, neither able to resolve the situation. If the parent inadvertently and intermittently positively reinforces negative behaviour, such as laughing when a child engages in risk taking behaviour, such dangerous behaviour can become all the more pronounced.

Such individuals are often described as outwardly immature or demanding and fluctuate between being extremely independent and extremely dependant (Bukatko & Daehler, 1995). Commonly, such individuals are labelled as 'acting like a child', although it is noteworthy that this is inaccurate and misleading. Extreme affect displays and dominance over others through emotional outbursts are not typical of any developmental stage, but are a functional strategy which services to control others. Although this pattern of self-protection was originally described in infancy, it is much more likely to occur in the pre-school years (Crittenden, 1992) due to the pre operational shift (Piaget, 1964), at this age

children begin to learn and control their gender specific affect displays. Generally speaking in western cultures there is a propensity for it to be more appropriate for males to use physical aggression than females, conversely it would be more commonplace for females to use outward displays of sadness than their male counterparts (Kogut, Langley & O'Neal, 1992). While these displays may appear different in nature, the function remains the same. Both aggression and sadness are outward displays of negative emotion, which can function to provoke a response from others. Of course were an individual to consistently dominate another through emotional displays, this strategy would cease to function, it is for this reason that many individuals utilising a C strategy will vary their emotional displays. To this end, children using this strategy will often display coy and disarming affect. In order to terminate aggression and elicit caregiving behaviour, for example exposing the belly or other vital areas. In the early years this strategy can lead to fretfulness and eating/ sleeping disorders. Later in life individuals employing the C strategies find it extremely difficult to discuss and manage their feelings appropriately, resulting in unresolved and 'irresolvable' emotional issues. It is not uncommon to see this strategy (described as 'push you, pull me') in dysfunctional and abusive adult relationships (Crittenden, 2008). To reiterate, it is of utmost importance to see how affect displays that are anger and sadness are not opposites, as this strategy infers their intended function is actually very similar. In some previous research, it has been argued that a lack of understanding of this point has lead researchers to wrongly view feigned helpless as ambivalence and inaccurately categorise individuals displaying such behaviour as A types (Bakermans-Kranenburg & van IJzendoorn, 2009). Ultimately, the emphasis of the C type strategy is eliciting caregiving behaviour through the display of negative affect. Specifically odd numbered C's (C1, 3, 5, 7) will split their affect between strong, angry and invulnerable and even numbered C's (C2, 4, 6, 8) between fearful, weak and vulnerable.

Table 1.2.3: *Description of Insecure-Anxious/Ambivalent Sub-Types - adapted from Crittenden (2005)*

Sub-Type	Description	Potential Issues in Later Life
C1/2	C1/2 strategies are classified as threatening/disarming. Individuals with this strategy will exaggerate and change their negative affect to elicit a response from others.	C1/2 individuals in later life are disarming, threatening, aggressive and partake in risk taking behaviour in order to evoke a reaction from significant others.
C3/4	The C3/4 strategies are aggressive/ feigned helpless. The C3/4 strategy normally appears in the pre-school years and after, individuals will alternate between aggression and apparent helplessness.	Linked with aggression and dysfunctional relationships in later life.
C5/6	Individuals with a C5/6 strategy are observed to be punitively obsessed with revenge (C5) or seductively obsessed with rescue (C6). This is a more extreme version of C3/4 and involves active deception. In particular, C5 individuals are particularly poor at relating to others displays of affect, often blatantly ignoring them and forcing others to attend to them instead, a common trait to a lesser extent amongst all C's. C6 individuals often give the appearance of needing rescue from dangerous circumstances that are in fact self-induced. This alternating pattern is often seen in violent couples. C5/6 strategies are not fully functioning until the adolescent years.	Individuals using this strategy distort information such as blaming others while viewing themselves as entirely innocent, adopting a victim mentality with almost no genuine insight into their own motivations. The outcome is more enduring and less resolvable problems in inter-personal relationships with peers and later, in adult relationships.
C7/8	The final C sub types are the C7/8 strategies. These are classified as being menacing/ paranoid. These strategies involve a willingness to attack anyone, combined with a fear of everyone. This pattern develops in adulthood.	At the extreme this pattern becomes delusional with obsessions with revenge or paranoia.

From the descriptions provided it is possible to see that rather than discrete categories, the Dynamic Maturation Model instead suggests that attachment is perhaps best viewed on a

continuum. A review by Fraley and Spieker (2003) which investigated the Strange situation behaviours of 1139 children, found evidence to support the suggestion of a continuum of attachment behaviours. Traditionally attachment strategies have been measured by observing a child's behaviours, coding each by the attachment style they represent and the style occurring most is said to be the child's attachment style. Many participants display specific behaviours that could logically be part of different attachment styles at different times, thus making systematic categorisation problematic (Fraley & Spieker, 2003). However, with the Dynamic Maturational Model providing shift towards understanding attachment as an underlying strategy rather than specific instances of finite behaviours, it has been possible for researchers to infer the function of the behaviour, rather than the behaviour per se. To reiterate, the model does not categorise individuals themselves as 'being' either A, B or C. Instead, it categorises the strategy that the individual 'uses'. While this may seem a subtle differentiation, it is imperative. The Dynamic Maturational Model places emphasis on attachment strategies as adaptive and functional processes that arise from the child's family context. In this light, attachment bonds are continually being shaped and there is likely no 'critical period' in their development. Instead, it is viewed that attachment strategies can and will change with changes in the child's context. Rather than being fixed, the supposition is that if the context changes sufficiently, so will the child's attachment strategy. Conversely, if no salient contextual changes occur, the child's attachment strategy will remain the same (Fraley, 2002). This emphasis on context opens up extremely useful avenues for exploring how stable attachment strategies are, how attachment strategies are created and maintained and what role the caregiving context plays in changes in attachment strategy over time.

In summary, previous research has established the importance of attachment and has validated it as a risk factor for later life problems. However the mother-child dyad was

intended by Bowlby (1969/1982) to be the foundation upon which, later work would begin to understand the family as a whole. Currently, this extension of Bowlby's work has yet to be completed. The aim of the current thesis is therefore to explore the role of the family in attachment.

Chapter 2: How is Attachment Measured?

This section of the thesis explores the variety of tools available to attachment researchers, their strengths and weaknesses and most importantly their appropriateness for the current set of studies. There are two main categories of methodology in attachment, observational and representational. While both approaches tap the attachment quality of the child, observational methods attempt to directly categorise a child's attachment quality by rating behaviours, whereas representational methods attempt to infer a child's attachment quality indirectly. Both of these approaches and their appropriateness to the current research will now be discussed in turn.

2.1: Observational Methods

Behavioural observations are the most common method of data collection in attachment research. To observe a child's attachment strategy effectively, researchers can present children with situations in which the child has the opportunity to display strategies for promoting proximity to their caregiver, coping with stress and exploring their surroundings (Crittenden, 1992). A representative example of this is the research conducted by Cassidy (1988), whereby 52 pre-school children were separated from their mother while she completed self-report measures of self-esteem. Attachment quality in this study was rated using a series of nine point scales aimed at scoring emotional functioning, security on reunion and proximity seeking. Common to observational procedures, no measure of the mothers' behaviour could be included, due to the caregivers being constrained by the

procedure, restricting inferences into any observed behaviours. The main critique of using observational methodologies to assess attachment is the assumption that any observational tool makes, that the scenario being observed contains all the relevant variables. It requires integrative research to establish associations between anything not observed and attachment quality, such as family type and context, socio-economic status, different caregivers and so on. While it is possible to measure these in addition to laboratory procedures, they are commonly overlooked (Cowan, 1997; Cowan & Cowan, 2001; John & Halliburton, 2010; Lamb, 1997, 2001, 2004, 2012).

The Strange Situation

In order to empirically explore attachment theory, the strange situation was developed, based on secure-base interactions observed in Ugandan children (Ainsworth, Bell & Stayton, 1971; Ainsworth, Blehar, Waters & Wall, 1978). The strange situation is currently the most widely used system of assessing child attachment. The procedure was originally developed for the toddler age range (approx 12 months). Attachment quality is measured by activating the child's attachment system by placing them under duress which is caused by separation from their caregiver, as the primary function of the innate attachment drive is to promote and maintain proximity (and therefore safety) with the primary caregiver. From these instances of behaviour, an attachment type/strategy is inferred. The rationale underpinning this method is that by observing the child's secure base behaviour, it is possible to infer his or her internal working model of the caregiver he or she is being observed with and thus the quality of the attachment bond. This working model would comprise of viewing the parent as largely rejecting, inconsistent or sensitive. Accordingly, it is possible to infer the child's working model of the self, for instance whether the child

views him/herself as worthy or unworthy of attention and care. Essentially a rating system of dyadic secure base behaviour, the procedure requires the laboratory isolation of the dyad investigated. The strange situation was not conceived as a tool for explaining attachment, merely measuring it. At its inception, it was the only method of measuring attachment and the accepted approach for investigating attachment. The procedure has not changed to this day and continues to have a major influence on work in this area.

Specifically, the procedure itself contains seven separate three minute stages measuring six behaviours. During the various stages, the child is normally videotaped and reviewed on their contact seeking, contact maintaining, resistance, avoidance, search and distance interaction. Based on these observations, the child is then categorised as one of the three types previously mentioned, secure, insecure avoidant or insecure ambivalent (Ainsworth et al., 1978). Adding to this, the authors of the procedure acknowledge that the six previously mentioned behaviours measured (contact seeking, contact maintaining, resistance, avoidance, search and distance interaction) inter-correlate highly with each other. This suggests that they are not independent variables and instead all parts of what Ainsworth described as “the harmony of mother-infant interaction” (Ainsworth et al., 1971, p. 49-50). Constructing objective, reliable, robust and efficient attachment based interventions based on improving one or two of these variables when they are all so highly inter-related is problematic. During the procedure, due to the caregiver’s behaviours being dictated by the procedure of the strange situation, the participating mothers’ actions are similar to one another whilst at the same time their children’s attachment types differ. While the strange situation is a useful tool for categorising and describing interactional attachment patterns, it is limited in its capacity for helping to understand how a child’s attachment strategy is maintained (Cohen & Campos, 1974; Lamb, 1977). Although the procedure was not meant as a rating tool for caregivers, the lack of information on

individual caregiver behaviour limits the techniques usefulness in explaining attachment types. Even for the same caregiver, it has been found that their children had different attachment types to one another (see Chapter 3).

With the focus on child behaviour, the strange situation is not an appropriate tool for exploring how attachment strategies are created and maintained (Lamb & Bronson, 1980). With the emphasis being on the presence or absence of specific behaviours, without acknowledging why these behaviours are occurring, often attachment classifications for the same child can differ from one observation to the next (Ainsworth et al., 1978). Without an accurate inclusion of the caregiving context, it is difficult to say what proportion of this inconsistency is due to measurement error or instability of attachment. In the original strange situation study itself (Ainsworth et al., 1978), which contained two assessments one month apart, 36% of categories differed. When classifications differed, the researchers chose a 'midpoint' to use as a classification. This aggregation procedure, or 'forced classification' as it is sometimes referred to, can place insecure children in secure categories and vice versa (Main & Solomon, 1986). Additionally some specific instances of behaviour when viewed out of context can prove to be problematic to classify. For instance, if a child was to approach his or her attachment figure with their head turned away or dipped traditionally the avoidance evident in the head movement would be overlooked, ultimately the child is still approaching the attachment figure. The child would therefore traditionally be classified as Secure (B). Upon the advent of the Insecure-Disorganised (D) classification, the child could be viewed as having two contrasting strategies, Secure (B) in approaching the parent but Insecure-Avoidant (A) by his or her head movement, and thus would be categorised as Disorganised. Using the Dynamic Maturational Model (Crittenden, 1992, 1995, 2005, 2008), forced categorisation is less of an issue. Due to the emphasis on functionality of attachment, it is evident that in the

example, the child is using an Insecure-Avoidant (A) strategy, while maintaining physical contact by averting his or her head the child will not risk meeting the attachment figure's gaze. Without taking the parents behaviour into consideration, it is difficult to fully understand why these differing behaviours are being displayed. As a result of such difficulties, Ainsworth et al. (1978) expressed dissatisfaction that the strange situation was more of a rating scale of secure base behaviour, rather than a general measure of attachment.

The strange situation was validated using stay at home mothers, the underlying assumption being that children within nuclear families will have comparable levels of threat aroused by separation and reunion. It should be questioned whether the level of threat aroused by separation/reunion is consistent across modern family types. When faced with an episode of separation/ reunion, if a child's reaction is one of ambivalence towards their caregiver, the child is viewed as insecure-ambivalent/resistant. This is due to the non-threatening nature of the separation and the seemingly disposable attachment figure. Accordingly, it has yet to be established whether a lack of separation anxiety necessitates an insecure attachment in all family types. It is self evident that separation/ reunion experiences will differ in both frequency and meaning, between the child of a working mother and the child of a stay at home mother. Research such as that by Sagi and Lewkowitz (1987), have demonstrated that it is possible to predict a child's separation/reunion behaviours by how familiar a child is with separation from a caregiver. A child who is familiar with separation, such as the child of a working mother, is likely to be classified as insecurely attached (Braungart-Reiker, Garwood, Powers & Wang, 2001). It is unclear whether the lack of separation anxiety is indicative of an insecure attachment or simply the familiarity (and therefore lack of threat) that separation presents. Despite it not yet being established whether children from different family types can be reliably compared, it has not stopped

researchers doing so. As a result, it is unclear how prevalent false positive categorisations are in attachment research. Following a false positive attachment classification, when an individual incorrectly described as insecurely attached and a genuine insecurely attached child are compared (in terms of social functioning for example) effect sizes will be limited. Weak to moderate strength associations (Cohen, 1992) between attachment quality and social functioning are common in attachment research (e.g., Contreras, Kerbs, Weimer, Gentzler & Tomich, 2000; Markiewicz, Doyle & Brendgen, 2001; Szewczyk-Sokolowski, Bost & Wainwright, 2005).

A consistent argument within the thesis is that a sole emphasis on separation anxiety may not be as valid an approach today as it was during the 1960's and 1970's. Accordingly, classifications derived from the strange situation may not accurately represent the attachment security of children in modern family types. Such claims of non-representation in attachment research may seem and are often argued to be minority issues. To this argument, it is meaningful to bear in mind that increasingly fewer young people are reared in traditional two-parent families where the mother stays at home and the father works, with only a third of young people growing up in such 'nuclear' families in the UK. Thus minority groups, such as single parent families and unwed couplings represent a cumulative majority (Callan et al., 2007).

The strange situation and similar methodologies are often defended by the argument that they are simply not designed to accurately represent different populations and thus ideally should not be used for researching different populations. However they continue to be used for researching populations they have yet to be validated on and often this issue is ignored (see Chapter 3). For this and previously mentioned reasons, it argued here that there is a need when assessing attachment quality to account for familial differences between populations. Simply put, an accurate investigation of attachment should take such

factors into account. Attachment research using the strange situation often sees relatively low levels of test-retest reliability (Cowan, 1997; Bar-Haim, Sutton, Fox & Marvin, 2000). Plausibly, this is in part due to contextual variables existing outside the mother-infant dyad having an impact upon a child's attachment quality, and therefore they should be included in a measurement or assessment tool.

Q-Methodology

Rather than rely upon the strange situation, the current study uses two different examples of Q-methodology to measure attachment quality within the home, the rationale for this decision will now be offered. In recent years, coinciding with the call for ecological advances in attachment theory, Q-methodology has been applied in attachment research. Q-methodology is a unique combination of qualitative and quantitative approaches. By using Q-Sets (or Q-Sorts as they are interchangeably referred to), qualitative data can be quantitatively analysed. A list of descriptors are sorted into the order which they best represent a relationship, person or scenario. Once ordered, this list can then be compared to a pre-derived criterion. The most widely used Q-Set in attachment literature and the first Q-methodology used in the current research is the Attachment Q-Set (Waters & Deane, 1985). This measure was designed to assess a child's attachment quality with a specific caregiver, with an emphasis on secure base behaviour as it occurs naturally within caregiver-child interactions.

The second Q-methodology employed in the current research is the Parental Secure Base Support Q-Set, developed by Waters, Gao and Elliot (2003), which is a much more recent addition to the attachment methodology repertoire. Whilst not a direct measurement of the child's behaviours per se, it instead seeks to tap the attachment construct by assessing

the extent to which a caregiver acts as a secure base for exploration for their child. Unique in its conception, this tool was not brought beyond the testing stages and thus far has attracted little research. The argument here is that with the emphasis of the Parental Secure Base Support Q-Set being on the caregiver's contribution to attachment, and the Attachment Q-Set focussing on the child's contribution, that utilising both Q-Sets alongside one another may yield more insightful results into attachment quality than either Q-Set alone. The current thesis represents the first attempt, to the author's best knowledge, to utilise both Q-Sets simultaneously.

The rationale underpinning the Q-Set differs from the earlier methods of assessing attachment in that they measure the strength of a child's attachment quality within a specific caregiver-child relationship including how that caregiver facilitates a child's exploration, without the reliance upon artificial separation/ reunion episodes. Rather than purely a rating scale of separation/ reunion behaviour, Q-Sets strive to measure attachment representations through a much wider array of secure base behaviours. Not only this, the attachment behaviours that the Q-Sets measure, are naturally occurring behaviours, which plausibly leads to a more meaningful insight into secure base provision. As hypothesised (see Chapter 3), the father's traditional role as an attachment figure is fulfilling the second component of attachment theory outlined by Bowlby (1969/1982), the facilitation of exploration. With this methodological framework, the Q-methodologies are theoretically appropriate tools for exploring father-child attachment quality. Despite this, the measurement tool has seen relatively little use in the field of father-child attachment, especially observer rated investigations.

Perhaps the most beneficial aspect of Q-methodology is that it can be used outside of the laboratory. With the changing nature of the modern family in western cultures and the aforementioned confounding variable that is a child's previous experience of

separation/reunion, it is clear that methods do need to take other caregivers and the uniqueness and dynamics of different types of family under due consideration. For the first time during an assessment of attachment, the Attachment Q-Set enables researchers to ascertain variables not directly related to separation/reunion that are associated with a child's attachment quality (e.g., "When he is upset or injured, child will accept comforting from adults other than mother"). In addition, it allows researchers while assessing a child's attachment quality, to simultaneously gain meaningful insight into the variety of processes that underpin mother-child attachment. Further, with Q-methodology removing the emphasis on episodes of separation/ reunion, plausibly it enables the measure to be utilised reliably across a wide range of family types.

Despite the Attachment Q-Set lacking an emphasis on separation/reunion, it still remains a measure of mother-child attachment security which is being applied to father-child dyads (Pederson et al., 1990). As discussed in a review by Bretherton (2010) and a book chapter by Pleck (2010), traditional mother and father interactions are fundamentally different in nature and each should be investigated in a manner that acknowledges these differences. While no such measure currently exists, it is argued here that the Attachment Q-Set is approaching this requirement. The argument here is that a measurement that appreciates that both these relationships are unique is likely to provide an insight into the father's role in maintaining the child's attachment strategy. Without an emphasis on separation anxiety and the ability to use Q-Sets in the home, Q-methodology is argued here to be the most acceptable tool currently available for assessing child-father attachment.

A meta-analysis of Attachment Q-Set studies demonstrated with 13,835 children aged between 12-48 months, that while independent observer ratings are a reliable, accurate method of assessing attachment type within the mother-child dyad, self-report Q-Sets completed by parents and other individuals close to the child yield much lower effect sizes

(van IJzendoorn et al., 2004). From this meta-analysis, the primary explanation for this is the effect of temperament issues. Temperament has been distinguished from attachment as two separate constructs, that is an individual's temperament may influence a his or her specific behaviours but it is not related to attachment theory or the attachment strategies an individual may employ (Fox, Kimmerly & Schafer, 1991; Laurent & Powers, 2007). However for the Attachment Q-Set it would appear that the ambiguity in the statements used may lead parents to base their sorting on the child's temperament, rather than any underlying attachment representation. In acknowledgment, in order to maximise the reliability of data, rather than using parental self-report measures of attachment quality, observer ratings were used throughout the current research.

With the flexibility of Q-methodology, it is possible to measure a child's attachment quality reliably within the home. To reiterate, Bowlby (1969/1982) argued for the importance of the reciprocal nature of attachment and the influence of the caregiving context. While the Attachment Q-Set can be used within the caregiving environment, it is still a measure of child attachment quality and as such does not capture caregiver contributions. To further establish how attachment strategies are naturally maintained, caregiver interactions associated with security must be examined contemporaneously with attachment quality. Currently in attachment theory, no such measure exists which captures both child and caregiver interactions. A solution to this scenario which was adopted in the current research was to use a combination of Q-Sets in conjunction with interactional analysis. In order to capture caregiver behaviours associated with security, the current research includes the Bales' Small Group Interactional Analysis (1950) (see Chapter 3). It is argued that this integrated approach of investigating both child and caregiver can provide an insight into what contextual caregiving behaviours are associated with maintaining child attachment quality. Having established the appropriateness of an integrative approach to

contextual attachment research, the pertinent issue is to identify which specific interactions to examine. In the pre-school age range, caregiver sensitivity has been established as central to attachment quality (see Chapter 1). However other interactions associated with attachment quality are less well established. The Bales small group interactional analysis was originally developed for assessing interactions in a business context (Bales, 1950). It assesses levels of emotional displays, both negative and positive and communicating information. The descriptors of interactions are broadly defined and can be easily amended to reflect the nature of interactions within the home (see Chapter 3). Bales interactional analysis represents an acceptable tool for assessing interactions within the family and possibly identifying interactions associated with attachment security.

In summary, placing the research within the home is central to the goal of examining the role of the family in attachment. It is asserted that the most appropriate means to identifying contextual contributions in attachment is through an amalgamation of observer rating Q-Sets and caregiver interactional analysis, such as Bales Analysis (Bales, 1950).

2.2. Representational Assessments of Attachment

In recent years there has been a rise in the development of alternative methods of assessing attachment. In light of these advancements, the following section thus comprises of an evaluation of emerging representational methodologies in attachment research and their appropriateness to the current thesis. Representational methods in attachment comprise of two main categories, firstly the enactment scenario, where the child will act out a scene using toys. Secondly the interview method, with specific age

appropriate techniques. Rather than aiming to observe behaviour and infer underlying the attachment strategy, these methods aim to tap into the infant's attachment representation indirectly.

As children develop, it is self evident that their emotional displays when confronted with caregiver separation diminish. For this reason, after infancy, attachment methodologies have assessed attachment quality via representational measurements. The seminal representational method is the Klagsbrun-Bowlby adaptation of the Hansburg separation anxiety test (Klagsbrun & Bowlby, 1976). This assessment consists of providing the participant with a set of six pictures, these pictures each depict a scenario of maternal separation; ranging from the child leaving the house alone to the mother going into hospital. However, often the child does not require 'real' threats to activate their attachment system, perceived or potential threats such as a caregiver only momentarily leaving the room can elicit similar responses (Crittenden, 1992, 1995). In addition, complications with children experiencing a range of family dynamic apply to representational methods. Overall, representational methods have been found to be associated with observational methods (Green et al., 2000). The pertinent issue here is not whether such methods are reliable and valid in assessing attachment, but whether they are suited to achieving the current research goals. Despite the potential for emerging representational methodology, it is argued that the use of representational methodologies would be less suited to the current research aims than using Q-methodology, the rationale for this decision is presented below.

Enactment Methods

Enactment methods have been employed in attachment research. Utilising doll play scenarios/ vignettes, the researcher acts out a sequence of events designed to stimulate an attachment response (Green et al., 2000). Such events may include the child giving a present to their parent, saying sorry, screaming because there is a monster in the room, crying because of a quarrel at school and the child's bike being stolen. Children are rated as secure if there is little hesitation in their answer and they have generally positive and open interactions. Additionally, secure children are rated as such if they value the attachment relationship as important and special. They also have the ability to turn to and negotiate with their attachment figure for safety when stressed externally. Generally the exchange has a positive outcome with little distortion of cognitive or emotional information. Insecure-avoidant children are classified as such by reluctance or simply minimal answers, alternatively if they demonstrate feelings of isolation or rejection. Insecure-avoidant children also tend to enact needs for help being denied and a resolution to the situation is normally brought about by the child, not the mother. Lastly, children are deemed insecure-ambivalent if their answers are negative, hostile or bizarre and contain a large distortion of emotional information (Green et al., 2000).

The practise of applying doll play methods to attachment theory is in its infancy. In other areas where enactment methodologies are used more frequently, it has been demonstrated that a child's performance upon the task is moderated by their cognitive ability (Bergen, 2002). Research into attachment using enactment methodologies has often failed to take cognitive ability into account. It is plausible that avoidant and ambivalent categorisations may be given inaccurately when the child's cognitive ability is not taken into consideration. Inaccuracies can be due in part to the child's cognitive capacity as a whole and also their awareness/interest level. For example, an insecure avoidant or

ambivalent child may acknowledge that their response is socially undesirable and attempt to distort their answer accordingly, due to inherent varying levels of cognitive awareness. Additionally, such research is operating on the assumption that the child's account of what is happening or how the doll may feel is directly related to how they would feel in that scenario. For very young individuals such a large hypothetical leap in logic may be simply too large a task, especially as the more hypothetical the child's response is, or the more uncertain their answer is, the more likely they are to be labelled as insecure. It has yet to be established how much of the variance in attachment quality when assessed via enactment is accounted for by the child's verbal or cognitive skills.

In a doll play scenario study by Green and colleagues (2000) the participants were asked to pick out a doll from a dollhouse that they felt most represented them, this functioned to help provoke an attachment response that would be more accurately related to how they would respond. In this study the child played a more participatory role in the scenes, which consisted of: the child wakes up having had a nightmare; while playing the child falls and hurts a knee; develops bad stomach ache; argument with friend and is left feeling rejected; the child does a beautiful drawing at school which the teacher likes then the child then takes this home and shows his/her parents. These scenarios are designed to create a perceived threat, either from within the mother-infant dyad or from outside it. Ratings were based on several nine point scales. These scales consisted of attachment related behaviours: conflict/ reversal; proximity seeking; details of care giving behaviour (towards parent); coherence of story; disorganised phenomena and finally controlling the parent. If the child scores insecure on two or more scales they are rated insecure overall and correspondingly, the same for secure.

Although an interesting avenue for research and a potential area for future expansion, it remains to be seen if representational methods could prove more effective than

observational tools. Existing enactment methodologies are not appropriate for the current research. The age range of the children in this thesis was between one and five years old, this age range represents a period of huge developmental change, making a methodology that relies on language and representational abilities unreliable. Prior to middle childhood (approximately eight years old), it is argued that vignettes have limited use (Dubois-Comtois & Moss, 2008). It has also been questioned whether such methodologies are measuring an individual's attachment quality, or whether they are measuring a closely related correlate of attachment, such as self esteem (Green et al., 2000). When applying self-report style perceptual methodologies, there is of course an overwhelming reliance on the participant's cognitive development. So far within the research, little effort has been made to take this into account, or to look at how deficits in cognitive development, and thus deficits in articulate ability may impede on a child's attachment classification. With this in mind it would appear extremely difficult, and not at all in line with the goals of the current thesis, to accurately discern what is for example a secure child providing a short answer due to slower cognitive development or an intentionally aloof answer given by an insecure child, thus making definitive assessments troublesome.

Interview Method

The use of hand puppets acting as a 'non specific other' person in child development is now well-established (Belsky, 1996). Here, the puppet asks questions and in turn, the child expresses to the puppet his/her interpretation of how others generally view them and thus taps into their working model of themselves. Such questions are; 'do you like [child's name]? Do you like him the way he is? Do you want him to be your friend? Do you think he's important? Do you care what happens to [child's name]?' Based on the child's

reactions they are classified into several categories. The first category is referred to as 'perfect', such individuals (even when pressed) will insist he/she is perfect and has no flaws. 'Perfect' children devalue the role of others and are mainly either avoidant or securely attached. The second category is 'negative', whereby the child makes global negative comments about himself or herself, these children normally use an insecure ambivalent attachment strategy. Thirdly, there is the open/ flexible category, which is compromised mainly of securely attached children. These children overall have a positive perception of themselves but are realistic and prepared to admit minor flaws. As illustrated in the case of the 'perfect' portrayal of the self, this can indicate either an insecure-avoidant attachment type or a secure one. This flawless portrayal can be either the result of immense self confidence (secure) or a delusional view based on a distortion of cognitive information (insecure-avoidant). Accordingly, the motivations that lay behind the story telling are paramount. Unfortunately, given the age of the current participants being between one and five, language development is an issue, as such any introspection offered is open to vast amounts of interpretation. Consequently, while potentially valuable approaches, interview methods were deemed inappropriate for the current research.

There are interviews aimed at assessing attachment quality which are somewhat more straightforward. The Child Attachment Interview is an example of one such method (Target, Shmueli-Goetz & Fonagy 2003). Verified using 7-12 year olds and aiming at tapping into the working model of the self, interviewers ask the infant participant questions such as; 'tell me something you like about yourself? What's not so good about you? Do you think you're special? Is there any way you could be a better kid? Is there anything you'd change to be happier? Tell me 5 words about you.' Immediately evident is the importance of the question structure, for example the questions should be phrased as such to demonstrate the acceptability of flaws, or insecure children will tend to describe themselves as perfect.

From this, the children are divided up into the same three categories which are argued to map onto attachment strategies: perfect; negative; or open/ flexible. This approach is undoubtedly a step forwards, but such an approach is still limited in its appropriateness to the current research goals. In addition to the drawbacks shared with doll play/ enactment methods, assessing a child's attachment representation via interview is problematic due to the age range of the current participants and specifically their development of taking perspectives and articulating them. When using representational methods, children can produce 'I don't know' type answers. Often used on very young individuals at a stage of vast change, both physiological and psychological cognitive capacity and development are very rarely considered as an independent variable in such research. To suppose that an 'I don't know' response is indicative of an insecure attachment is an assumption, when the answer could plausibly be due to slower cognitive development or any number of alternative variables. In addition, there is the issue of 'who knows best' (Burton & Mitchel, 2002). For example, a child may state that in the absence of their mother, they will simply stay with a grandparent (Green et al., 2000). On the one hand, this may represent an insecure attachment, as the child could be seen to view his or her attachment figure as disposable. Conversely, it could represent a secure attachment, perhaps the child is accustomed to periods of separation/ reunion and is secure in the knowledge that they can rely on their mother to return. Without an understanding of the caregiving context unique to each child, it is difficult to know.

It is assumed that the behaviour of enacting doll play is comparable to the attachment behaviour as observed by the strange situation, however as has been mentioned previously, the verbal and behavioural memories are encoded very differently (Tulving, 1972) and it has yet to be established whether this impacts upon the reliability of such methods. This plausibly explains why many children when asked to complete doll play

methods will enact a fantasy 'super hero' type routine, not unlike a cartoon for example, as many may relate the artificial toy scenario to just that, toys and imaginative play, rather than a hypothetical real life scenario. Additionally, when using many different hypothetical scenarios in one assessment, it is not uncommon for the child to give several contrasting answers (Green et al., 2000), at this point the researcher either has to aggregate or make an educated, yet ultimately subjective guess as to the attachment quality of the child, resulting in a potential loss of validity. The ability to make valid inferences into a child's attachment quality using such tools is further complicated by demand characteristics (Orne, 1962).

For the reasons discussed, while representational methodologies are extremely promising and may at some point in the future become better established tools in the field of attachment. Ultimately, they are currently not suited to the task of understanding how attachment quality is maintained within the home. Crucially, they do not share in the strengths that the Attachment Q-Set enjoys in terms of its capacity to measure attachment alongside an investigation of how this quality is maintained through normal interactions, which is paramount to the work here. In addition, the Attachment Q-Set has seen relatively more use in research and has been validated to a more acceptable standard (de Wolf & van IJzendoorn, 1997; van IJzendoorn et al., 2004).

Chapter 3: The Role of Context in Attachment

To reiterate, the core goal of the thesis is to further exploration into the child's context. As discussed, this is made possible via a combination of Q-Sets and interactional analysis. This section moves on from how to most appropriately measure a child's attachment quality within the home context and is concerned with the theoretical advances which could arise from an integrative perspective of attachment. The following begins with a discussion outlining the benefits and limitations of researching attachment within the home. Building upon that, the discussion narrows the focus onto specific areas which are most pertinent to expanding knowledge of the role of context in attachment. These areas are stability of attachment, family members and fathers. The reasons for selecting these three topics and the advances made possible by examining them are discussed below.

3.1: Attachment in the Home

To understand how a child develops their attachment strategy, attachment must be viewed in the child's natural context. Far from a departure from traditional attachment theory, an integrative approach is in line with Bowlby's original conceptualisation (Bowlby, 1949; Byng-Hall, 1999; Pederson & Moran, 1996). Despite both the Dynamic Maturation Model (Crittenden, 1992, 1995, 2005) and Bowlby's (1969/1982) original work asserting the importance and influence of the child's natural context in shaping their attachment strategy, empirical data is lacking. Researchers such as Cowan and Cowan (2001) and Lamb (1997, 2001, 2004, 2012) have made calls for more family based, contextual attachment

research to take place. That call, combined with advances in theory provided by Crittenden (1992, 1995, 2005) and advances in methodology by Waters and Deane (1985), provide the ideal opportunity to further what is understood about attachment. It is this furthering of knowledge which the current thesis aims to accomplish.

To reiterate, whilst it has been possible to measure a child's attachment strategy/ quality for some decades, an over-reliance on laboratory based methods has made it extremely difficult to gain meaningful insight into the processes underpinning attachment. To compensate for this and non-normative behaviour, the current investigation takes place within the home context. By ensuring a high level of ecological validity, it is predicted that family behaviours which are associated with attachment quality would be identifiable. It is hypothesised that allowing the family to interact naturally will provide an insight into the nature of sibling/ father relationships and what their role is. To summarise, this new approach must allow these other dyads to inform the researchers about the nature of their unique relationships, rather than the researchers attempt to force them into what has been previously understood regarding mother-child attachment. Due to the non-structured nature of such an assessment, it would be necessary for the procedure to be longer than the current strange situation, which is twenty minutes long, to ensure maximum opportunity to observe attachment strategies (Crittenden, 2002).

As children progress through their pre-school years, they naturally develop in a great many ways, both socio-emotionally and in terms of sensory motor skills. The nature of their exploration and discoveries also develops and therefore exploration should include social and psychological exploration and not just physical exploration. Caregiver behaviours directed towards children at this stage are both verbal as well as non-verbal. It is hypothesised that if this expanded notion of exploration were to be included into an assessment tool for attachment the father's role would become more visible and

recognisable. As Bowlby (1969/1982) stated, attachment arises from both safe base behaviour and facilitation of exploration, however in traditional attachment measures only safe base behaviour has been explored sufficiently. Social and psychological exploration is a logical avenue of attachment research, due to its inherent role in emotional inter-personal conflict, both how it is dealt with and the results of such conflict. Additionally, this would allow direct relationships between safe base exploration and conflict resolution to be observed, also if and how different caregivers' roles are associated with these two sides of attachment.

Key to the broadened definition of exploration is the psycho-social exploration of the self and others and how the individual learns their role in society. For example, the role of negotiation could be observed, more specifically information sharing, collaboration abilities and the role of affect displays. Additionally whom in the dyad generally 'wins' the negotiation is a central aspect to the child's developing internalisation of their social experiences. In the home setting making inferences about the attachment quality from the behaviour of the attachment figure themselves becomes much more viable. To this end, the current research includes an in depth investigation into how the parent negotiates and manages aggressive impulses and how this relates to attachment quality. As has been stated, currently there is no specific measure which aims to assess such small group interactions in attachment. For this reason, in order to assess emotional displays and interactional style within the family, Bales' small group interactional analysis (1950) represents an ideal tool (see Chapter 2). In addition, variables not directly observable which may impact upon a caregiver's capacity to function in a sensitive and consistent manner (most pertinently, socio-economic status) were taken into account. This was to create the opportunity to reliably assess the change of attachment over time and how any change

within the child's attachment system relates to family variables. This would help to explain the varying rates in test-retest studies of attachment stability over time.

Central to this return to the basic principles of attachment theory, is the amalgamation of aspects from family systems theory (Rosenblatt, 1994). The emphasis on the roles and influences of sub-systems within the family is an important addition to attachment theory as the family sub-systems affect one another. Ultimately these variables have long been ignored by attachment research as it is often felt that they are peripheral. As argued previously and as outlined by Bowlby (1969/1982) rather than being peripheral, context is central to attachment theory and should be taken into account. For example, it is common for a family systems theorist to confront a situation that has manifested itself as an attachment difficulty but the apparent cause is often spousal conflict (Weinraub & Wolf, 1983), a variable peripheral to core attachment theory and thus cannot be explained by traditional attachment theory. In addition to advances in understanding afforded by placing attachment research in the home, the approach also brings with it several issues. Obtainable literature provides a wealth of information on the psychosocial influence of attachment quality (e.g., Collins & Read, 1990; Matas, Arend & Sroufe, 1978; Shaw & Dallos, 2005; Ward & Carlson, 1995). It has been argued that classifications based upon separation/reunion episodes may lead to false categorisations (Chapter 2), limiting associations between attachment quality and peer interactions. By definition it is not possible to contemporaneously assess familial interactions and child-peer interactions with a caregiver not present. In order to add to a comprehensive understanding of the psychosocial effects of attachment, data triangulation is necessary. In order to compensate for this, the current research also investigates associations between attachment within the home and child-peer interactions outside of the home. In order to achieve this, it is important that any attachment investigation should also look at the child outside of the

attachment figure-child situation (Cowan, 1997). Such an investigation could be carried out in a situation with an objective external rater, such as a pre-school setting. Measuring the child's behaviour within familiar peer groups is likely to provide an insight into the role of attachment strategy in socio-emotional development (Cassidy, 1998). For this reason, the current attachment investigation contains specific measures of the child's peer interactional pattern; including aggression (both proactive and reactive), pro-social behaviours, peer exclusion and asocial behaviours (see Chapter 4).

The author recognises a current limitation of Q-methodology in measuring attachment security, such that existing Q-Sets rate security on a continuum and do not produce the full range of attachment classifications. Insecure avoidant and insecure ambivalent individuals are psychological opposites, yet both groups are combined into a single group. Ideally, an accurate measurement of attachment must treat insecure-avoidant (A) and insecure-ambivalent (C) types as what they are; despite both being insecurely attached, these are psychologically opposites. Simply put, it is unlikely that the same caregiving context would give rise to two different psychological opposite attachment strategies. When different groups of participants are combined into one category, it could be misleading about what this actually means as the 'effects' of attachment (i.e. problems relating to peers) differ greatly between insecure avoidant and insecure ambivalent participant groups (Pederson & Moran, 1996). While methodological limitations doubtlessly exist, it is currently impossible with currently available research tools to categorise specific attachment strategies within the home using unstructured observations.

3.2: Stability of Attachment

Bowlby (1969/1982) rejected any notion of cause and effect in attachment theory, describing such arguments as “fruitless” and recommending that they be “cast into limbo” (p.38). Despite the very earliest writings on attachment theory casting causality aside, the debate regarding cause and effect has continued, although it is seen by many as arbitrary (e.g., Lyddon, Bradford & Nelson, 1993). For this reason, for the purposes of the current thesis, no further discussion of cause and effect in attachment will be entered into. Rather attachment is viewed as being maintained continually through reciprocal interaction.

The learning of an attachment strategy begins in infancy but continues to evolve in the pre-school years and beyond. At the pre-school age Bowlby’s (1969/1982) goal corrected partnership begins to emerge. This is when the child learns to achieve their own personal goals through the enlistment, co-operation and negotiation with others. Perhaps most importantly, this is where the child acknowledges that others (in this case the care provider or attachment figure) may have different wants, needs and may not share their immediate goals. The pre-school years are an extremely formative time in a child’s life and it is a time of great change both psychologically and physically and this is when strategies develop further. An important stage in human development during the pre-school years is the pre-operational shift (Damon, 1980; Piaget, 1963). The pre-operational shift is the developmental stage where the child learns to perform mental operations, reason logically and overcome ego-centrism. Central to this developmental stage is the ability to take others perspectives and to understand others motives and intentions. This developmental stage coincides with Bowlby’s (1969/1982) goal-corrected partnership. In response to the child learning that their caregiver’s intentions may not necessarily match their own, the

child learns more advanced, cognitive strategies of manipulating their caregiver in order to achieve his or her desired outcome. During these years if the child's parental context is to remain relatively unchanged, it is argued that the attachment strategy will become more deeply embedded into the internal working model (Bowlby, 1969/1982; Crittenden, 2005).

It is widely accepted that if an insecure attachment strategy (i.e. avoidant and ambivalent attachment) persists, it should be viewed as a risk factor for psychopathology in later life (Bartholomew, 1990; Bergman, Sarkar, Glover & O'Connor, 2010; Frosch et al., 2000; Kobak, Cole, Ferenz-Gillies & Gamble, 1993; Rutter, 1990; Rutter & Sroufe, 2000; Sturge-Apple, Davies, Winter, Cummings & Schernerhorn, 2008). Bowlby (1973) proposed that children's experience of anxiety is affected by the way in which they are attached to their caregivers. Research such as that by Mikulincer and Florian (1998) and Pistole (1993) has supported this assertion by demonstrating that early child-attachment figure relationships are significant predictors of fear and anxiety in later childhood and adolescence. There is also evidence that a persisting insecure attachment is associated with child and adolescent depression (Kobak, Sudler & Gamble, 1991; Muris, Merckelbach, Mayer & Prins, 2000). Numerous longitudinal studies have discovered that the stability of attachment type over a period is between 30- 60% in low risk samples (Bigelow, MacLean, Proctor, Myatt, Gillis & Power, 2010; Jacobsen, Huss, Fendrich, Kruesi & Ziegenhain, 1997; Owen, Easterbrooks, Chase-Landsale & Goldberg, 1984; Waters, Merrick, Treboux, Crowell & Albersheim, 2000). In high risk samples, such as maltreated children or children whose mother has depression, the correlation between a child's attachment security measured at two different times can be as low as 0.10 (Weinfield, Sroufe & Egeland, 2000). If attachment is a fixed psychological trait or there is a 'critical period' as has been argued in the past, the stability rate of attachment should logically be higher (Klaus, Jerauld, Kreger, McAlpine, Steffa & Kennel, 1972).

Despite assumptions of stability, research has only been able to demonstrate convincingly that where there is stability and consistency in the family environment, longevity of an attachment strategy is seen. In families that experience significant periods of instability or outright loss, attachment quality has been seen to fall (Trapolini, Ungerer & McMahon, 2007; Toth, Cicchetti, Rogosch & Sturge-Apple, 2009; Bergman, Sarkar, Glover & O'Connor, 2010). Similarly, research has shown that improvements in the family can also have a positive effect on attachment quality (Stroebe, Schut & Stroebe 2005; Moss, Cyr, Bureau, Tarabulsy & Dubois-Comtois, 2005; Scharfe & Cole, 2006; Shorey & Snyder, 2006). Even in these examples, there is unexplained variance in stability (e.g., Fraley, 2002). Unexplained variance in attachment stability may be related to contextual variables that could cause such a change not being included into attachment research and thus not included in many research. It is therefore argued that if such variables can cause and explain changes in attachment over time that they too should be included in an attachment investigation. By including the family in an investigation of attachment stability, it was predicted that the current research would help in explaining what natural changes in context have to be in place to effect a change in attachment status. Such information would be extremely useful for researchers and practitioners aiming to create attachment interventions.

It is not necessarily negative life events themselves which impact upon attachment quality, but how these events impact upon the pattern of interactions within the home (Sarason, Sarason, Potter & Antoni, 1985). Whilst prior research suggests that attachment is not necessarily fixed, instability in attachment is explained in terms of how events within the home impact upon the mothers caregiving ability. The actual underlying processes which explain changes in attachment quality following negative life events have yet to be established. Attachment strategies are learned through interactions within a specific caregiving context, within this context their attachment strategy will function to promote

proximity and caregiving. A purely child focused observation represents a failure to acknowledge the context. Without a firm understanding of the child's caregiving context and how his or her attachment strategy functions within this context, it is difficult to fully understand instability in attachment. From this, it is essential that any attachment measure that is attempting to understand the functionality of a child's behaviour take into account the caregiving context. For this to happen, changes in the parent's behaviour must be observable and not constrained by the assessment procedure (Crittenden, 1992).

In summary, the argument here is that advances in understanding attachment stability have thus far been hindered by the traditional dyadic approach to attachment research. While some of the variance has been explained in terms of how life events impact upon maternal sensitivity (Kalinauskienė, Cekouliene, van IJzendoorn, Bakermans-Kranenburg, Juffer & Kusakovskaja, 2009; Ricks, 1985), there remains a portion of unexplained variance (Cooper, Tomlinson, Swartz, Landman, Molteno, Stein, McPherson & Murray, 2009). Behavioural constraints placed upon caregivers by laboratory procedures have contributed to a lack of understanding the processes that underpin change in the attachment relationship (Alink et al., 2009). In order to increase our understanding of attachment maintenance and steer future research, the current research examined attachment in the home, examining the associations between contextual changes and child attachment quality.

3.3: Families in Attachment Theory

More general research into child psycho-social development has shown that a child emerging from a 'broken' home is more likely to experience issues with psychosocial adjustment and inter-personal issues in later life, specifically related to their aggression levels (Boris, 2003; Crawford, Shaver, Cohen, Pilkonis, Gillath & Kasen, 2006; Marcus & Kramer, 2001). While dyadic explanations have been offered in light of these findings, they have yet to account for all variance (Coley & Medeiros, 2007; Greene & Moore, 2000; Martin, Ryan & Brooks-Gunn, 2007; Tamis-LeMonda, Shannon, Cabera & Lamb, 2004). Given links between attachment quality and aggression, it seems a logical step to compare children's attachment quality within single parent families and two parent families. However, comparing children from different caregiving contexts, when relying solely on separation/ reunion based methodologies, is problematic (Rothbaum et al., 2000). Often spousal separation results in a change in socio-economic status and maternal role shifts, which have been shown to be related to attachment quality (Amato, 2000; Amato & Dorius, 2010; Amato & Soblewski, 2004). Until the inception of the Attachment Q-Set, it was difficult to accurately compare the attachment qualities of children from different family types in an unbiased manner (see Chapter 2). Accordingly, the current research includes both types of family and utilises Q-Sets within the home. This approach is likely to gain meaningful insight into any differences in attachment quality between children from single parent families and two parent families and the caregiving interactions which are associated with any difference found.

In addition to examining the role of child-mother caregiving interactions and how these are associated with attachment quality, the current research also examines the role of siblings

in attachment. Siblings are a key feature in a child's caregiving context and play an important role in child development (Brody, 2004; Volling, 2005). However their role in forming attachment bonds is largely unclear and is yet to be established. Previous work which has investigated siblings in attachment has consistently identified that approximately a third of sibling pair's attachment strategies differ (Bosso, 1985; van IJzendoorn, 2000; 1983; Kowal, Krull & Kramer, 2004; Ward, Vaughn & Rob, 1988). Stewart's (1983) laboratory study of 54 families with 10 to 20 month younger siblings and 30 to 58 month older siblings demonstrated that sibling pairs differ in their responses to both separation and to strangers. A later study conducted by Teti and Ablard (1989) used a sample of 47 mothers, their toddlers aged one to two and older siblings aged between two and seven. In this study the strange situation was used to assess attachment of the toddlers and mothers' self-reported Attachment Q-Set for the older sibling. The study found that 36% of siblings used discordant attachment strategies, despite hailing from the same caregiving environment. Although there was no measure of maternal behaviour, Teti and Ablard attributed this discordance to differing quality of maternal care between siblings, although it was unclear what these differences may be. Consistent with this finding was a study by van IJzendoorn (2000), who found 62% concordance between siblings. It is noteworthy that this finding existed when attachment quality was categorised as secure/insecure, with only two categories, there is a 50% chance concordance rate.

Research examining sibling interactions outside of attachment theory has found that mothers often pay less attention to the second born child (Jacobs & Moss, 1976; Lawson & Ingleby, 1974). When in a dyad with one child, a mother will show similar attention levels to both children, but when a mother is viewed in a triad with both siblings together, second born children are relatively neglected (Bryant, 1982; Johnson, 2001). Consequently, dyadic mother-child interactions do not reflect naturally experienced interactions in the home,

where the attachment strategy develops. To the author's knowledge, this has never been addressed from an attachment perspective, due to the previous difficulty of measuring attachment away from the isolation of the mother-child dyad. A review of sibling relationships in early childhood by Dunn (1983) concluded that 'sibling status' variables such as age and birth order are less important than each child's separate mother-child dyadic relationship quality. The strange situation does not support triadic classifications of attachment, thus researching siblings can be problematic. Perhaps for this reason, a triadic observational study of sibling differences in attachment has yet to take place. Without being able to accurately investigate associations between maternal interactions as part of a triad and sibling attachment, it is unclear what accounts for differences in sibling attachment. To address this issue, the current research measures attachment with both siblings present, to see to what extent any differences in caregiver interactions between siblings are associated with discordance in attachment quality, when measured using observer ratings.

Differences in maternal care between siblings represent a knowledge gap in attachment theory (Volling, 2005). Siblings may receive a different level of caregiver sensitivity, in which case why one sibling may receive more sensitive care than another has yet to be established. Secondly, if sibling differences are the result of other interactions, aside from sensitivity, these have yet to be determined. The argument here is that the strange situation, due to its emphasis on separation/ reunion and thus only being able to investigate single dyads at a time, has actually constrained researchers thinking on the topic (Bryant, 1982; Jacobs & Moss, 1976; Johnson, 2001; Lawson & Ingleby, 1974; Marvin & Stewart, 1990; Rutter, 1995). The lack of triadic observational research concerning sibling differences is reason enough to investigate further. Unlike the strange situation, the Attachment Q-Set allows the measurement of a child's attachment quality in the presence

of other individuals. This presents an opportunity to investigate attachment discordance in siblings. This opportunity simply has not been fully exploited to date. Given the links between sensitivity and attachment security, it is likely that a child's sibling may act to moderate the level of sensitivity a child receives.

In order to explore sibling discordance, the current research takes place within the child's natural caregiving context in the presence of siblings. Bryant (1982) and more recently Kozłowska and Hanney (2002) and Johnson (2001) suggest that contextualising the relationship in this way will yield a meaningful insight into a mother's 'normal' interactions with either child when a sibling is present. Rather than measure separate dyads, the current study takes a more ecologically valid approach and measures mother-child relationship interactions and quality as part of a triad. To this end, any differences in sensitivity and caregiving interactions between mother-older sibling and mother-younger sibling will be observable in this context, making comparisons possible between relationships.

3.4: Fathers in Attachment Theory

Ainsworth's opening statement in her seminal research states that the work was concerned with the attachment of infants to their mothers (1978). Fathers are not mentioned. This thinking provided the direction that has led many researchers to misunderstand, undervalue or ignore completely the father's role in regards to the psychological development of their child (Bretherton, 2010; John & Halliburton, 2010; Lamb, 1975, 2010; Lucassen, Tharner, van IJzendoorn, Bakermans-Kranenburg, Volling, Verhulst, Lambregtse-

van den Berg, & Tiemeier, 2011; Ricks, 1985). The argument here is that acknowledging the primacy of the mother as a caregiver in many situations should not equate to the exclusion of the father. Furthermore, as modern family dynamics and the role of the father continues to diversify (Pleck, 2010), their role in child development may become increasingly pronounced.

Attachment theory has yet to recognise the degree of diversification in the family structure since the mid 20th Century. Ainsworth (Ainsworth et al., 1971, p. 49-50) described attachment security as “the harmony of mother-infant interaction”, whilst at the time this was accepted, it is no longer adequate. Continuing to view child development in terms of solely the mother-child dyad disregards the potential contributions of the father and of course other caregivers and family members. Due to a reliance upon a dyadic approach, much of the literature fails to look at the paternal behaviour towards the child, or indeed even if the father is present at all (Bretherton, 2010; Cowan, 1997; Lamb, 2010). Research which includes a measure of the father rarely reports a strong relationship between paternal attachment and the child’s social development (Cohen, 1992). Consequently, this approach has promoted the belief that fathers are largely redundant in the role of facilitating their child’s psychological development.

The exclusion of fathers from attachment theory and child development by many is reflected in society (Lamb, 2012). Chandler and Field (1997) investigated the consequences of paternal exclusion. They found that practises such as midwife visits are almost invariably held in the day, when many fathers will be at work and are largely restricted to the mother and child and fathers have been largely barred from such practices. This exclusion can result in educating fathers less about parenting and under preparing them for their role, which in turn causes feelings of doubting their own abilities, coupled with a reduced support base, which can distance them further. Additionally, in divorce cases access rights

for fathers are extremely limited, undoubtedly due to the image that fathers have a minor role to play in their child's development, an image largely brought about by research and further backed up by research. Consequently, modern non-nuclear families such as working mothers, stay at home fathers and same sex couples may face prejudice (Dunifon & Kowaleski-Jones, 2002), research has had a role to play in shaping these societal attitudes. Despite these perceptions, what the father's role in attachment is has yet to be established. Whether they are simply support mechanisms for maternal attachment quality, whether they are unconnected to attachment theory altogether, or whether they are separate attachment figures in their own right is unknown.

The father as a support mechanism

In two parent families, fathers have been traditionally viewed as the breadwinner or support mechanism for the mother (Rochlen et al., 2008). Since the 1950's and 1960's when attachment theory originated, the family unit has undergone changes. At that time it was the societal norm for the father to work full time while the mother stayed at home and was almost solely responsible for childcare. Half a century later, this is less the case. A number of fathers are now primary caregivers, many more have a greater involvement in childcare than they historically had, many mothers work in some capacity, an increased amount of children are in some form of childcare and there are also many more single parent families (Pleck, 2010).

If maternal sensitivity and consistency of caregiving behaviours are primary in attachment, they may be moderated by the father. Father's mere presence or events within the spousal relationship may operate to augment sensitivity and consistency, or may undermine it. Specifically, inter-spousal conflict within the home may affect a caregiver's level of

sensitivity and consistency. By way of example, much research looking at the stability of insecure disorganised attachment classifications focuses exclusively on the mother-infant dyad and ignores the paternal relationship entirely. It is often cited that mothers of insecure disorganised children often report higher levels of stress and more depression than mothers of secure children (Main & Solomon, 1986). If it is possible for fathers to buffer such an attachment relationship when needed this could explain why the D classifications, when included, are least stable across time and why there is so much variance reported in the concordance of attachment strategy both within and between the results in the literature (Green et al., 2000). Simply put, the ways in which we approach research and the methodologies spanning from this conceptualisation fail in their duty to understand attachment strategies in a modern family, while accounting for variables that impact heavily upon it. Perhaps more importantly is the stipulation that interpersonal support is highly related to both stress and depression in such mothers, yet the role that the father plays in mitigating or indeed adding to this stress and depression is almost entirely overlooked. While the role of the father as a support mechanism is well established, an aim of this thesis is to go beyond this to explore their role as attachment figures.

The father as unrelated to attachment theory

It is well established in the literature that when fathers are counted as a homogenous group, their children's separation anxiety bears little relation to either paternal sensitivity or child development. Belsky (1983) observed 53 fathers in a naturalistic setting with children ranging from 1-9 months and found no association between behaviour and fathers interactions. This finding was replicated by Grossmann and Grossmann (1991) in the home

with children between 2-10 months, also by Rosen and Rothbaum (1993) using free play with 62 fathers, and again using 75 fathers in a laboratory setting by Easterbrooks and Goldberg (1984). In addition, Volling and Belsky (1992) did not find a link between unstructured situations in the home and separation anxiety with 113 6- to 9-month-olds. Caldera, Huston and O'Brien (1995) studied 90 children, at 6 month old and found no link between laboratory interactions and strange situation classifications. In addition to this, research has demonstrated that attachment classifications between infant-mother dyads and infant-father dyads are often discordant (e.g., Fox et al., 1991; Suess et al., 1992). Using the strange situation, Verschueren and Marcoen (1999) found 41% of their participants had discordant attachment classifications with their mothers and fathers. When research has found associations between father interactions and peer behaviour, effect sizes are usually far weaker than those identified in mother-child security. For example Suess, Grossman and Sroufe (1992) demonstrated that child-father attachment was a less powerful predictor of their child's play behaviour than mother-child attachment. Given (i) the centralness of the mother-child dyad in attachment theory, (ii) discordant attachment classifications between mother and father and (iii) the lack of association between paternal sensitivity and strange situation classifications, some researchers have concluded that the father is less important to attachment theory than mothers.

The aforementioned body of research supports the argument that attachment is primarily explained within the mother-child dyad and that fathers are largely peripheral to the theory. Theorists in recent years have suggested an alternative explanation for the findings, that the strange situation is perhaps not capturing paternal attachment, rather than children not having an attachment to their father (Bretherton, 2010; Lamb 2010; Rochlen et al., 2008). When research has compared the proportions of children described as securely or insecurely attached to their father with the amount of children described as

securely or insecurely attached with their mother, there tends to be a larger percentage of A-type (Insecure-Avoidant) children with fathers, than with mothers (Goossens & van IJzendoorn, 1990; Suess, Grossman & Sroufe, 1992). This could either reflect a true insecure attachment that child may have, or as Sagi and Lewkowicz (1987) suggest, this may reflect a child's previous experiences with aspects of the strange situation, namely separation and reunion from and to their father. In a typical middle class family, where the mother is responsible for the majority of childcare while the father is the main earner, as is archetypal for much research, a child's previous experience of separation and reunion will likely differ between their mother and father. With many children from nuclear families being used to sudden and (to them at least) largely unexplained absences from their fathers, it is not surprising that using the strange situation they appear to be less attached. Volling and Belsky (1991) found that in a home visit, measures of responsiveness, stimulation, caregiving and affection were not associated with a separate strange situation category within the laboratory. Based on this, Volling and Belsky (1991) speculated that the strange situation may not be an adequate tool for father-child attachment.

Not all research using the strange situation has failed to produce significant findings however. Fathers' attitudes towards parenting and positive interaction during free play with their children aged three months have been used to predict strange situation classifications at aged twelve months (Cox, Owen, Henderson & Margand, 1992). Cox et al. suggest that looking at a broader range of outcomes may elude to the true effect of father-child security. Consequently the current research includes an objective investigation of the child's naturalistic peer interactions, including their levels of prosocial and asocial behaviours, how excluded by their peers they are and how aggressive they are. Despite these contrasting findings, it is clear that father-child attachment when assessed within the strange situation is a weaker predictor of child behaviour than mother-child attachment.

Due to these inconsistencies, if no associations are found between father's behaviours and strange situation classifications, it is assumed that fathers are peripheral to attachment. If associations are found, they are deemed as simply being a derivative of the mother-child attachment security. While a level of association between characteristics of the father and child development have been established, it has been difficult to relate this to attachment theory. Caldera (2004) concluded that in the majority of cases, fathers are not the primary caregiver for most children, but this does not mean that they cannot be. The question then concerns the notion of 'primacy' of care, rather than acknowledging that the father may have a contribution that is different or complementary to that of the mother, their contribution has instead been deemed as 'secondary' caregiver, or a stand in attachment figure.

The father as a separate attachment figure

Bowlby (1969/1982) argued that attachment has two components, secure base behaviour and exploration from this safe base. In western cultures, the father's traditional role is the facilitator of exploration, both social and environmental (Cooper et al., 2006; Fagan & Barnett, 2003). This facilitation is achieved through sensitive and challenging interactions, rather than simply providing a secure base. To this end the maternal and paternal traditional attachment roles may differ in nature to one another, yet both are important attachment relationships in their own rights. It is suggested here that traditionally, while the mother provides the safe base, the father provides the tools for exploring the world around it. It is perhaps for this reason that research has found that if the father is not present, the child will often struggle to learn their societal gendered role as a young boy or girl (Seltzer, 1991). Research has found that the father's positive engagement, supportive

involvement, co-operation, acceptance and appropriately challenging behaviours highly predict secure attachment and intrusiveness, ridicule, impatience and losing interest in father-child interactions have been seen to predict insecure attachments (Grossmann et al., 2002, Roggman, Boyce, Cook & Cook, 2002). It has been seen that such variables predict a child's attachment quality to a comparable level with mother-child strange situation assessments (Lamb, 2010).

In the strange situation, secure base behaviour found in mother-child dyads in nuclear families is used as the baseline for 'normal' behaviour. It is argued by John and Halliburton (2010) that research concerning father-child attachment lacks an empirical base, in contrast to mother-child attachment research. Instead of developing an empirical base, research has opted instead to examine the extent to which the established mother-child base applies to father-child dyads, with limited success. Research comparing parents has demonstrated that as children's caregiving context changes between cultures, so too does their reaction to separation/ reunion (Carlson & Harwood, 2003; Rothbaum, Weisz, Pott, Miyake & Morelli, 2000; Rothbaum, Weisz, Pott, Miyake & Morelli, 2001; Sagi & Lewkowitz, 1987). These studies show that as a child becomes accustomed to episodes of separation and reunion, their response becomes increasingly less pronounced. This is argued to be due to the child's attachment system being activated less and less as they become accustomed to the non-threatening nature of caregiver separation.

The issue of familiarity with caregiver separation especially applies to father-child attachment dyads. In a nuclear family where the mother is primarily responsible for child care while the father is the primary earner, the child's experiences of separation and reunion will differ between the two caregivers. This child is likely to have acclimatised to the father's departure and thus less affected by it. The Dynamic Maturational Model of Attachment (Crittenden, 1992, 1995, 2005) places an emphasis on attachment strategies as

functional. If a child were to experience separation from their father frequently, it would not be viewed as functional for this to continue to evoke the same stress response as a child who has not experienced frequent separation/ reunion episodes. Consequently, attachment measures based solely on separation/ reunion behaviours when applied to a child who is familiar with episodes of separation/ reunion, such as a working mother, or father, is logically more likely to receive an insecure classification than a child who is not familiar with separation/ reunion episodes. Categorisations given to a child in this way may not accurately represent the child's attachment strategy. Making direct comparisons between how the child reacts when left between two entirely different relationships, each with their own unique histories is inherently flawed and does not accurately assess father-child dyadic interactions. This perhaps explains the over-representation of insecure-avoidant children when assessed with their father. It is not possible to say how much research could feasibly mislabel participants in this way, as family context is so rarely taken into consideration. Accordingly, family dynamics should be taken into consideration when formulating understandings of attachment in the home. Furthermore, interventions centred on facilitating attachment quality without first acknowledging the father's (and other caregiver's) role in creating and maintaining attachment strategies, are limited.

It is plausible that paternal attachment strategies do exist, which are unique and separate from maternal attachment. Whether the father is a separate attachment figure, and what the effects of this relationship may be, has yet to be explored. When the role of the father is researched, it is clear that when the father is absent during the child's upbringing the mother is more likely to have an insecure attachment pattern with their child (Lamb & Bronson, 1984). This suggests that the father plays a role, which may be misunderstood because the strange situation is not capturing it accurately (Ricks, 1985; Pleck, 2010). If researchers take the child's family context into account, the caregiving behaviours that

function to maintain the child's attachment type may not solely be performed by the mother, the father may contribute directly. Furthermore, given the diversification of the family structure, the assumption that the mother that is primary to the child's development should not be made. Research should acknowledge who is, (or are) the main caregiver(s). This is especially important when the effects of an insecure attachment to one caregiver may be buffered by a secure attachment to another caregiver and also that the child's internal working model is likely to be a result of the attachment relationships with all of his or her caregivers (Bowlby, 1969/1982).

Some theorists have argued that to measure father-child attachment, it may more appropriate to use the Attachment Q-Set, rather than the strange situation (Bakermans-Kranenburg et al., 2004). While in its infancy, empirical evidence supports this claim (van IJzendoorn et al., 2004). It is for this reason that the current research employs Q-Sets to assess attachment quality (see Chapter 2). An early study comparing the strange situation to the Attachment Q-Set, conducted by Youngblade, Park and Belsky (1993) investigated seventy-three five year olds in a play session within a laboratory. No relationship was discovered between mother-security and friendship quality, however security with father did predict friendship quality. The more secure a child was with their father, the more positive the child's friend interactions are when using the Attachment Q-Set. However, when measured via the strange situation, they found that secure children's interactions were less prosocial. Suess and colleagues (1992) demonstrated that maternal security is associated with peer competence (prosocial and aggression) but paternal security is not, based on strange situation classifications, however in the home using the Attachment Q-Set, attachment quality with father was associated with the child's peer interactions.

Despite the plausible application of Q-methodology to researching fathers, they have not yet been widely used. A review of the Attachment Q-Set examined 133 individual studies.

Of this number, only nine studies examined child-father attachment (van IJzendoorn et al., 2004). The data from the small number of studies contained within the review was encouraging. Research by Caldera (2004) Frosch et al. (2000) and Lundy (2002), demonstrated in a total of 114 children aged between 13- and 36- months that father security was associated with self reported paternal sensitivity. Other studies have demonstrated in total of 189 children aged between 37- and 44- months-old, that a link exists between child-father security and the child's social development (Cutler, 1996; Del Carmen, Pedersen, Huffman & Bryan, 1993; Kerns & Barth, 1995; Youngblade, Park & Belsky, 1993). A study utilising a combination of observations and self-report by Kerns and Barth (1995) demonstrated that security with father was associated with father-child play. Fathers of secure children are more directive (involved) and their children are more suggestive and agreeable than insecure children. A later study by Caldera (2004) compared mother-child and father-child attachment with a sample of sixty children aged fourteen months. However, rather than observe fathers directly, attachment quality was assessed by father self-report in all but one of these studies. The remaining one study examined the link between paternal attachment, genetics and environment, but not sensitivity or peer interactions (Bakermans-Kranenburg et al., 2004). The review found that self-report is a less valid approach than observer reports, consequently firm conclusions wrought from the data may be limited (van IJzendoorn et al., 2004).

Limitations of self-reports notwithstanding, the research contained within the review (van IJzendoorn et al., 2004) still demonstrate the potential usefulness of the Attachment Q-Set. Currently, to assess how a father contributes to a child's attachment strategy, the Attachment Q-Set represents the most appropriate tool. To the author's knowledge, fathers have yet to be observed using the Attachment Q-Set during unstructured observations in the home. The current research investigates if associations between father

security, paternal sensitivity and peer behaviours are present when research does not rely on self-report. Perhaps the key explanation for the discrepancies between the findings regarding fathers using the strange situation and Attachment Q-Set is their respective reliance's upon separation-reunion behaviours, a sole reliance upon which reduces the capacity of assessing the paternal relationship. This may also be due to the father's behaviour during the Attachment Q-Set being more naturalistic than in the laboratory, thus allowing them to demonstrate based on their own behaviours that there is an attachment relationship present. In addition Q-methodology applies to an older age range than that of the strange situation. As the child develops both psychologically and physically, their needs gravitate from essential neo-natal care, such as feeding and shift towards facilitation of interactions. Attachment research has shown that as children get older and their motor skills develop, father security becomes a stronger predictor of child behaviours (e.g., Belsky, 1983; Caldera et al., 1995; Cox et al., 1992; Volling & Belsky, 1991). Because the pre-school age range is a less researched population compared to the toddler age range and is likely an important period for understanding child-father attachment, the current research investigates the pre-school age range.

The emerging body of evidence investigating father-child relationships suggests that fathers may make unique contributions to child development, separate to mother-child contributions. This uniqueness is something that thus far, no existing attachment measure fully accounts for. Bowlby (1982) argued that attachment research had only accurately examined the first half of attachment (i.e., secure base proximity seeking) and that the potentials of growth of attachment theory remain unknown. Consequently, it is perhaps surprising just how little research into attachment has tried to capture the father-child relationship accurately. Even more surprising is the apparent reluctance to include fathers and families in the 'growth' of attachment theory.

Plasticity of the father's role in child development

The argument here is that insights into the father's role in attachment theory have been hindered by the plasticity of the paternal role and a lack of acknowledging that plasticity. Following childbirth, the parenting roles that the mother and father play are socially constructed and what that role involves will logically differ between and within time and cultures. Since the origin of attachment theory, the UK has seen pronounced changes in both male and female societal roles (Butler, 1990). It has been theorised that there is commonly greater variance in the father role than the mother role (Pleck, 2010) and research should not assume that either mothers or fathers are a homogenous group. Previous research has established no link between a mother's time spent with their child and their child's security, but there is a link between a father's level of involvement and their child's resultant security level (John & Halliburton, 2010). This supports the argument that fathers are more heterogeneous than mothers.

Within group heterogeneity should be acknowledged as a confounding factor when investigating associations between caregiver interactions and child development, especially when researching fathers given their high degree of heterogeneity. In theory, the differentiation of the father role can be broken down into a rough classificatory system. Some fathers provide most of the care and are with the baby most the time. Others spend little time with the baby, frequently leave before the child wakes and comes back when he or she asleep and engage in weekend activities that rarely make him available as a parent, such as sports, part time work, socialising. Other fathers are absent entirely (Grossman et al., 2002). Furthermore, Cox, Owen, Henderson and Margand (1992) suggest that as mothers work, as was the case in the current sample, fathers spend more time with their

child and are likely to have stronger attachments. From this it is clear to see that the time that the father spends with the child is likely an important variable, especially as it may differ from the amount of time the mother and child spend together.

A measure of time spent with the child is insufficient by itself, however. The motivational attitude towards parenting adopted by the father has also been shown to be important as it depicts his level of involvement (Cos et al., 1992; Rochlen et al., 2008). The father's motivational attitude consists of whether the father values parenting over other adult roles, sees himself as important to the child's development, views spending time with his child as a priority, plus his amount of delight at the infant itself (e.g., elation towards the infant as opposed to being elated at himself because he is now a father) and enjoys time spent with child through choice rather than out of necessity (Caldera, 2004). How the father interacts with the child is also important. Often, observational research has been conducted in the setting of playing with the child, during which paternal positive engagement, supportive involvement, co-operation, acceptance of the child, appropriately challenging the child have all been found to be positively associated to the child's social development (Grossman et al., 2002; Rochlen et al., 2008). Findings such as these are often not viewed as related to attachment theory, potentially due to a lack of focus on secure base behaviour. However, it is possible to view the paternal evolutionary role as comprising the second aspect of attachment; facilitating exploration (Bowlby, 1982). Therefore in this light this type of research is indeed attachment based and is simply suited to look at paternal attachment than traditional infant and pre-school attachment measures.

As a result of this plasticity, one parent may adopt aspects of the other parent's role as they share responsibilities (Doucet, 2009; Rochlen et al., 2008; Wall & Arnold, 2007). Consequently, it has been theorised that a secure attachment with one caregiver may act to buffer an insecure attachment with another caregiver (Cohn, Salmon & Stobo, 2002).

With an increase in equal rights, many more mothers work for much longer hours than previously, many also take off less time from work after giving birth, many mothers also work from home while looking after their children. Additionally the role of the father and correspondingly their level of involvement and attitude towards parenting have changed dramatically. Unfortunately research as a whole and especially attachment themed research, has often failed to take this into account. It is for these reasons that both mother and father attachment relationships should be taken into account when the long term effects of the attachment strategy are considered. With this in mind it is problematic to claim that an individual's attachment type to any one parent in isolation will necessitate negative socio-interpersonal problems for them in later life.

In sum, research by Grossmann et al. (2002) suggests that a father's level of parental involvement coupled with their motivational attitude towards parenting, sensitive and appropriately challenging interactions (such as play) are more closely linked with the child's long term attachment quality and internal working representations than their attachment relationship as categorised by the strange situation procedure. In recognition of this plasticity, the current sample reflects recent social change, by incorporating a range of family types: single parent families; families with a resident father who was uninvolved in childcare; and families with a residential father who was involved in childcare (Pleck, 2010).

Fathers in the current research

A goal of this thesis was to further our understanding of the role of the father and the link between father-child attachment and the child's social interactions. Where the current research differs from previous work, in addition to the wider age range investigated, is its utilisation of observer ratings of attachment and addressing a wider range of the child's

peer interactions (see Chapter 4). A further novel contribution of the current research is that it is the first of its type to assess father-child attachment quality using the Attachment Q-Set in a naturalistic setting. By conducting the investigation in this manner, we can gain meaningful insight a father's contribution to their child's attachment strategy. Not only can child-father attachment quality be assessed in this setting, specific caregiving interactions associated with child-father security can be investigated. The Attachment Q-Set is currently the most appropriate methodology for assessing attachment quality within the home. The Attachment Q-Set alone however, cannot be used to identify what behaviours specific to the father-child relationship function to maintain the quality of attachment. More needs to be done to establish this base of behaviours. It is for this reason why the current research includes the additional measure of the Bales (1950) small group interaction analysis in order to isolate paternal caregiving interactions that are associated with child attachment security. Through a combination of Q-methodology and Bales analysis (1950), the current research sought to explore the father's role in attachment in a more valid manner than previous research. The current research also includes measures of both maternal and paternal sensitivity and their natural caregiving interactions in the presence of the whole family in order, in addition to child-peer interactions to identify and explain whether changes in parenting are associated with changes in the child's attachment quality.

3.5: Aims of the Thesis

The key contribution of this thesis is that it goes beyond simply measuring a child's attachment quality with their caregiver. It furthers our understanding of attachment theory by exploring the relationship between a child's family environment and their attachment quality. It was necessary to first establish mothers as the baseline and following on from that, further explore familial contributions to attachment quality. In order to systematically achieve this goal, it was necessary to isolate several contextual themes most pertinent to exploring the role of the child's caregiving context in attachment. Whilst there are plausibly a large number of areas which it could be appropriate to explore, it was necessary to focus the scope of the thesis to aspects of the family context less well established and therefore deemed most suited for exploration. As such, the following were identified: (i) specific maternal and paternal caregiving interactions within the home that are associated with child attachment security have yet to be understood. (ii) Father-child attachment quality in the home has yet to be investigated using observer ratings of Q-Sets. The link between child-father attachment and paternal sensitivity has also yet to be established. (iii) Differences in attachment quality of children from single parent and two parent families has yet to be fully explored. (iv) Children's siblings, their contribution to attachment security and how this is made, have yet to be researched fully. (v) In addition, stability of child attachment quality with either parent when measured with Q-Sets has also yet to be established. From this set of themes, a set of objectives were outlined. By furthering these objectives, the thesis aimed to contribute an advancement in understanding attachment theory.

The first objective of the thesis was to establish whether it is possible to measure a child's attachment quality with either caregiver using Q-Sets in a naturalistic setting where the entire family is present. The Attachment Q-Set has been used in researching child-mother attachment but either in laboratory settings or home settings where the mother and child are in isolation, or has used self-report. The first study was a test of methodological appropriateness, to ascertain whether it was possible to measure child-mother attachment quality within the current setting. If what was measured in this context was indeed an accurate reflection of the child's actual attachment quality, the level of security measured would be associated with not only maternal sensitivity but also the child's social interactions with peers (Study 1).

The second purpose of the research was to examine child-father attachment. Study 2 used Attachment Q-Sets within the home to assess the existence of child-father attachment within this context and its links to paternal sensitivity and the child's peer behaviours. Paternal attachment has not been examined within this context, without the emphasis on separation/ reunion episodes. Study 2 represents the first attempt to the author's knowledge to investigate child-father attachment in this manner.

The third objective was to explore the extent to which a child's attachment quality is associated with differences in family dynamics. Study 3 compared children's attachment quality between single parent and two parent families. This represented the very first attempt, to the author's knowledge to accurately compare single parent families with two parent families without the reliance on separation/ reunion based laboratory methodologies, which may not accurately reflect the attachment experiences of children from non-nuclear households (see Chapter 2). This study compared mother-child attachment quality, maternal interactions and child-peer interactions from three family types (absent father, uninvolved father and involved father).

The fourth objective was to examine the role that siblings play in attachment. Whilst siblings have been investigated in the past, research has only closely examined if there is a difference between siblings, not why this may be the case. Study 4 explored sibling attachment discordance within the home. The study compared attachment quality, maternal sensitivity level and caregiving interaction patterns across firstborn and secondborn children observed in a triad. Where the current study adds weight to extant literature is that the investigation takes place within the home, in a natural setting.

The fifth objective of the research was to examine the stability of child attachment quality when assessed within the home. To meet this objective two studies were carried out. In Study 5, four different families were investigated on two separate occasions. Each investigation was carried out between six to ten months apart. At each time not only was the child's attachment quality assessed, but so were caregiver interactional styles, and the child's peer behaviours. This was so that it could be examined whether any instability in a child's attachment quality was associated with changes in their caregivers' interactions with them, their caregivers' sensitivity towards them and the child's own behaviours towards peers. In Study 6, again looking at the stability of child attachment quality when assessed within the home, a single family was investigated on three separate occasions over a year period. This study examined whether attachment quality would be stable in a caregiving context where the father was in a cycle of presence and absence. It was investigated whether over this period, child attachment quality, maternal interactional patterns or maternal sensitivity would fluctuate.

Chapter 4: Methodology

Introduction

As argued in Chapters Two and Three, laboratory based methodologies typically measure a single child's attachment quality with a single caregiver at any one time, but cannot explain the role of the caregiving context in attachment quality or how caregiving processes create and maintain it. Exploring context and process are central components in this thesis. In order to examine child attachment quality with both mother and father in the context of normal interactions within the home, Q-methodology was used. In addition to attachment security, it was necessary to assess caregiver sensitivity (see Chapter 1), caregiver behaviours and child interactions. In order to capture these other variables, multiple assessment tools were required and are outlined below.

In terms of how the research instruments were used, whereas previous research using Q-Sets has often relied upon parental self-report or observations of single dyads, the current research used researcher reported Q-Sets based upon observations of the entire family. This thesis is also concerned with child interactions both within and outside of the home. For this reason, in addition to parental reports of child-peer interactions, measures of their peer interactions were completed by their pre-school staff where possible.

Participants

Thirty children and their immediate families participated in the study (Table 4.1) including 17 boys (mean age = 33.65 months, SD = 15.76 months) and 13 girls (mean age = 32.77 months, SD = 8.02 months). Overall, the children's age ranged from 13 to 72 months, with a

mean age of 33.27 months (SD = 12.80 months). While the number of children in each family ranged from 1-3 most commonly, the families had one child. Nine children came from single parent families, 13 were from two parent families where the father was at home the majority of the time (i.e. evenings and weekends) and 8 children were from two-parent families where the father was regularly away for work purposes. All mothers were white, aged between 21 and 43 (mean age = 32.55 years, SD = 6.81 years). All but one father was white and fathers were aged between 23 and 43 (mean age = 33.38 years, SD = 5.75 years). The mean socio-economic status of the children was 3.73 (SD = 0.83), out of a possible 5. This represents a socio-economic status for the current sample that is slightly higher than the national average of 3¹.

The families were contacted through either Sure Starts or privately run nurseries which they attended in the East Midlands area, UK. As a result all mothers worked part time and all fathers were in full time employment. All children were recruited from a non-clinical population. As such, none of the children had any reported behavioural difficulties, or developmental delays such as language impairment or learning disabilities that may have impacted upon their capacity to communicate with their parents or upon their observable behaviours at home or at nursery with peers. For the participant Consent Form and Information Sheet used, please see Appendix A and B respectively.

¹ Provided by Credit Reporting Agency Limited via checkmyfile.com, 1st August, 2011

Table 4.1: *Description of the Sample by Family*

Family	Younger child Sex: Age	Older child Sex: Age	Father Type	Mother Age	Father Age	Socio- economic Status
Family 1	Boy 34 months	Boy 54 months	Involved	23 years	34 years	5
Family 2	Girl 22 months	N/A	Involved	22 years	27 years	3
Family 3	Girl 34 months	N/A	Involved	43 years	41 years	4
Family 4	Girl 24 months	Girl 36 months	Uninvolved	36 years	N/A	4
Family 5	Boy 20 months	N/A	Uninvolved	34 years	N/A	3
Family 6	Girl 36 months	N/A	Absent	37 years	N/A	4
Family 7	Girl 36 months	N/A	Absent	39 years	N/A	3
Family 8	Boy 48 months	Boy 72 months	Involved	29 years	29 years	2
Family 9	Boy 23 months	N/A	Involved	30 years	32 years	4
Family 10	Boy 15 months	N/A	Involved	32 years	35 years	4
Family 11	Girl 23 months	N/A	Involved	N/A	31 years	4
Family 12	Boy 36 months	N/A	Uninvolved	41 years	N/A	5
Family 13	Boy 24 months	Boy 48 months	Involved	24 years	28 years	5
Family 14	Girl 22 months	Girl 37	Uninvolved	28 years	N/A	4
Family 15	Boy 24 months	N/A	Involved	33 years	37 years	3
Family 16	Boy 24 months	Boy 48 months	Absent	30 years	N/A	4
Family 17	Twin girls 33 months	Girl 42 months	Absent	41 years	N/A	3
Family 18	Boy 13 months	N/A	Involved	30 years	37 years	4
Family 19	Boy 28 months	N/A	Involved	21 years	23 years	4
Family 20	Boy 54 months	N/A	Involved	41 years	43 years	4
Family 21	Boy 36 months	Girl 48 months	Absent	37 years	N/A	3

In Study 2 and Study 3, which were primarily concerned with investigating the role of the father and comparisons between family type, families were divided into three groups. The three groups were defined by the father's involvement and were classified as absent, uninvolved and involved. As Lamb (2010) argues, concerning fathers, the pertinent question is not one of absence vs. presence, it is one of involvement. Using Pleck's (2010) re-conceptualisation of paternal involvement, groups were defined by the extent to which the fathers willingly engaged in activities, were involved in caregiving, such as warm and responsive parenting and were involved in decision making processes. Based on this, children with fathers that were wholly absent were labelled as absent (N = 9), a father that lived with the family but was distal to parenting was defined as uninvolved (N = 7) and fathers who shared parenting responsibilities with the mother, engaged with their child and were involved in decision making, were defined as involved (N = 14). This decision was made as a categorisation based upon paternal absence vs. presence, intact and non-intact and would have maximised within-group heterogeneity within residential fathers (Lamb, 2010). As Study 2 investigated the role and contribution of the father via assessing normal interactions, by definition these fathers had to be involved in their child's caregiving. For this reasons, only fathers classified as involved are included in the analysis in Study 2. Study 3 offers comparisons using children belong to all three groups.

See Appendix C for how the sample was split between the individual studies.

Measures

Demographics

Mothers and fathers provided standard demographics including age of mother, father and child, family type (single parent, father who predominantly works away, father who shares parenting equally with mother). In addition, family socio-economic status was calculated using their Post Code, which they supplied.

Attachment Quality Measures

In order to assess child attachment security with both mother and father, both the Attachment Q-Set (Waters & Deane, 1987) and the Parental Secure Base Support Q-Set (Waters, Gao & Elliot, 2003) were used.

Attachment Q-Set

The Attachment Q-Set (AQS) contains 90-items, each item describing a different behaviour. In a meta-analysis, it was concluded that the observer rated Attachment Q-Set is a valid measure of attachment in the pre-school age range (van IJzendoorn et al., 2004). The Q-Set has been used frequently in previous research (e.g, Lundy, 2002; Pederson & Moran, 1996; Park, 2001). The 90 items were arranged in a standard 1-9 Q-composite method, with each pile containing 10 items. The child's security score was then calculated by correlating the description of the child with the published criterion description of a hypothetically most secure child (Waters & Deane, 1987). The child's attachment security score is the Pearson's r coefficient value of the correlation between a child's Q-Set and the hypothetical most

secure Q-Set. For analysis based on secure/insecure groupings, .30 was taken as the cut off point, as per the original authors suggestion (Waters & Deane, 1987). Children's attachment security was assessed firstly by the primary researcher and inter-rater reliability was assessed via correlating a selection of four Q-Sets (13%) with that of an independent and experienced Developmental Psychologist, following a discussion on interpreting and analysing Q-Sets. The mean Pearson's r value across the four correlations was .91 ($SD = .11$). For an example Attachment Q-Set, please see Appendix D.

Parental Secure Base Support Q-Set

The Parental Secure Base Support (PSBS) Q-Set is a 49-item scale, originally developed by Waters, Gao and Elliot (2003), but was never brought to publication stage. As a result, the scale was included as an opportunity to use both Q-sets alongside one another and to offer a comparison between the two measures and their respective associations with sensitivity and a child's peer behaviour. Consequently, the current thesis represents the first attempt in existing literature to use both separate Q-Sets contemporaneously. The 49 items were arranged following the observation in a standard 1-7 Q-composite method, with each pile containing 7 items. The child's security score is then calculated by correlating the description of the child with the published criterion description of a hypothetically most secure child (Waters, Gao & Elliot, 2003). The child's security score is again the Pearson's r coefficient value of the correlation between descriptions. Unlike the Attachment Q-Set, there is no published cut off point for secure/insecure classifications. Where secure/insecure group classifications were required for analysis, .30 was used as the cut off. This was deemed acceptable in the interest of consistency and was supported by performing a median split of security scores. Consistent with the Attachment Q-Set,

children's attachment security was assessed firstly by the primary researcher and inter-rater reliability was assessed via correlating a selection of four Q-Sets (13%) with that of an independent and experienced Developmental Psychologist following a discussion on interpreting and analysing Q-Sets. The mean Pearson's r value across the four correlations was .93 ($SD = .07$). For an example Secure Base Support Q-Set, please see Appendix E.

Paternal involvement

Informed by Pleck's (2010, 2012) re-conceptualisation of the paternal role, fathers were coded as either *absent*, *uninvolved*, or *involved*. Mothers were asked "who does what around the home". Based upon their responses, fathers were rated by the extent to which they engaged in activities with their child, involvement in caregiving, such as warm and responsive parenting and were involved in decision making processes regarding the child.

Coding Strategy for Bales' Small Group Analysis

Child-specific parental interactions and overall child interactions were assessed using Bales' Small Group Analysis (Bales, 1950). Bales' Small Group Analysis is a process analysis, designed to capture a range of interactions specifically between members of a small group. It encapsulates: positive socio-emotional reactions; attempted answers; questions and; negative socio-emotional reactions. Whilst this scale has been used in other areas of developmental Psychology (e.g., Underwood, 2000; Underwood, Underwood & Wood, 2000), the scale has yet to be applied directly to attachment theory. Despite a lack of use in the field of attachment theory, it is worth noting that the scale was originally created with family interactions in mind. Specifically, Bales analysis was conceptualised as a tool for providing a greater understanding of traditional socio-emotional role of the mother and

task related behaviours associated with the father role, and was informed by psychodynamic theory (Bales & Parsons, 1956). Thus with an emphasis on how small groups interact in terms of information sharing and use of both positive and negative emotion, Bales' Small Group Analysis is an appropriate instrument to use when observing general interactions of the family unit within the home. The scale items were originally designed around adult interactions in small groups and therefore it was necessary to amend them slightly for the purposes of the current study. For example, positive socio-emotional reactions such as 'shows solidarity' were expanded to include items such as 'shows affection'. Similarly, negative socio-emotional reactions such as 'withholds help', was expanded to include 'does not share' (Table 4.2). These adaptations were designed to bring the original Bales descriptions closer to attachment behaviours outlined by the Dynamic Maturational Model of attachment (Crittenden, 1992, 1995, 2002). This was in the interest of making the scale more relevant to both the child's age and the scenario within which the observations took place, in order to better capture the child's interactions. Inter-rater reliability was sought for Bales' Small Group Interactional Analysis, using a free-marginal kappa (Randolph, 2005). The decision to use a free-marginal kappa made was due to Bales' analysis essentially working on tallies of interactions and thus not having a discrete amount of potential numerical outcomes, as would be expected of an overly conservative fixed-marginal kappa. Six independent raters coded six randomly selected observations (20.70%). The mean agreement was 86% (Kappa = .81). The agreement across caregiver interactions was 83% (Kappa = .78). Agreement across children's interactions was 89% (Kappa = .85). For an illustration of Bales' analysis, please see Appendix F.

Table 4.2: *Bales' Analysis Coding Scheme*

Category A: positive socio-emotion actions	Bales' Original Items	Modified Bales' Items
A1	Shows solidarity, raises other's- status, gives help, reward	Shows solidarity, gives help, rewards, shares, provides care for
A2	Shows tension release, Jokes, laughs, shows satisfaction	Shows tension release, jokes, laughs
A3	Agrees, shows passive acceptance, understands, concurs, complies	Agrees, complies, shows affection
Category B: attempted answers		
B4a	Given suggestion, direction, implying autonomy for other	Gives solution-related suggestion
B4b	B4b was taken from Underwood (2000)	Gives other task-related suggestion
B5	Gives opinion, evaluation, analysis, expresses feeling, wish	Gives opinion, evaluation, analysis
B6	Gives orientation, information, repeats, clarifies, confirms	Gives orientation, information
Category C: questions		
C7	Asks for orientation, information, repetition, confirmation	Asks for orientation, information
C8	Asks for opinion, evaluation, analysis, expression of feeling	Asks for opinion, evaluation, analysis
C9	Asks for suggestion, direction, possible ways of action	Asks for suggestion, ways of action
Category D: negative socio-emotional actions		
D10	Disagrees, shows passive rejection, formality, withholds help	Disagrees, withholds help, doesn't share, doesn't comply, exerts control
D11	Shows tension asks for help, withdraws out of field	Shows tension, withdraws, feigns helplessness
D12	Shows antagonism, deflates other's status, defends or asserts self	Shows antagonism, aggression, threatens, dominates, controls, defends self

Coding Strategy for Parental Sensitivity

The Sensitivity vs. Insensitivity Scale (Ainsworth et al., 1978) was used to assess both mothers and fathers level of sensitivity towards their child. Parental sensitivity is viewed as central to attachment theory and has long been established as an important predictor of attachment quality (see Chapter 1). One aim of the thesis was to empirically explore the separateness of maternal and paternal attachment and this was achieved through investigating associations between each caregiver's sensitivity and their child's attachment quality (see Chapter 3). Consequently, this particular scale was deemed an appropriate tool for investigating parental contributions to child attachment for the purposes of the current thesis. The Sensitivity vs. Insensitivity scale is established within the literature and was employed in the much cited Baltimore Study (Ainsworth et al., 1978) and has been used in research since then (e.g., Isabella, 1993). This scale is a single item scale, rating caregiver sensitivity from 1 (Highly Insensitive) to 9 (Highly Sensitive), with 5 (Inconsistently Sensitive) being the midpoint. Inter-rater reliability for the current study was sought across six different independent raters, each coding six randomly selected observations (20.70%). Fixed-marginal kappa analysis is better suited to categorical data, when used for scale data it is deemed overly conservative (Randolph, 2005). A free-marginal kappa was carried out on the original scale data and was found to be 57% agreement (Kappa = .46). This kappa was deemed unacceptably low (Siegal & Castellan, 1988). Kappa fails to take into account the severity of disagreement, for instance, on a scale of 1-9 the difference between one rater categorising a caregiver as 1 and another coding them as 9 is far greater than one rater coding a 7 and another coding an 8. Due to this, the decision was made to truncate the scale, reducing it from a nine point scale into three separate categories: Insensitive; Inconsistently Sensitive and; Sensitive. This truncation provided a higher, acceptable overall

agreement of 80% (Kappa = .70). For an illustration of Ainsworth's Sensitivity vs. Insensitivity scale, please see Appendix G.

Child Behaviour Scale

Three sub-scales of the Child Behaviour Scale (Ladd & Profilet, 1996) were used to capture the child's peer behaviours (Asocial Peer Behaviours Subscale, Prosocial Peer Behaviours Subscale & Excluded by Peers Subscale, for examples see below). This scale was chosen as previous literature has established the scales psychometric properties. The scale has been demonstrated to have high test-retest value, high inter-rater reliability and high internal consistency, the scale also has acceptable criterion validity (Birch & Ladd, 1998; Kochenderfer & Ladd, 1996; Ladd, 2000; Ladd & Burgess, 1999; Ladd & Ladd, 1998; Ladd & Profilet, 1996). Not only has the scale been validated to a high degree, it has been employed in numerous pieces of research (e.g., Coplan & Rubin, 1998).

All three subscales were administered to both parents (at the time of observation) and a suitable member of staff at the child's nursery or Sure Start. In keeping with accepted practice (Rust & Golombok, 1999), any scale item with an inter-item total correlation less than 0.20 was eliminated. Peer behaviours were rated on a 3 point scale; *doesn't apply* (1), *applies sometimes* (2) and *certainly applies* (3). Scores were created by averaging ratings over items. As scale means were used, overall internal consistency reliability measures were included and not individual item measures.

Asocial Peer Behaviours Subscale

The Asocial subscale of the Child Behaviour Scale (Ladd & Profilet, 1996) measures the extent to which a child chooses to ostracise themselves from their peers. Items include “solitary child” and “likes to be alone”. For mothers, the 7 item sub-scale had a Cronbach’s alpha of .68, using Rust and Golombok’s (1999) cut off point for excluding any item within a scale with an inter-item total correlation of .20, two items were excluded from the scale, therefore the 5 item sub-sale used in the current study had a Cronbach’s alpha of .80. For fathers, the 7 item sub-scale had a Cronbach’s alpha of .39. Again using a cut off of .20, the scale became a 3 item scale ($\alpha = .66$). When administered to nursery staff, the 7 item sub-scale had a Cronbach’s alpha of .86. No items had an item total correlation below .20.

Prosocial Peer Behaviours Subscale

The Prosocial subscale of the Child Behaviour Scale (Ladd & Profilet, 1996) taps the degree to which a child will actively help others and seek interactions with peers. Items include “kind towards peers” and “show a recognition of the feelings of others, is empathic”. The 7 item sub-scale for mothers had a Cronbach’s alpha of .57. One item was excluded, resulting in a 6 item scale ($\alpha = .65$). When fathers completed the 7 item sub-scale for Prosocial Peer Behaviours, it had a Cronbach’s alpha of .70. Following the exclusion of one item with an inter item total correlation below .20, it became a 6 point scale ($\alpha = .82$). For nurseries, the original 7 item sub-scale had a Cronbach’s alpha of .47. It was necessary to exclude one item, resulting in a 6 point scale ($\alpha = .65$).

Excluded by Peers Subscale

The Excluded subscale of the Child Behaviour Scale (Ladd & Profilet, 1996) measures the extent to which a child is excluded from activities by their peers. Examples of items include “is ignored by peers” and “ridiculed by peers”. When administered to mothers, the 7 item sub-scale for Exclusion had a Cronbach’s alpha of .74. Using the standard cut off point of .20, one item was excluded, resulting in a 6 point scale ($\alpha = .76$). When completed by fathers, the 7 item sub-scale had a Cronbach’s alpha of .73 with no items excluded. For nurseries, the 7 item sub-scale had a Cronbach’s alpha of .65. One item was excluded as it had a inter item total correlation under .20, resulting in a 6 item scale ($\alpha = .66$).

Child-Peer Aggression

The Proactive and Reactive Aggression sub scales taken from the Teacher Checklist for Social Behaviour (Dodge & Coie, 1987) were used to assess child aggression levels. Each subscale includes three items. Aggressive behaviours were rated by mothers, fathers and nurseries in the same manner as general Peer Behaviours; on a 3 point scale, including: *doesn’t apply* (1); *applies sometimes* (2) and; *certainly applies* (3). Items on the Proactive sub-scale include “s/he gets other kids to gang up on a peer that s/he does not like” and “s/he threatens or bullies others in order to get in her/his own way”. Items on the Reactive sub-scale include “when teased or threatened, s/he gets angry easily and strikes back” and “s/he always claims that other children are to blame in a fight and feels that they started the trouble”. Scores were again created by averaging ratings over items. Both of the original 3 item sub-scales were found to be reliable for mothers (Proactive $\alpha = .77$; Reactive $\alpha = .86$), fathers (Proactive $\alpha = .92$; Reactive $\alpha = .88$), and nurseries (Proactive $\alpha = .83$; Reactive $\alpha = .83$). No items were excluded.

Procedure

All families participated in an initial data collection session. Four randomly selected families participated again in a repeated measure approximately six months later and finally, one family participated in three observations over a year period, as a case study (see Appendix C).

Prior to the observation, paternal involvement was assessed via telephone interview with the mother. All observations took place within the child's home using a small digital camera. Once introductions were completed, as a desensitisation measure the small camera was set up on a tripod in an appropriate location a little time before recording of interactions was initiated. This was in order to give the family an opportunity to acclimatise to a camera being present in an effort to increase the level of validity (Breakwell, 2006; Eid & Deiner, 2006). In addition, the first 10 minutes of the observation were not analysed in a further effort to increase the ecological validity of the data and parents were able to move the camera as necessary so that the family was not constrained to a specific area. The researcher then explained the nature and purpose of the study to the family and an opportunity to ask questions/ allay any concerns was provided. The observations were conducted at the most suitable time for the families, when they would normally have spare time and all the family (where possible) would be present and available to be observed, normally late afternoon or early evening. Nursery data were collected from participating nursery/ pre-school establishments as close to the observation date as possible, as a meta-analysis (Atkinson, Niccola, Paglia, Coolbear, Parker & Poulton, 2000) demonstrated that time between ratings can cause a reduction in observed effect sizes. With this in mind, all data regarding the child were gathered as close to each other as possible. For the question questionnaire battery used, please see Appendix H.

The families were requested to 'Do what you would normally do if you had spare time at this time of day'. As a result, the observations were entirely unstructured and any activity that the family elected to do was entirely down to their own volition. Prior to the observations commencing, the parents (as all participating caregivers were the child's biological parents) were required to fill in consent forms and the questionnaires independently of one another which were then taken away. Once the family was comfortable in the presence of the camera and had been provided with any additional information required, the observation began and the researcher left the participants' home for the duration of the observation. Each observation conducted was approximately 50 minutes in length (ranging from 45 minutes to 57 minutes). After this time the camera was then collected, participants were thanked and debriefed, any further questions were also answered. Families were not paid for their participation. For illustrative vignettes of family observations, see Appendix I.

Chapter 5: Empirical Studies

5.1: Study 1; Attachment in the Home; the Role of the Mother

Introduction

Attachment theory asserts that children's early attachment experiences are a fundamental force in forming their social development and development of internal working models (Bowlby, 1973, 1980, 1969/1982). A secure attachment is said to arise from the provision of sensitive and consistent caregiving. Sensitive caregiving is taken to be consistently available and emotionally harmonious infant-caregiver interaction (Ainsworth et al., 1978). The core principals of attachment theory formed the basis for the current study, which investigated the child's attachment with their mother and their observable peer interactions. In doing so, the focus of the primary study and those that follow was to examine attachment relationships in a child's natural context. For the full rationale regarding the choice to: (1) have the research take place within the child's home, and; (2) opting for the presence of the whole family (where possible), please see Chapter 3, where these arguments are offered in depth.

In brief, it was necessary to first establish whether mother-child attachment could be reliably measured within the home, during an unstructured observation with the whole family present. In keeping with previous research (e.g., Bosso, 1985) these observations were an hour long each. By doing so, it was possible to investigate associations between maternal attachment quality, maternal sensitivity and child-peer interactions outside of the

home. The current study then acts as a base for additional studies. Using the child-mother dyad as the base, further studies could investigate the wider family, specifically, the child-father dyad (Studies 2 and 3) and siblings (Study 4). Additionally, the stability of attachment and differences between family types could be examined (Studies 5 and 6).

Historically, both the strange situation (Ainsworth et al., 1978) and the more recent Attachment Q-Set (Waters & Deane, 1985) have sought primarily to measure a child's attachment strategy (also referred to as attachment type), rather than to understand how they are maintained. By utilising these methods, researchers have gathered a wealth of information regarding the importance of maternal attachment (Chapter 1) and its link with psychosocial development and peer relationships (e.g., Booth, 1994; Moss et al., 1998; Shemmings, 2006). Despite this depth of research and the advances made, it is still largely unclear how these attachment strategies are maintained. Arguably, the primary reason for the lack of clarity regarding attachment maintenance is that until more recently, with the introduction of the Attachment Q-Set (Waters & Deane, 1985), research into attachment maintenance has been limited due largely to methodological constraints. Studying attachment within the laboratory provides some advantages over studying attachment within the home, such as replicability and a higher degree of control over analysed variables. However, within the strange situation, the caregiver (usually the mother) is not free to act normally, due to the regimented procedure required to assess a child's attachment in this scenario. These restraints severely limit a caregiver's actions, thus reducing the insight into how a caregiver and their interactions shape their child's attachment strategy.

An over reliance upon separation/ reunion and laboratory based approaches have restricted our understanding of how attachment strategies are maintained in the home. Despite receiving less use than the strange situation, the Attachment Q-Set has been

accepted as a valid assessment tool in the field of attachment (De Wolff & van IJzendoorn, 1997; van IJzendoorn et al., 2004). With the use of the Attachment Q-Set, the current assessment of attachment quality did not necessitate an artificial separation-reunion scenario and was measured in a more ecologically valid setting. Accordingly, it was predicted that this approach would create insights for further understanding how attachment strategies are maintained.

Despite Q-methodology enabling researchers to conduct attachment assessments within the home, a recent review found that a large amount of extant research using the Attachment Q-Set had relied on parents completing the sorts, rather than researchers themselves (De Wolff & van IJzendoorn, 2004). While it is certainly more time effective to employ parents as coders, the same review concluded that parents provide less reliable ratings when compared to researcher ratings. When observations were used, the review concluded that the more ecological the setting, the more reliable the Q-Set was. The current study acknowledged the findings of the review by maximising ecological validity and using observer ratings. Rather than imposing a task for the mother and child to perform, or having an observer present, the current study aimed to create an observation which provided a reliable insight into the family's normal routine and behaviours. This was achieved by arranging the unstructured observations at a time that best suited the family, where they would all be present. Despite some research using Q-methodology within the home, the focus has still been dyadic (e.g., Bailey, Waters, Pederson & Moran, 1999). It has yet to be established whether the degree of security measured or the proportion of children classified as secure/insecure when other family members are present, is comparable with that found in dyadic research.

In order to validate this approach, it was necessary to compare associates of the attachment security scores (yielded by both the established Attachment Q-Set and the

largely untested Parental Secure Base Support Q-Set) to those discovered by previous research, both laboratory based and home based. If a child's attachment security was associated with maternal sensitivity and peer behaviours in the expected manner (see below), it would be deemed a suitable assessment method. Whilst measuring attachment without this level of ecological validity is of course entirely possible and has been practised widely for several decades, the current study acts as a foundation for later studies, concerned with investigating how these attachment strategies are maintained, not just whether it is possible to measure them.

Attachment and Peer Behaviour

In addition to the long standing tradition of measuring the association between attachment security and caregiver sensitivity (e.g., Ainsworth et al., 1978; De Wolff & van IJzendoorn, 1997; Atkinson et al., 2000; Meins et al., 2001), there are several child-peer behaviours that an assessment of attachment would be associated with, based on existing literature. When mother-child attachment is measured within the strange situation, secure children were rated by observers during peer play sessions as being more positive in their interactions, less disruptive and antagonistic at age three (Jacobson & Wille, 1986) and at ages four and five (Erickson, Sroufe & Egeland, 1985). Also when mother-child attachment is assessed within the Strange situation, teachers rated insecure children as being more aggressive, hostile and more withdrawn from peers, at age three (Waters, Wippman & Sroufe, 1979), four (Turner, 1991) and five years old (Moss et al., 1998; Suess et al., 1992).

Children rated as securely attached to their mother by the Attachment Q-Set have been found to be less aggressive, controlling and their interactions were rated by observers as more harmonious with their best friend in a laboratory setting when aged four (Park &

Waters, 1989). In addition, children rated as being secure within the mother-child dyad by an observer present during structured observations were deemed by their teachers as less aggressive (De Mulder, Denham, Schmidt & Mitchell, 2000). Accordingly, a valid measure of a child's security rating should be associated with peer behaviours. Specifically, the child's social interactions, including how withdrawn and excluded they are and also how aggressive they are with peers, should all relate to a child's attachment security. To gain a meaningful insight into a child's natural peer behaviours, gathering data from within a pre-school, while a child is separated from their caregiver(s) represents an appropriate scenario. Additionally, by age three a child's internal working model will be sufficiently formed, providing an insight into individual differences (Suess et al., 1992).

The primary purpose of the first study was to assess the extent to which concurrent validity exists when mother-child attachment is assessed using one off, unstructured observations in the home, with all family members present. In order to address this aim, three research questions were asked, while assessing attachment in the home using a one hour long unstructured observation; (i) to what extent both Q-Sets are associated (ii) would maternal sensitivity in the home correlate more strongly with the child's degree of security than in previous laboratory based studies, and (iii) would security measured in this way be associated with the child's behaviours outside of the observation by either, or both of the different Q-Sets in a manner expected from pre-existing literature? It was expected that if this approach is valid, children with a secure attachment to their mother, as observed in the home, would be rated by relevant nursery staff as being less excluded by peers, less asocial and also less aggressive in their interactions than children deemed insecurely attached to their mother. In addition to this, their security level would also be associated with their mother's sensitivity level.

Results

Attachment Quality with Mother

Child-mother attachment quality was assessed using both the Attachment Q-Set and Parental Secure Base Support Q-Set. Security ratings on the Attachment Q-Set were between .02 and .63 (mean = .37, SD = .19). Dependency ratings on the Attachment Q-Set were between .01 and .38 (mean = .16, SD = .10). Security with mother as rated on the Parental Secure Base Support Q-Set was between .07 and .74 (mean = .48, SD = .16). For tests necessitating group comparisons, the recommended classification of .30 on the Attachment Q-Set (Waters & Deane, 1985) was used. If the child's security score exceeded .30 they were classified as secure (n = 20) and children with scores below this value were classified as insecure (n = 9). The same classification was applied to the Parental Secure Base Support Q-Set to produce secure (n = 25) and insecure (n = 4) groups (Waters et al., 2003).

Child as Rated by Mother

As the current sample ranges from 1-5 years across a major period of development (Piaget, 1964), it was decided that partial correlations would be used, to control for the age of the child. Effect sizes were interpreted using Cohen's (1992) guidelines. Maternal sensitivity and security with mother (Attachment Q-Set) were associated ($r(26) = .35, p < .05$). This suggests that there is a moderate positive relationship between sensitivity and security and that the more sensitive a mother is, the more secure the child's attachment is with her.

Maternal sensitivity and asocial peer behaviours (as reported by mothers) were also associated ($Pr(26) = .37, p < .05$). This suggests that maternal sensitivity has a moderate positive relationship with the child's asocial behaviours. For consistency, the asocial subscale was reverse scored, meaning that the higher a child's maternal sensitivity, the less asocial they were actually likely to be rated by their mothers. Maternal sensitivity and prosocial peer behaviours (as reported by mothers) were also associated ($Pr(26) = .39, p < .05$). This suggests that there is a moderate positive association between maternal sensitivity and child-peer prosocial behaviours, so that as maternal sensitivity rose so too did prosocial peer behaviours. Finally, maternal sensitivity and proactive aggression (as rated by mothers) were associated ($Pr(26) = .38, p < .05$). This suggests that there is a moderate positive association between maternal sensitivity and child-peer proactive aggression, meaning that high levels of maternal sensitivity were associated with lower levels of proactive aggression, as aggression scores were inverted.

Associations among Mothers' Ratings

A partial correlation demonstrated that children rated as proactively aggressive by mother were also likely to be rated as excluded by their mother ($Pr(26) = .52, p < .01$). This suggests that there is a strong, positive relationship between maternal reports of proactive aggression and peer exclusion. In addition, proactive aggression and prosocial peer behaviours were associated ($Pr(26) = .35, p < .05$). This suggests a moderate positive relationship between proactive aggression and child-peer prosocial behaviours, so that when a mother rated her child as having a low level of proactive aggression, they were likely rated as being highly prosocial. Similarly, reactive aggression scores were associated with exclusion by peers ($Pr(26) = .44, p < .05$). This suggests a moderate positive

association between reactive aggression and exclusion by peers, so that as levels of reactive aggression rose, so too did peer exclusion levels. In addition, reactive aggression was associated with prosocial peer behaviours ($Pr(26) = .37, p < .05$). This suggests that reactive aggression had a moderate positive relationship with prosocial peer behaviours, so that when a mother rated her child as having a low level of reactive aggression, they were likely rated as being highly prosocial. Finally, both types of aggression (reactive and proactive) showed a strong positive relationship ($Pr(26) = .65, p < .01$). This means that a child rated as having high levels of reactive aggression was also highly likely to be rated as having high levels of proactive aggression.

Child as Rated by Nursery

Dependency upon mother was associated with reactive aggression ($Pr(23) = -.44, p < .05$). This moderate negative association suggests that as child dependency upon their mother rises, their reactive aggression rises, as aggression levels were inverted. Security with mother was associated with level of exclusion by peers ($Pr(23) = .47, p < .01$). This moderate positive association demonstrates that the more securely attached a child was to their mother, the less excluded their nursery rated them as. In addition, security with mother was associated with asocial peer behaviours ($Pr(23) = .66, p < .01$). This strong positive association suggests that as maternal security rises, children were very likely to be rated by their nursery as less asocial with peers. Finally, security with mother was associated with the child's level of reactive aggression as rated by the nursery ($Pr(23) = .54, p < .01$). This suggests that maternal security has a strong positive relationship with reactive aggression, meaning that the more securely attached a child was to their mother, it was very likely that their nursery would rate them as less reactively aggressive.

Interactional Analysis

Mother-child interactions were captured using Bales' analysis. To establish whether children categorised as secure and insecure with their mother's general behavioural style within the home differed, a 2 x 4 chi-square analysis was conducted for each Q-Set. The test for security as measured by the Attachment Q-Set was significant χ^2 (df = 3, N = 593) = 75.93, $p < .001$ (Table 5.1.1). This test revealed that secure children performed more positive socio-emotional actions and less negative socio-emotional actions than insecure children. Secure children also provided more information than insecure children.

Table 5.1.1: *Total frequencies of secure and insecure (Attachment Q-Set) children's interactions within the home*

	Positive interactions	Information provided	Information requested	Negative interactions
Insecurely attached to mother	14	38	42	80
Securely attached to mother	145	129	69	76

The test for security as measured by the Parental Secure Base Support Q-Set was also significant χ^2 (df = 3, N = 593) = 24.95, $p < .001$ (Table 5.1.2). This test revealed that secure children performed more positive socio-emotional actions, provided more information, requested more information and performed less negative interactions compared to insecure children.

Table 5.1.2: *Total frequencies of secure and insecure (Parental Secure Base Support Q-Set) children's interactions within the home*

	Positive interactions	Information provided	Information requested	Negative interactions
Insecurely attached to mother	16	16	32	20
Securely attached to mother	143	151	79	136

To establish whether maternal interactions differed between secure and insecure children, a 2 x 4 Fishers Exact analysis was conducted for each Q-Set.

The test for security as measured by the Attachment Q-Set was significant ($P < .001$, Fishers exact test) (Table 5.1.3). This test revealed that mothers performed more positive socio-emotional actions and more negative socio-emotional actions towards secure children than insecure children. Mothers also provided and requested more information with securely attached children than they did with insecurely attached children.

Table 5.1.3: *Total frequencies of mother interactions with secure and insecure (Attachment Q-Set) children within the home*

	Positive interactions	Information provided	Information requested	Negative interactions
Mother with insecure child	8	63	18	0
Mother with secure child	112	160	145	6

The test for security as measured by the Parental Secure Base Support Q-Set was significant ($P < .001$, Fishers exact test) (Table 5.1.4). In agreement with the results from the Attachment Q-Set, this test revealed that mothers performed more positive socio-emotional actions and more negative socio-emotional actions towards secure children than insecure children. Mothers also provided and requested more information with securely attached children than they did with insecurely attached children.

Table 5.1.4: *Total frequencies of mother interactions with secure and insecure (Parental Secure Base Support Q-Set) children within the home*

	Positive interactions	Information provided	Information requested	Negative interactions
Mother of insecure child	3	32	13	0
Mother of secure child	117	191	150	6

Discussion

The primary aim of Study One was to assess the extent to which mother-child attachment could be reliably assessed using a one-off, unstructured observation in the home, with the whole family present. In order to achieve this, it was necessary to ascertain whether a child's attachment security measured in this context would be associated with peer behaviours as predicted by pre-existing literature. The aims were to assess attachment in the home using a one hour long unstructured observation; to see what comparability existed between the two different Q-Sets, if the level of attachment security was similar to that in laboratory assessments, if the strength of association between maternal sensitivity

and attachment security in the home was comparable to that in previous laboratory based studies, and finally if security measured in this way was associated with the child's behaviours outside of the observation and Q-Set security scores.

The level of child-mother attachment security found in the current study was consistent with that identified in previous observational research (DeMulder et al., 2000; Bakermans-Kranenburg et al., 2004; Elicker, Fortner-Wood & Noppe, 1999; Howes, Matheson & Hamilton, 1994; Cassibba, van IJzendoorn & D'Odorico, 2000; Nakagawa, Teti & Lamb, 1992). This suggests that the mother-child attachment measured in the presence of the family is comparable to that measured in a single dyad and that measuring a child's maternal attachment quality in their ordinary context is a valid approach. Interestingly, there was no association between security, as rated on the 90-item Attachment Q-Set and the 49-item Parental Secure Base Support Q-Set. Interestingly, the Parental Secure Base Support Q-Set security scores were associated with peer behaviours, whereas the Attachment Q-Set security scores were not. Furthermore, there was a relationship between Attachment Q-Set security scores and maternal sensitivity, whereas no relationship was found between Parental Secure Base Support Q-Set scores and maternal sensitivity. The reasons for this are unclear and given the current data, it is difficult to explain this phenomenon with a degree of certainty. However, several speculative explanations can be offered. As no association was found, it is possible that neither of the two Q-Sets measures attachment in its entirety. Another explanation is that one of the scales may not be accurately measuring attachment security. Based on this, it could be the case that utilising both Attachment Q-Sets captures more of a child's Attachment strategy than either Q-Set alone can. The current paper represents the first attempt to use both Q-Sets on the same data in an effort to establish comparability. Certainly the findings warrant further research to investigate why no association exists between security Q-Sets.

A child's security with their mother and their mother's sensitivity level were moderately associated in the expected direction. As noted, a meta-analysis carried out by De Wolff and van IJzendoorn (1997) demonstrated an overall effect size between security and sensitivity of .24, with studies finding associations as low as .16 (Goldsmith & Alanskys, 1987). Within this meta-analysis, it was discovered that the more faithful the study was to the original Baltimore study (Ainsworth et al., 1978) i.e. naturalistic home based observations, the stronger the observed association was between sensitivity and security. It is important to note that while various research studies have taken place in the home, often maternal sensitivity ratings are taken either during prescribed tasks (e.g., Ward & Carlson, 1995), while being interviewed, or filling questionnaires in (e.g., Pederson et al., 1998). Almost invariably, a researcher is present during observations and while the research is set inside the participant's home, this setting is heavily commandeered by the researchers and becomes a laboratory in its own right. It should never be assumed that simply placing the research in a participant's home increases ecological validity to an acceptable level when behavioural constraints are put in place within that context.

In contrast to much previous research, the current study demonstrates clearly that when assessed within an unstructured, more ecologically valid context, the association between a child's security and their caregiver's sensitivity is much stronger than in a laboratory setting. This finding raises questions regarding the validity and reliability of data from more constrained settings. If a fuller understanding of how Attachment strategies are maintained through caregiver-child interactions is to be sought, the caregivers themselves must be able to act freely. Despite the association within the current study being much higher than laboratory based research, it cannot be said to truly replicate the original Baltimore study (Ainsworth et al., 1978), which was based upon multiple home based observations and demonstrated an effect size of .78 between security and sensitivity.

Security with Mother and Child Behaviour

No association was found between a child's independently assessed security level with mother (using the Attachment Q-Set or the Parental Secure Base Support Q-Set) and the mother's reported child-peer behaviour. Conversely, associations were found between security with mother, as assessed by the 49-item Parental Secure Base Support Q-Set and child-peer behaviour, as reported by the child's nursery staff. Multiple explanations can be offered for this finding. Firstly, a mother would of course have to be present in order to observe their child's peer behaviour. It is likely that a child will behave differently within the presence of the mother when compared to a nursery setting where she is not present. Secondly, as 13 out of the 21 families who participated in the current study were single child families, these parents may have fewer opportunities to observe their child's interactions with peers, compared with families with more than one child, so parents of an 'only child' may not themselves be fully aware of their child's peer behaviours. Additionally, as with self-report measures using the Attachment Q-Set, there is an element of self-diagnosis and social desirability. It is also possible that a parent's self-report measure of their child's social and aggression characteristics might be affected by social desirability (van IJzendoorn et al., 2004). A child's level of security with their mother, as measured by both the 49-item Parental Secure Base Support Q-Set and the 90-item Attachment Q-Set, within the home were found to be associated with peer behaviours away from the mother, as rated by the child's nursery. The more dependent a child was upon their mother (dependency being a separate criterion from security on the Attachment Q-Set), the more reactively aggressive they were. Children who were rated as having a high security level with their mother on the 49-item Parental Secure Base Support Q-Set were rated by their

nursery staff as less excluded by peers, less asocial in their peer interactions and less aggressive.

The finding that child attachment quality is associated with peer behaviours is in agreement with previous research (e.g., deMulder et al., 2000; Erickson, Sroufe & Egeland, 1985; Jacobson & Wille, 1986; Moss et al., 1998; Suess et al., 1992; Park & Waters, 1989; Turner, 1991; Waters, Wippman & Sroufe, 1979). Despite the lack of associations between security and mother reports of the child's peer behaviour, links between sensitivity and Attachment Q-Set security and maternal sensitivity were seen. Additionally, the Parental Secure Base Support Q-Set's security score was found to be associated with the child's peer behaviours within the nursery setting. Given the links between attachment quality in the home and child psychosocial variables, it is possible to reliably assess a child's attachment quality using both Q-Sets during unstructured observations within the home, with all of the family members present. It is not necessary to observe the mother-child dyad in isolation in order to reliably assess a child's attachment quality. It is also not necessary to conduct research within the laboratory or place any behavioural constraints upon mother-child dyads in order to observe attachment. Perhaps most important of all, as explored further in later studies, is that taking research out of the laboratory may be beneficial in extending theoretical knowledge of how attachment strategies are maintained within the home context through caregiver interactions and the presence of other family members.

5.2: Study 2; Attachment in the Home; the Role of the Father

Introduction

There is a dearth of ecologically valid research concerning the role of the father in attachment theory (see Chapter 3). Consequently, relatively little is understood regarding the father's contribution to their child's attachment quality, unlike mother-child attachment. Discordance between paternal attachment assessed in laboratory studies and Q-Set investigations have resulted in a situation whereby father-child attachment is yet to be fully understood. As discussed in Chapter 3, the level of disagreement between laboratory security and Q-Set security is likely due to current laboratory assessments not being adequate tools to tap father-child attachment reliably (Bretherton, 2010; Sagi & Lewkowiez, 1987; Suess et al., 1992; Youngblade et al., 1993). In order to expand the knowledge base on how attachment strategies are created and maintained in a natural setting, the focus of the second study is to investigate the role that the father plays in forming a child's attachment security.

To investigate father-child attachment in a reliable manner within the home, Q-methodologies are appropriate (see Chapter 2). When assessed within the laboratory, father-child security is often a poor predictor of a child's peer competence (Suess et al., 1992). When assessed via Q-Set, the association between security and child peer competence is higher than that assessed in laboratories (e.g., Youngblade et al., 1993).

Despite this finding, research into the role of the father using Q-Sets is in its infancy, out of 133 available studies identified in a meta-analysis (van IJzendoorn et al., 2004) only 9 studies included the father (see Chapter 3). This disproportion of research is not surprising given the traditional adherence to the primacy of the mother-child relationship. Furthermore, all of these nine studies used self report Attachment Q-Sets, which van IJzendoorn et al. (2004) demonstrated in their meta-analysis to be less reliable as a measurement tool than observer ratings. In the first study, it was established that it is possible to use Q-Sets to measure a child's maternal attachment security in an unstructured, home based observation with the whole family present. Building upon this, the second study replicated this approach with the child-father dyad. Child-father attachment was measured and the extent to which the security measured in this setting was associated with paternal sensitivity level and the child's peer behaviours was assessed.

Pleck (2010) argues for the separateness of paternal attachment and maternal attachment, rather than a hierarchy. He argues that good fathering is likely related to interactional patterns, but it has yet to be established what these may be. To further explore the separateness of the father-child relationship from the mother-child relationship it was essential to assess the association between a father's sensitivity level and their child's measured attachment security. If there was no association between the two, any security in the father-child dyad could be argued as being a derivative of the mother-child dyad, independent from any caregiving actions a father may perform (Caldera, 2004). In other words, the child has used his/her secure relationship with their mother as a template for other relationships and any positivity in their relationship with their father is simply a reflection of this. Conversely, if an association exists between paternal attachment security and paternal sensitivity, it can be argued that the father-child relationship is distinct from the mother-child relationship and is a resultant of father-child interaction quality itself. In

addition, to ascertain what links there are between father-child attachment and the child's developing inter-personal skills, it was necessary to include an objective investigation into their child's peer behaviours, outside of the home without the father present. As a consequence the second study used observer ratings to investigate associations between child-father security, paternal sensitivity, father-child interactions and child-peer interactions. Where previous research has measured father-child attachment security and peer behaviours via administering questionnaires to the father (e.g., Caldera, 2004; Kerns & Barth, 1995; Youngblade et al., 1993), the second study instead measured security using observer ratings of both the Attachment Q-Set and the Parental Secure Base Support Q-Set within the home and the child's peer behaviours in the nursery, away from their caregivers.

The current study investigated the role of father in attachment through three research questions: (i) is there any comparability between the two different Q-Sets in their capacity to measure father-child attachment; (ii) would paternal sensitivity in the home correlate with the child's security level, and; (iii) would security measured by either, or both of the different Q-Sets be associated with the child's behaviours outside of the observation? It was expected that without laboratory constraints present, the father's naturalistic behaviours will be readily observable, therefore if any association existed between their behaviours and their child's security, it would be evident. Secondly, if the father-child relationship is indeed a distinct attachment relationship in its own right, it would be associated with the child's peer behaviours.

Results

Attachment Quality with Father

Child-father attachment quality was assessed using both the Attachment Q-Set and Parental Secure Base Behaviour Q-Set. Security ratings on the Attachment Q-Set were between .02 and .62 (mean = .35, SD = .21). Dependency ratings on the Attachment Q-Set were between .05 and .37 (mean = .24, SD = .10). Security with father as rated on the Parental Secure Base Support Q-Set was between .04 and .69 (mean = .45, SD = .26). As with mothers, for tests necessitating group comparisons, the recommended classification of .30 on the Attachment Q-Set (Waters & Deane, 1985) was used. If the child's security score exceeded .30 they were classified as secure (n = 10) and children with scores below this value were classified as insecure (n = 5). The same classification was applied to the Parental Secure Base Support Q-Set to produce secure (n = 10) and insecure (n = 5) groups (Waters et al., 2003).

Paternal Attachment and Sensitivity

Consistent with the analysis for mothers, due to the current sample's age ranging from 1-5 years and the vast developmental spectrum this range encapsulates (Piaget, 1964), it was decided that in order to better understand the associations described that partial correlations would be most effective, controlling for the age of the child. Effect sizes were interpreted using Cohen's (1992) guidelines.

There was no association discovered between Attachment Q-Set security and Parental Secure Base Support Q-Set security. There was an association between father's sensitivity level and security with father as measured on the Attachment Q-Set ($Pr(12) = .52, p < .05$). This indicates that paternal sensitivity and paternal attachment security have a strong

positive relationship, meaning that high levels of paternal sensitivity were very likely to be associated with high levels of child-father attachment quality on the Attachment Q-Set. Similarly, paternal sensitivity and security as measured on the Parental Secure Base Support Q-Set were associated ($Pr(12) = .49, p < .05$). This suggests a moderate positive relationship between paternal sensitivity and paternal attachment quality, so that higher levels of paternal sensitivity were associated with higher levels of child-father attachment security on the Parental Secure Base Support Q-Set.

Father security, as measured on the Parental Secure Base Support Q-Set was associated with dependency, as measured on the Attachment Q-Set ($Pr(12) = .63, p < .01$). This suggests a strong positive relationship with security on the Parental Secure Base Q-Set and dependency as measured on the Attachment Q-Set, meaning that the higher a child's level of dependency on the Attachment Q-Set, it was very likely that they would have high security on the Parental Secure Base Support Q-Set.

Child as Rated by Father

There was an association between peer exclusion and paternal dependency ($Pr(12) = .56, p < .05$). This suggests a strong positive relationship between peer exclusion and paternal dependency, meaning that the more dependent a child was upon their father, it was very likely that the more excluded their fathers would rate them as. Similarly, there was an association between security with father as measured on the Parental Secure Base Q-Set and peer exclusion ($Pr(12) = .56, p < .05$). This demonstrates a strong positive association between peer exclusion and paternal security, so that the more securely attached with their father a child was deemed to be, it was highly unlikely that their father would rate them as excluded, as exclusion rates were inverted.

There was an association between dependency upon father and prosocial peer behaviours ($Pr(12) = -.77, p < .01$). This suggests a strong negative association between paternal dependency and prosocial peer behaviours, so that as levels of paternal dependency rose, it was highly likely that levels of prosocial child-peer behaviours fell, as rated by fathers.

Associations among Fathers' Ratings

Proactive aggression and the extent to which a child was excluded by peers were associated ($Pr(12) = .72, p < .01$). This demonstrates a strong positive relationship between proactive aggression and peer exclusion, so that when fathers rated their children as proactively aggressive, they were very likely to rate them as excluded. Reactive aggression and asocial peer behaviours were also associated ($Pr(12) = .66, p < .01$). This demonstrates a strong positive association between reactive aggression and asocial peer behaviours, so that fathers who rated their child as reactively aggressive were highly likely to rate them as being asocial with peers.

Child as Rated by Nursery

Dependency upon father and prosocial behaviours were associated ($Pr(10) = -.54, p < .05$). This demonstrates that there is a strong negative relationship between paternal dependency and prosocial behaviours, so that the more dependent a child was on their father, it was highly likely that their nursery would rate them as asocial. Security with father, as measured on the Parental Secure Base Q-Set was correlated with prosocial peer behaviours ($Pr(10) = -.67, p < .01$). This indicates a strong negative relationship between security and prosocial child-peer interactions, meaning that the more securely attached a

child was with their father, it was highly likely that their nursery would rate them as being prosocial. It could also be argued that there was a positive association at the trend level between proactive aggression and Dependency ($Pr(10) = .46, p = .067$). Additionally, there was a positive trend level association between proactive aggression and security, as measured by the Parental Secure Base Support Q-Set ($Pr(10) = .44, p = .074$).

Interactional Analysis

Father-child interactions were captured using Bales' analysis. To establish whether children categorised as secure and insecure with their father's general behavioural style within the home differed, a 2 x 4 chi-square analysis was conducted for each Q-Set. While the test for security as measured by the Parental Secure Base Support Q-Set was non-significant ($p = .061$), the test for security as measured by the Attachment Q-Set was significant χ^2 ($df = 3, N = 350$) = 101.13, $p < .001$ (Table 5.2.1). This test revealed that secure children performed more positive socio-emotional actions and less negative socio-emotional actions than insecure children. Secure children also provided less information and requested less information than insecure children.

Table 5.2.1: *Total frequencies of secure and insecure (Attachment Q-Set) children's interactions within the home*

	Positive interactions	Information provided	Information requested	Negative interactions
Insecurely attached to father	6	38	69	53
Securely attached to father	96	17	35	36

To establish whether paternal interactions differed between secure and insecure children, a 2 x 4 Fishers Exact analysis was conducted for each Q-Set.

The test for security as measured by the Attachment Q-Set was significant ($P < .001$, Fishers exact test) (Table 5.2.2). This test revealed that fathers performed more positive socio-emotional actions towards secure children than insecure children. Fathers also provided and requested more information with securely attached children than they did with insecurely attached children. Interestingly, fathers did not perform any negative emotional actions.

Table 5.2.2: *Total frequencies of father interactions with secure and insecure (Attachment Q-Set) children within the home*

	Positive interactions	Information provided	Information requested	Negative interactions
Insecurely attached to father	0	49	7	0
Securely attached to father	49	75	180	0

The test for security as measured by the Parental Secure Base Support Q-Set was significant ($P < .001$, Fishers exact test) (Table 5.2.3). In contrast to the results from the Attachment Q-Set, this test revealed that fathers performed less positive socio-emotional actions and more negative socio-emotional actions towards secure children than insecure children. Fathers also provided and requested more information with securely attached children than they did with insecurely attached children.

Table 5.2.3: *Total frequencies of father interactions with secure and insecure (Parental Secure Base Support Q-Set) children within the home*

	Positive interactions	Information provided	Information requested	Negative interactions
Father with insecure child	32	57	28	0
Father with secure child	17	67	59	0

In order to assess whether overall fathers' Bales' interactions differed quantitatively from overall mothers' Bales' interactions, four separate Mann-Whitney U tests were conducted and were all non-significant (Table 5.2.4).

Table 5.2.4: Overall mother-child and father-child Bales interactions

	Positive interactions	Information provided	Information requested	Negative interactions
Mother-child	4.14 (SD = 3.71)	7.52 (SD = 4.12)	5.62 (SD = 4.96)	0.21 (SD = 0.62)
Father-child	3.33 (SD = 4.20)	8.27 (SD = 5.02)	5.80 (SD = 5.98)	0.00 (SD = 0.00)

Discussion

The degree of child-father attachment security assessed in the current study was consistent with that measured in previous Q-Set research (Bakermans-Kranenburg et al., 2004; Caldera, 1992; Del Carmen et al., 2000; Jarvis & Creasey, 1991; Lundy, 2002). The argument here is that this agreement, in conjunction with the agreement between findings from Study 1 and other research examining child-mother attachment, culminate to demonstrate that the attachment measured in the presence of the family is comparable to that measured in a single dyad. These findings suggest that measuring a child's paternal attachment quality in their home context is a valid approach. As with mothers in the previous study, no association existed between Q-Sets security scores. This finding perhaps demonstrates that while both Q-Sets appear to measure attachment quality, they appear to be capturing separate parts of the attachment construct. For fathers, a child's level of dependency on the Attachment Q-Set was associated with security on the Parental Secure Base Support Q-Set, as was the case for mothers. This lends support to the separateness of the father-child relationship (Caldera, 2004), similar to a secure mother-child relationship, the father-child relationship requires an element of dependency.

In contrast to mothers, where sensitivity was only related to Attachment Q-Set security, as paternal sensitivity rises, so too does father-child attachment on both Q-Sets. The association between sensitivity and security for fathers was actually stronger than that observed in mother-child dyads. It has been suggested previously that sensitivity is not the only variable required for mother-child attachment. With the association for fathers being much higher than for mothers, it would appear that sensitivity does indeed play a role in fostering child-father attachment quality during the pre-school age range.

High levels of paternal dependency (Attachment Q-Set) and higher levels of security (Parental Secure Base Support Q-Set) were associated with low levels of child-peer exclusion. In Study 1, no association existed between mother-child attachment and peer exclusion. This is a noteworthy finding, as it lends support to not only the importance of the father-child relationship, but also to the capacity of the Q-Sets to capture it (Bakermans-Kranenburg et al., 2004; Cutler, 1996; Del Carmen et al., 2000; Kerns & Barth, 1995; Youngblade et al., 1993). The more dependent a child was rated, the less prosocial the child was rated by fathers. In other areas, such as family systems theory, the father is recognised as having a role in facilitating independence (Bakermans-Kranenburg et al., 2004; Rochlen et al., 2008). Rather than this being peripheral to attachment, the Dynamic Maturational Model suggests that dependence upon others is an indicator of insecure attachment (Crittenden, 1992, 1995). The current data then suggest that paternal attachment may contribute to a secure internal working model of attachment (Cooper et al., 2006; Fagan & Barnett, 2003).

Rather than acknowledging the paternal role as a potentially important part of attachment theory, it is normally attributed to the father being a play figure (see Chapter 3). However, a large element of both insecure attachment strategies is the dependence upon others in order to attain self-esteem (Crittenden, 1992, 1995). The findings from the current study

suggest that the role of the father in attachment theory is one which acts to protect the child, a role which acts is potentially more important than previously understood (Lamb, 1977, 2010, 2012). A trend level association was also discovered between security and aggression, as security with father rose, aggression fell. While this finding was non-significant, it is likely that with a greater number of child-father dyads this would become significant. Nevertheless, it could be argued that with aggression being a part of insecure attachment strategies, a secure relationship with a father could potentially reduce a child's aggression levels.

The current data support the validity of assessing paternal attachment via Q-methodology. Without the emphasis on separation-reunion, the nature of the child-father attachment relationship becomes clearer (Bretherton, 2010; John & Halliburton, 2010). In the current sample, child rearing was without exception a shared activity, as all mothers were working. In families where all fathers were equally involved in caregiving responsibilities, the associations of security-sensitivity and security-child peer behaviours were higher than previous research (Caldera, 2004; Kerns & Barth, 1995; Youngblade et al., 1993). Consequently, given the level of paternal involvement in the current study, it appears that low associations between paternal behaviours and their child's attachment quality illustrated in previous research are likely a result of the wide range of paternal involvement, rather than an inability for a father to become a secure base (Bretherton, 2010; Rochlen et al., 2008). In addition, previous research has focused on a younger age range, the type of care necessitated by the toddler age range differs significantly from the type of care that a pre-schooler would require which is far less instrumental and more inter-personal in nature. It is entirely possible that as a child's needs change from neo-natal to inter-personal, the role of the father becomes much more important, thus explaining the higher level of association between security and sensitivity discovered in the current study when

compared to other studies involving younger children. In order to explore this, future research should aim to investigate child-father attachment longitudinally, over the infant-pre-school age range.

In summary, it is evident that a pre-school child's paternal attachment security is related to their father's behaviour and not as some has argued, a derivative of mother-child attachment security. In addition, both mother and the father security are associated with their child's peer behaviours, albeit in a different manner. What is more, if a father's involvement and resulting security does change in concordance with their child's age, it should never be assumed that just because little association is discovered at toddler age, this (low) level of association will inherently persist across the child's future age stages as demonstrated by the current study.

5.3: Study 3; Differences in Family Type; a Further Investigation into Paternal

Involvement

Introduction

The goal of Study 2 was to expand upon our understanding of the father's role in attachment theory by observing father-child interactions directly. Study 3 is predicated by Lamb's (2010) argument that indirect investigations of the father's role can yield additional information to direct observations. Here the attention shifts to investigating differences between children with different levels of paternal involvement. To this end, the goal of Study 3 was to further our knowledge of the paternal role by comparing the psycho-social development of three groups of children, those with an absent father, those with a residential father who was uninvolved in childcare and those with a residential father who was involved in childcare. Involvement is defined in Chapter 3, using Pleck's (2010) re-conceptualisation of the paternal role.

This study is centred upon two arguments, firstly that previous research examining children in different family types have focused on the mother-child dyad (see Chapter 3). Secondly, that previous research has categorised fathers as either present or absent and that it may be more beneficial to categorise fathers as absent, uninvolved and involved (see Chapter 3). Consequently, it has yet to be established what associations exist between different types of fathers, as a function of their involvement and emerging child psycho-social development. Despite the centralness of caregiver separation to attachment theory, little

attachment research has examined the associations between paternal separation and psycho-social development. This is perhaps due to the perceived hierarchy of attachment; mothers are typically elevated to the status of 'primary caregiver', while fathers are often viewed as a support mechanism (Lamb, 1982, 2012; Pleck, 2010). Furthermore, paternal separation may not have been seen as related to the paternal role as a breadwinner, as they have historically been viewed (Lamb, 1977, 2012; Pleck, 2010). However, the data from Study 2 suggest that fathers may play a more central role in attachment than previously understood.

While research concerning fathers over the last four decades has undoubtedly progressed (Lamb, 1977, 2010), the father's role in attachment theory remains unclear. Historically, research has examined family types by comparing children in divorced families to those in intact families (Pleck, 2010). The argument put forward is that this approach may have hindered insights into the paternal role. To assume that children grow up in either intact married families with an involved father or a divorced family with an uninvolved father is false (Amato, 2000; Amato & Dorius, 2010; Amato & Soblewski, 2004; Carlson & McLanahan, 2010). Increasingly, modern families are diversifying, over a third of children are born to unmarried couples (Martin, Ryan & Brooks-Gunn, 2007), half of these fathers will become non-resident by the child's third birthday and their level of involvement may vary (Coley, 2001; Osborne & McLanahan, 2007). Residential fathers are also not a homogenous group, they differ in their level of child involvement (Lamb, 2010). Due to this diversity, categorising families as divorced or intact and correspondingly, fathers as either absent or present, is a flawed approach (Pleck, 2010). For these reasons, the current research categorises families into one of three groups: absent father; residential uninvolved father; and residential involved father.

Much research comparing individuals with and without an involved father has investigated adolescent populations. There is a dearth of obtainable literature which assesses observable differences between pre-schoolers with and without involved fathers. Retrospective research by Hetherington, Cox and Cox (1982) found that adolescents reported their mothers to be more punitive following separation. This change in parenting following spousal separation was associated with later life problems. A later meta-analysis found that adolescents who did not have an involved father often had behavioural and social problems both at home and at school (Amato & Keith, 1991). Previous research concerning the pre-school and school aged years have reported similar findings. A study performed for the National Institute of Child Health and Human Development (NICHD), conducted by Clarke-Stewart, Vandell, McCartney, Owen and Booth (2000) found that children from divorced families scored lower on cognitive, social and behavioural assessments, compared to children in two parent family units. One study using self-reports found in a sample of 28 single mothers of pre-schoolers, that without paternal involvement mothers tend to be less positive in their interactions with their children (Nair & Murray, 2005). It was suggested that as a result of this lack of positivity, their children were less securely attached. Studies such as these assert that differences in development between children in different family types, are a result of spousal separation negatively affecting mother-child interactions (Woodward et al., 2000). However, the authors state that when socio-economic status was controlled for, there was no difference in maternal attachment quality between family types. The goal of the current study was to explore whether differences between children in different family types are explained by either differences in how mothers interact with their children or differences in paternal involvement. This was tested with the employment of observer ratings of attachment security and by comparing single parents to two parent families with similar levels of socio-economic status. The role

that socio-economic status has as a mitigating factor between parental separation and attachment security has yet to be fully explored.

Spousal separation is both an event and also a status variable. It is unclear to what extent later poor development is a result of either spousal separation itself or proceedings following spousal separation. Research by Crockenburg (1981) and later work by Lopez, Melendez and Rice (2000) found that divorce in itself was not a precursor to insecurity, but that divorce could provoke a change in parenting, which may itself impede upon a child's development. In addition, Amato and Dorius (2010) and Lamb (2010) suggest that if poor social or cognitive developmental outcomes occur, as a result of spousal separation, it is likely due to stresses placed upon relationships via economic hardship, caused by a reduction in socio-economic status. Spousal separation does not in itself necessitate a reduction in socio-economic status. The argument put forward is that cross-sectional research comparing groups of low socio-economic status single mothers with high socio-economic status mothers in two parent families can confuse the independent effects of spousal separation with the effects of experiencing financial hardship. By comparing mothers of similar socio-economic status, can researchers confidently separate which, if any, changes in mother-child interactions are associated with separation or a reduction in socio-economic status. By comparing child-mother attachment, mother-child interactions and child development between family types with similar levels of socio-economic status, the current study could assess differences in mother-child behaviour and whether these differences were associated with child attachment and psycho-social development.

An alternative explanation put forward for poorer developmental outcomes amongst children without an involved father is a direct result of the lack of a paternal role model. Research by Dunn (2004) demonstrated a link between the relationship quality with an absent father following parental separation and social functioning. It has been difficult to

relate this finding to attachment due in part to fathers often being altogether ignored in attachment research. A central and consistent argument within the current thesis is that the child-father attachment relationship has been underestimated (Bogels & Brechman-Toussaint, 2006), and is likely a separate entity to that of the child-mother attachment relationship. Obtainable extant attachment bases literature has attempted to explain poor social and cognitive outcomes from a dyadic perspective. The underlying assumption being that that child development can be explained in terms of dyads, normally the mother-child dyad. Such an approach completely ignores the possibility that the cause of poor social and cognitive outcomes could come from outside of the mother-child dyad. The goal of this study was to question the validity of a dyadic approach. As a consequence of the traditional dyadic approach, it is unclear to what extent poor psycho-social outcomes are explained by not having an involved father, rather than changes in mother-child interaction. Associations between child-father attachment quality and peer behaviours were described in Study 2, and research has linked paternal involvement to increased inter-personal cognitive development (Jensen, Lewis & Xenakis, 1986) and sociability with strangers (Lamb, 1982). The argument here is that by comparing children's psycho-social peer behaviours between the three family types, if differences in child development exist where variations in mother-child interactions do not, disparities between children are likely the result of the lack of the paternal role. In discovering these differences, the current study aimed to better understand the father's role and contribution to child development.

Building upon Study 2, in which the paternal role was assessed directly, the goal of Study 3 was to assess the paternal role indirectly by comparing groups of fathers. The current study compares maternal attachment quality and psycho-social interactions between children with fathers categorised as absent, resident uninvolved and resident involved. In a sample where socio-economic status was consistent across family types it was assessed whether

child-mother attachment quality was also consistent across family type. Secondly, it was examined whether maternal sensitivity was consistent across family types. Thirdly, it was investigated to what extent maternal interactions differed between family types. In addition, in order to isolate differences between children in the three groups and thus indirectly assess the contribution of the father, differences in child-peer behaviours between children with an absent father, uninvolved father and involved father were assessed.

Results

Kruskal-Wallis tests were used throughout the analysis. It was established that the Socio-Economic Status of three family types (Absent father, Uninvolved father and Involved father) did not differ significantly [$\chi^2(2, N = 30) = 3.48, p = .18$]. The test to assess whether child-mother attachment quality differed between family types was non-significant $\chi^2(2, N = 29) = 0.49, p = .80$. This indicates that child-mother attachment quality, as assessed by the Attachment Q-Set, did not differ between family types. The test to assess whether there were differences in child-mother attachment quality, as assessed by the Parental Secure Base Support Q-Set was non-significant $\chi^2(2, N = 29) = 2.30, p = .32$. As with Attachment Q-Set scores, Parental Secure Base Support Q-Set scores did not differ between family type. Maternal sensitivity level also did not differ among the three family types [$\chi^2(2, N = 29) = 0.08, p = .96$] (Table 5.3.1).

Table 5.3.1: SES, Attachment Quality and Maternal Sensitivity by Family Type

	SES	Attachment Q-Set	Parental Secure Base Support Q-Set	Maternal Sensitivity
Absent Fathers	3.33 (SD = 0.50)	0.34 (SD = 0.18)	0.55 (SD = 0.10)	6.67 (SD = 2.18)
Uninvolved Fathers	4.00 (SD = 0.63)	0.40 (SD = 0.22)	0.34 (SD = 0.23)	6.50 (SD = 1.64)
Involved Fathers	3.86 (SD = 1.03)	0.36 (SD = 0.20)	0.49 (SD = 0.14)	6.50 (SD = 2.28)

To assess any differences in how mothers interacted between the three family types as rated by Bales' analysis, four tests were performed. The first assessed differences in the amount of positive socio-emotional interactions between child and mother across family types. This test was non-significant $\chi^2(2, N = 29) = 0.64, p = .73$. As was the test for differences in the amount of negative socio-emotional interactions between child and mother across family types [$\chi^2(2, N = 29) = 1.55, p = .46$]. The test of whether there was a difference in the amount of times mothers asked questions was again, non-significant [$\chi^2(2, N = 29) = 0.93, p = .63$]. The test assessing differences in questions answered was significant $\chi^2(2, N = 29) = 8.75, p = .01$. This set of tests indicates that mother-child interactions only differed between family types in the current sample in the amount of information/ direction provided by mothers. A follow up test, controlling for Type 1 error using a Bonferoni approach, indicated that this difference meant that mothers in families categorised as having an uninvolved father provided the most information/ direction to their child. These follow up tests revealed no significant difference in how much information was provided between mothers in families with an absent father and mothers in families with an involved father (Table 5.3.2)

Table 5.3.2: *Maternal Interactions by Family Type*

	Mother positive emotional actions	Mother information provided	Mother information requested	Mother negative emotional actions
Absent Fathers	3.67 (SD = 2.87)	6.56 (SD = 4.36)	4.78 (SD = 3.23)	0.22 (SD = 0.44)
Uninvolved Fathers	3.67 (SD = 2.50)	11.33 (SD = 3.39)	7.17 (SD = 7.52)	0.00 (SD = 0.00)
Involved Fathers	4.64 (SD = 4.66)	6.50 (SD = 3.46)	5.50 (SD = 4.80)	0.29 (SD = 0.83)

To assess any differences in the children's psycho-social peer behaviours, five separate Kruskal-Wallis tests were performed to investigate differences in maternal peer ratings between children from the three family types. The first assessed levels of peer exclusion, as rated by mothers. This test was significant $\chi^2(2, N = 29) = 6.07, p < .05$. This indicates that levels of exclusion are not equal between children in the three family types. A follow up test demonstrated that children with absent fathers had higher levels of exclusion than children with uninvolved or involved fathers. Child exclusion levels as rated by mothers did not differ significantly between children with uninvolved and involved fathers. The test assessing differences in how mothers reported their child's asocial peer behaviours was non-significant [$\chi^2(2, N = 29) = 3.04, p = .22$], as was the test assessing differences in how mothers reported their child's prosocial behaviours with peer [$\chi^2(2, N = 29) = 2.32, p = .31$]. In terms of proactive aggression, no significant differences were revealed between family types [$\chi^2(2, N = 29) = 3.06, p = .22$]. The final Kruskal-Wallis test compared differences in how mothers rated their child's reactive aggression between the three groups. This test was significant $\chi^2(2, N = 29) = 6.07, p < .05$. Follow up tests, controlling for Type 1 error

using a Bonferoni approach, revealed that mothers reported children in both absent father families and uninvolved father families as having higher ratings of reactive aggression than children with involved fathers. These tests indicate that in terms of mother reports of child behaviour, children with an involved father have lower ratings of exclusion by peers and reactive aggression (Table 5.3.3).

Table 5.3.3: *Child-Peer Interactions by Family Type as rated by Mother*

	Excluded by Peers	Asocial	Prosocial	Proactive Aggression	Reactive Aggression
Absent Fathers	2.89 (SD = 0.33)	2.69 (SD = 0.28)	2.48 (SD = 0.41)	2.89 (SD = 0.23)	2.44 (SD = 0.62)
Uninvolved Fathers	2.86 (SD = 0.07)	2.60 (SD = 0.70)	2.28 (SD = 0.23)	2.89 (SD = 0.17)	2.89 (SD = 0.17)
Involved Fathers	2.68 (SD = 0.33)	2.43 (SD = 0.38)	2.27 (SD = 0.40)	2.62 (SD = 0.41)	2.14 (SD = 0.50)

Four Further Kruskal-Wallis tests were conducted to investigate between group differences in how nursery teachers reported child-peer behaviour (Table 5.3.4) but were non-significant for exclusion ($p = .07$), asocial behaviours ($p = .15$), prosocial behaviours ($p = .95$), proactive aggression ($p = .24$) and reactive aggression ($p = .79$).

Table 5.3.4: *Child-Peer Interactions by Family Type as rated by Nursery*

	Excluded by Peers	Asocial	Prosocial	Proactive Aggression	Reactive Aggression
Absent Fathers	1.29 (SD = 0.27)	1.77 (SD = 0.63)	2.36 (SD = 0.28)	2.24 (SD = 0.60)	2.52 (SD = 0.47)
Uninvolved Fathers	1.06 (SD = 0.09)	1.25 (SD = 0.42)	2.30 (SD = 0.19)	2.44 (SD = 0.66)	2.50 (SD = 0.78)
Involved Fathers	1.36 (SD = 0.31)	1.63 (SD = 0.48)	2.35 (SD = 0.44)	1.97 (SD = 0.55)	2.38 (SD = 0.66)

In order to assess whether child interactions in the home differed as a function of family type, Kruskal-Wallis analysis was used. Four separate tests were conducted and all four were non-significant (Table 5.3.5).

Table 5.3.5: *Child Bales' Interactions by Family Type*

	Positive interactions	Information provided	Information requested	Negative interactions
Absent Fathers	4.33 (SD = 4.03)	4.66 (SD = 4.18)	2.33 (SD = 2.78)	6.00 (SD = 6.91)
Uninvolved Fathers	4.00 (SD = 2.68)	7.17 (SD = 6.05)	4.00 (SD = 1.67)	2.17 (SD = 2.48)
Involved Fathers	6.80 (SD = 5.32)	5.60 (SD = 4.34)	4.27 (SD = 4.27)	5.93 (SD = 5.66)

Discussion

Perhaps the most noteworthy finding was that (i) maternal attachment, when measured by either the Attachment Q-Set or the Parental Secure Base Support Q-Set, (ii) more general

mother-child interactions, and (iii) maternal sensitivity did not differ significantly by family type. This finding is in contrast to attachment classifications based on separation/reunion episodes (Clarke-Stewart et al., 2000; Nair & Murray, 2005). Perhaps the most striking finding was that despite there being no significant differences in the mother-child dyad, child-peer interactions did differ by family type. Previous research has found single mothers act in a more punitive manner than their two-parent counterparts (Hetherington et al., 1982). While the current research did not find differences in negative socio-emotional actions, the amount of information provided to children did differ, in that mothers of children with an uninvolved father provided more instructions and direction. Other than information provided, maternal interactions did not on the whole differ between family types.

Although differences in mothers in the three groups rated their children were found, differences between nursery reports were non-significant. A number of nursery staff voiced concerns about their perceived ability to describe any child unfavourably, due to constraints placed upon them by their work environment. This combined with some missing data and small numbers in each group perhaps explains differences in mother and nursery reports of child-peer behaviour. Contrary to previous hypothesising (Lamb, 2010), differences in child-peer behaviours were present when differences in SES were not. Rather than differences in child-peer interactions were associated with the level of paternal involvement and not maternal attachment or maternal interactions. The results suggest that children with absent fathers were rated by their mothers as having higher levels of peer exclusion, compared to children with either an uninvolved, or involved father. In addition, children with an absent father were rated by mothers as having the highest level of reactive aggression, followed by children with an absent father and finally children with an involved father, were rated as least reactively aggressive. Given that no association was

found in Study 1 between mother-child attachment and child-peer exclusion or aggression, it is difficult to argue that mother-child interactions may act to mediate the relationship between paternal involvement and child-peer exclusion/ aggression.

While some authors assert that divorce/separation in and of itself is a risk factor for later life problems (Hamilton, 2000), other researchers have argued that separation itself is not a precursor to later life problems, rather separation may in some families instigate a change in parenting (Lopez, 1987, 1991; Lopez, Melendez & Rice, 2000). It is this potential for change that is has been of interest to attachment researchers. Without a difference in socio-economic circumstance between families, differences in attachment quality were not present. This is an important finding, as being in a single parent family is often viewed as a risk factor resulting in poor developmental outcomes (Lewis, Feiring & Rosenthal, 2000; Weinfield, Sroufe & Egeland, 2000), whereas the data from the current study suggest that this is not necessarily the case. Previous research has suggested that following relationship breakdown, single mothers can act in a more punitive manner than their two-parent counterparts (Hetherington et al., 1982). The current research did not find differences in negative-socio emotional interactions between mothers, this discrepancy can be explained by the lack of reduction in SES experienced by the single parent families in the current sample. The current data indicate that mothers of children with an uninvolved father offer more guidance and information than mothers of children with absent and involved fathers. This finding is plausibly explained by the lack of paternal support, for which mothers of children with an uninvolved father may be attempting to compensate for.

This study extends upon the existing knowledge base relating to the role of the father in child development and specifically attachment theory. A consistent theme within the current thesis is the argument that the child-mother attachment relationship is separate to the child-father dyadic attachment relationship. While the provision of reciprocal support is

well established (Lamb, 1987), the data indicate that the father is not merely a supporting figure for the mother. Were the father to act principally in a support role, and if this support facilitates child-mother attachment quality, the removal of said support would be expected to result in a difference in child-mother attachment between the three groups. However, this was not the case in the current sample.

The data indicate that differences between children are likely the direct result of varying father involvement, rather than changes in child-mother interactions caused by spousal separation. Numerous commentators (Jensen, Lewis & Xenakis, 1986; Lamb, 2010; Pleck, 2010) have noted that the role of the father is to act as a vessel to the outside world, as a facilitator social exploration. The current study supports this claim, whereby without an involved father, children were rated as being more reactively aggressive. These results, when viewed alongside the associations between paternal attachment quality and child psycho-social peer interactions (see Study 2), further demonstrate both the direct and distal effects of child-father attachment quality. The current research elevates the importance of the paternal role in attachment above simply that of a support mechanism for the mother, the findings support the assertion that the father is also the facilitator of exploration (Bogels & Brechman-Toussaint 2006; Jensen, Lewis & Xenakis, 1986; Lamb, 1982; Lamb, 2010). Importantly, the current research did not categorise fathers based on absence vs. presence. As Lamb (2010) asserts, investigating the paternal role in terms of absence vs. presence is a flawed approach. The current research supports this claim, by finding a difference in children between the two groups of residential fathers (uninvolved vs. involved). In this light, residential fathers should not be viewed as a homogeneous group.

Where laboratory based methods have found differences in attachment quality between family types, the current study failed to replicate this using Q-methodology. An explanation

for this discordance is that experiences of maternal separation may differ between children in single parent and intact family types. Accordingly, given the reliance upon separation anxiety in laboratory methods and the relative non-reliance in Q-methodology, the current data support the argument that Q-methodology may be a more appropriate tool for assessing attachment within these families than laboratory based methods.

5.4: Study 4; Maternal Sensitivity and Attachment amongst Siblings

Introduction

Attachment theorists assert that a child develops a secure attachment bond with his or her caregiver as a direct result of experiencing consistent and sensitive caregiving (Bowlby, 1969/ 1982). Above and beyond this, the exact mechanisms underpinning the transmission of attachment security have received far less exploration than other areas of attachment research, such as the links between attachment quality and peer interactions, or a child's adjustment to school (Suess et al., 1992; Styron & Janoff-Bulman, 1996; Weinfield et al., 2000). As a result, whilst the influence and importance of attachment have been well documented, it is less clear how attachment quality and resultant internal working models are transmitted and maintained.

Despite the centrality of caregiver sensitivity to attachment, the associations identified in research between caregiver sensitivity and child attachment quality have been moderate at best since Ainsworth's seminal Baltimore study (Ainsworth et al., 1978; Bakermans-Kranenburg et al., 2003; van den Boom, 1994; Fraley, 2002; De Wolff & van IJzendoorn, 1997). Whilst sensitivity is clearly important, these associations are lower than what may be expected. Due to the low strength of these associations, it is argued that there are other variables which may influence sensitivity and/or impact upon a child's security. Crittenden's (1992, 1995, 2005) Dynamic Maturational Model of attachment places key importance on the child's context in the creation of attachment bonds. Further, Cowan (1997) argues, research into attachment theory can only benefit from expanding the

contextual remit further, for example looking at how other family members such as siblings may influence a child's attachment quality. In the cases where research has gone beyond the laboratory and investigated contextual variables which may account for attachment quality, only maternal correlates have been considered, such as maternal depression and stress (e.g., Frodi, Grolnick & Bridges, 1985). It is argued here that attachment theory would benefit from expanding the caregiving context beyond the mother-child dyad and factors affecting it. This argument is supported by large amounts of unexplained variance in attachment (van den Boom, 1994; Fraley, 2002). To further understand what contextual variables may affect a caregiver's sensitivity level and/or impact directly upon a child's attachment quality, research would logically be best placed within the child's home. With the inception of the Attachment Q-Set (Waters & Deane, 1985), attachment researchers are able to measure a child's attachment quality with either caregiver reliably in the home. Despite calls for more ecological attachment research (Cowan, 1997), advancements in methods (Waters & Deane, 1985) and a theoretical framework provided by Crittenden (1992, 1995, 2005), investigations of the family are in their infancy (Dubois-Comtois & Moss, 2008), this has resulted in a particular dearth of knowledge of factors explaining sibling attachment discordance.

Due to the historical practice of viewing caregiver sensitivity as a personality trait and more recent research demonstrating that a mother's sensitivity and parenting can be predicted by their own childhood attachment experiences (Pederson et al., 1998), concordance in sibling attachment has simply been assumed and has attracted relatively little research. One of the earliest pieces of research to explore siblings and attachment was conducted by Bosso (1985). This study investigated how siblings interact with one another, and whether a child's sibling interactions differed, as a function of their maternal attachment quality. The study consisted of a population of 67 sibling pairs, where the first born sibling was aged

between 18 and 32 months. Attachment was assessed using both the strange situation and maternal self-report Attachment Q-Sets. The main finding was that insecure children were more negative in their interactions with siblings than securely attached children and vice versa. Later research conducted by Teti and Ablard (1989) found that 36% of sibling pairs had discordant attachment ratings. Sibling differences in maternal attachment quality were not a result of their 'sibling status', i.e. age, sex or birth spacing, instead concluding that sibling discordance is likely the result of disparate maternal interactions. However, to date there is little literature which reliably establishes what these differences in caregiving may be.

Sibling attachment discordance unearths a contradiction in attachment theory. There are many reasons for assuming that sibling pairs should have concordant attachment qualities. Within attachment rhetoric, mothers are conceptualised as being sensitive or insensitive to their child's needs. If maternal sensitivity is a stable, psychological trait, both siblings would receive the same level of sensitivity and therefore be similarly secure or insecure. However, this is not the case, as a third of sibling pairs have discordant attachment classifications (Bosso, 1985; Dunn, 1983; van IJzendoorn, 2000). Given that an appreciable minority of mothers have children with different attachment qualities, logically the siblings would have received differing levels of maternal sensitivity.

Several possible explanations exist for sibling attachment discordance. Caregiver sensitivity may not be a personality trait, it may instead be an interactional process. Assuming maternal sensitivity is a personality trait, rather than a process, may function to hinder an understanding of how attachment qualities are formed and why there are differences in attachment quality between siblings. If caregiver sensitivity is a personality trait, it may be moderated by the child by unknown mechanisms. More general interactions other than caregiver sensitivity may explain sibling discordance. With available evidence, it is unclear

which explanation is most appropriate. It is argued that the primary reason for this lack of clarity is that thus far, research has not attempted to measure a child's attachment and a mother's sensitivity in a natural context with both siblings present simultaneously. To this end, when differences between siblings are investigated, rather than looking at birth order alone, differences in maternal interactions between siblings must be investigated, in a natural context. In order to test this argument, the current study was conducted in the child's home, using observer ratings of child-mother attachment quality. In this setting, any difference in maternal sensitivity and mother-child interactions between siblings and their associated attachment security could be explored.

In order to expand upon the existing knowledge base, the goal of the current study was to explore differences in sibling attachment quality. In order to achieve this goal, the current study firstly assessed to what extent maternal attachment quality differed between siblings. Secondly, in order to investigate the extent to which maternal interactions were associated with differing attachment qualities, it was assessed whether maternal sensitivity differed between siblings. In addition, to further explore differences between siblings, specific maternal interaction patterns were assessed to see whether they differed between siblings. Differences in how siblings interacted, both within the home and with peers in a nursery setting were also assessed.

Results

In keeping with the established approach in the literature of comparing younger and older sibling groups, a Kruskal-Wallis test was initially conducted to establish whether there was a difference in child-mother attachment quality (Attachment Q-Set), between older and younger siblings. The test was non-significant $\chi^2 (1, N = 17) = 0.39, p = .53$. The test was

also non-significant when child-mother attachment was assessed via the Parental Secure Base Support Q-Set, $\chi^2 (1, N = 17) = 0.23, p = .63$.

Kappa analysis revealed discordance in maternal sensitivity between older and younger siblings, Kappa = .10 $p > .05$. In terms of maternal interactions towards each sibling, a 2 x 4 chi-square revealed that mothers engaged in more positive socio-emotional actions, more negative socio-emotional actions and asked more questions of younger siblings $\chi^2 (df = 3, N = 204) = 12.93, p = .005$ (Table 5.4.1).

Table 5.4.1: *Total frequencies of mothers' interactions towards each child*

	Positive interactions	Information provided	Information requested	Negative interactions
Younger Sibling	38	51	38	5
Older Sibling	7	55	24	0

To establish whether younger and older sibling's general behavioural style within the home differed, a 2 x 4 chi-square analysis was conducted. This test was significant $\chi^2 (df = 3, N = 282) = 14.43, p = .002$ (Table 5.4.2). This test revealed that younger siblings performed more positive socio-emotional actions and less negative socio-emotional actions than older siblings. Younger siblings also provided more information than older siblings.

Table 5.4.2: Total frequencies of younger and older siblings' interactions within the home

	Positive interactions	Information provided	Information requested	Negative interactions
Younger Sibling	38	36	35	44
Older Sibling	12	26	36	55

Mann-Whitney tests were performed to assess whether younger and older siblings differed in their child-peer interactions. Maternal reports revealed no significant differences between siblings regarding their exclusion by peers ($U = 33.50, p = .79$), asocial behaviours ($U = 54.00, p = .08$), prosocial behaviours ($U = 95.00, p = .17$), proactive aggression levels ($U = 42.00, p = .53$), or reactive aggression levels ($U = 26.00, p = .36$) (Table 5.4.3).

Table 5.4.3: Maternal reports of sibling child-peer behaviours

	Excluded by Peers	Asocial	Prosocial	Proactive Aggression	Reactive Aggression
Younger Sibling	2.79 (SD = 0.30)	2.43 (SD = 0.47)	2.19 (SD = 0.26)	2.70 (SD = 0.33)	2.50 (SD = 0.40)
Older Sibling	2.74 (SD = 0.38)	2.80 (SD = 0.20)	2.40 (SD = 0.40)	2.78 (SD = 0.33)	2.15 (SD = 0.75)

Nursery reports also revealed no significant differences between siblings regarding their exclusion by peers ($U = 33.50, p = .51$), asocial behaviours ($U = 25.50, p = .76$), prosocial behaviours ($U = 39.50, p = .17$), proactive aggression levels ($U = 19.00, p = .28$), or reactive aggression levels ($U = 20.00, p = .34$) (Table 5.4.4).

Table 5.4.4: *Nursery reports of sibling child-peer behaviours*

	Excluded by Peers	Asocial	Prosocial	Proactive Aggression	Reactive Aggression
Younger Sibling	1.19 (SD = 0.20)	1.43 (SD = 0.50)	2.14 (SD = 0.20)	2.20 (SD = 0.66)	2.23 (SD = 0.69)
Older Sibling	1.27 (SD = 0.23)	1.33 (SD = 0.45)	2.38 (SD = 0.33)	1.83 (SD = 0.56)	1.96 (SD = 0.52)

Discussion

Siblings who share a mother would be expected to have comparable levels of attachment security. The current data show a modal norm of concordance in sibling attachment, consistent with previous research (Bosso, 1985; Dunn, 1983; van IJzendoorn, 2000). The level of discordance in sibling attachment was three out of the nine sibling pairs, a level which is again consistent with that described in previous research (Teti & Ablard, 1989). Sibling attachment discordance was not related to birth order. In one sibling dyad, the older sibling was more securely attached, in the other two discordant pairs, the younger sibling was more securely attached. Given that previous research has hypothesised that any differences between siblings are likely the result of differences within the caregiving environment (Ammaniti, Speranza & Fedele, 2005; Bosso, 1985; Teti & Ablard, 1989), the current study included measures of maternal sensitivity and maternal interactions.

Mothers were rated as being more sensitive to the needs of older compared to younger siblings. With maternal sensitivity discordance between siblings, sensitivity is likely not something a mother either has or does not have. Rather, sensitivity is better explained as something that the mother and child perform, as a dyadic process. Why a mother may be more sensitive to one child than another, however, is less clear and requires further exploration. In combination with the discordance in maternal sensitivity, mothers tended

to interact more with younger siblings than older ones. Perhaps in reaction to this lack of sensitivity and intrusive interactional style, younger siblings performed more positive socio-emotional actions and less negative socio-emotional actions. It is difficult with the current data to establish whether differences between older and younger siblings are resultant of the child's age or changes in parenting following the arrival of a sibling. Regardless, the finding that maternal sensitivity differed between siblings is significant. Despite differences in how mothers interacted with younger and older siblings, attachment quality did not differ across younger and older sibling groups. Therefore, it cannot be argued that a child's maternal attachment quality is the direct result of reciprocal interactions within the child-mother dyad alone. Likewise, as maternal sensitivity differed between younger and older siblings, when attachment quality did not, a child's maternal attachment quality is not purely a result of maternal sensitivity. These findings indicate a more contextual conceptualisation of attachment quality than simply the child-mother dyad, as previous authors have theorised (Teti & Ablard, 1989).

The aim of the current study was to explore factors which may explain sibling attachment discordance. Despite ecological advances afforded by triadic observations, the findings suggest that the formulation of attachment quality is more contextual than the current study allowed for. It is likely that the formulation of attachment quality is a multifaceted, contextual process involving not only child-mother interactions, but also perhaps includes how the child perceives interactions between their mother and sibling. Far from a failure to fully understand attachment quality within the family, it is hoped that these findings help provide direction for future research, so that the role of the family in attachment may be further understood. The current data indicates that attachment quality does not appear to be a function of birth order. An explanation for the findings is social comparison processes (Feinberg, Neiderhisen, Howe & Hetherington, 2001), whereby a child's attachment quality

is in part maintained by their perceptions of their sibling's interactions. The application of social comparison processes, if further explored by future larger scale research may constitute to a significant advancement in knowledge. The data raise an important analytical issue when investigating siblings; within group heterogeneity. Due to the level of variance within both older and younger sibling groups, between group comparisons can be limited. Adding further complication, the most secure sibling from one sibling pair could be less securely attached than the least securely attached sibling from another sibling pair. Due to the wide diversity both within and between families, it is difficult to accurately compare secure/ insecure and older/ younger sibling groups with this lack of homogeneity. Before an adequate understanding of sibling discordance can be reached, the issue of within group heterogeneity must be accounted for.

5.5: Study 5; Repeated Measures; Do Changes Over Time Affect Attachment Quality?

Introduction

This study is primarily concerned with the attachment process itself and its maintenance over time, rather than simply measuring the outcome of this process; the child's attachment type. Bowlby (1973) hypothesised that while a child's attachment quality is largely stable, it can be updated with experience. Despite this assertion, many researchers have operated under the assumption that attachment quality is stable (Sroufe, Carlson, Levy & Egeland, 1999). Consequently, relatively little is understood regarding what factors explain change in attachment quality.

Existing investigations into the stability of attachment have largely focused on stability between infancy and adolescence, employing the strange situation and Adult Attachment Interview respectively. Obtainable accounts of stability vary, while several studies have found no stability of attachment between infancy and adolescence (Lewis, Feiring & Rosenthal, 2000; Weinfield, Sroufe & Egeland, 2000), others have found significant stability (Allen, McElhaney, Kuperminc & Jodi, 2004; Lopez et al., 2000; Picardi, Caroppo, Toni, Bitetti & Di Maria, 2005). This body of literature demonstrates that attachment quality is not necessarily fixed, and is as Bowlby hypothesised, subject to alteration. It has yet to be established what events are associated with change in attachment quality and by what processes instability is explained.

Operating under an assumption of fixedness, investigations into explaining instability have focused primarily on the impact of significant events such as the loss of a parent, chronic or

severe illness of parent or child, parent mental illness or parent drug abuse (Hamilton, 2000; Waters, Hamilton & Weinfield, 2000; Waters, Merrick, Treboux, Crowell & Albershein, 2000; Waters, Weinfield & Hamilton, 2000). It has yet to be established that significant life events can reliably account for all instability in attachment, resulting in unexplained variance. An explanation offered is that life events themselves may not alter attachment, but they can impact upon mother-child interactions which in turn may affect attachment quality (e.g., Cook, 2000). As yet, processes that explain what is required to (i) alter mother-child interactions and (ii) what differences in mother-child interactions are related to change in attachment quality, have yet to be established. One of the small number of studies to investigate the extent to which specific changes in caregiving are associated with changes in attachment quality found that parental divorce resulted in the primary caregiver becoming less caring and more restrictive with their children and that it was this change in parenting, rather than a change in circumstance per se, that was related to change in attachment (Woodward, Fergusson & Belsky, 2000). In order to expand upon the literature, the current study included an investigation of changes in caregiving interactions over time, rather than life events alone.

Given the age gap between previous investigations, it is unclear how much apparent instability is accounted for by measurement error. Measures of attachment are age specific (see Chapter 2). As a result, if attachment quality is measured at two different stages of development, is it necessary to use two different attachment measures. Given that the majority of research has assessed attachment stability over large periods of time and consequently used different measures of attachment at either time point, it is unclear what proportion of change in attachment is a result of a lack of agreement between scales. In addition, such an approach only captures attachment quality at each time point, not caregiver interactions which may account for any change in attachment. In order to

account for both of these issues, caregiver interactions should be measured contemporaneously with attachment quality and the same attachment measurement should be used at both time points. The pre-school years represent an appropriate age range within which to place such an investigation. The first piece of research investigating pre-school stability of attachment was conducted by Teti and colleagues (1996), this study found considerable stability across a 12 week period, using 194 families. The study required mothers to complete self-report Attachment Q-Sets before and after the birth of a sibling. Instability in mother-child attachment quality was found to be related to the arrival of a sibling. The current study not only uses observer reports (van IJzendoorn et al., 2004), but expands upon this by placing the investigations six months apart, in order to bring to light other events which may be associated with change in attachment. Later research by Symons, Clark, Isaksen and Marshall (1998) also assessed stability using the Attachment Q-Set in the pre-school age range. This study found that attachment quality was moderately stable, in a sample of 46 children aged between two and five years old. Within this sample, eight children were initially secure and progressed into insecurity, while eight children experienced the opposite. This study was primarily concerned with measuring attachment stability, rather than capturing what changes in caregiving are associated with changes in attachment. That being said, the study did include a measure of maternal socio-economic status and found that mother's employment change was related to attachment instability. Above and beyond maternal socio-economic status, no investigation of the caregiving environment took place. Where the current study adds to existing literature is that previous research has solely investigated the mother-child dyad, the current study includes an investigation into the caregiving context.

While major life events account for a portion of instability in attachment, approximately 20% of individuals whose attachment classification changed between investigations had

not experienced serious negative life events (e.g., Hamilton, 2000). The pertinent issue following this is to establish what type of change in caregiving is associated with change in attachment. The argument here is that attachment instability has yet to be explained as a consequence of the traditional reliance upon a dyadic approach to attachment research. The Dynamic Maturational Model of attachment (Crittenden, 1992, 1995), hypothesises that changes in the context account for changes in the child's attachment. Unexplained variance in attachment stability is likely due to research neglecting the role of this caregiving context (Dubois-Comtois & Moss, 2008). Investigations into the role of the context have only examined maternal correlates, such as long term separation from the mother, maternal depression and maternal drug use (Ammaniti et al., 2005). The role that other caregivers and siblings may play in attachment instability has been altogether ignored. Consequently, that role has yet to be established.

The argument put forward is that retrospective, quantitative research designs are limited in capturing processes underpinning instability of attachment. Observational studies, which include detailed measures of interactions within the whole family, rather than just the child-mother dyad, can be useful in gaining an insight into what role caregiving changes are associated with changes in attachment quality. The goal of the current study was to expand upon our understanding of attachment stability by including a wider investigation of the child's natural caregiving context, by incorporating the whole family in both investigations. The current study also goes beyond previous research by measuring associations between specific maternal and paternal interactional patterns and attachment quality, over time. In addition to observable factors, the current study also includes parental reports of changes in the caregiving environment that occurred between investigations.

In summary, based on previous research where there was stability within the caregiving environment, stability of Attachment Q-Set security was expected (Symons et al., 1998; Teti

et al., 1996). Firstly, it was investigated if any change in attachment quality had occurred, whether this change was associated with a change in caregiving behaviours or contextual changes. Secondly, if any change in attachment quality occurred, it was assessed whether this change was associated with a change in peer behaviour. In order to investigate this, three repeated measures case studies were conducted within the home. At each time interval, the stability of attachment bonds, child/ parent interactions and child peer behaviour were all measured and parents offered a short description of any events which had occurred within the six month gap.

Method

Sample Selection

The sample in this report consisted of 3 Caucasian families, all with their children attending private nurseries in the Nottingham area of the UK. They were drawn from the larger sample used in the previous study. Participants were recruited via mail through their nurseries and were not paid for their participation. All of the families were low-risk middle class and none were at or below the poverty line. None of the families had any known history of abuse or neglect, nor had any of the caregivers ever received a mental health diagnosis.

Family 1 consisted of a married mother and father with 2 children. The father was in full time work, while the mother worked part time. At first investigation the children were aged 48 months and 72 months and were both male.

Family 2 consisted of an unmarried cohabiting mother and father with 1 child. Both parents worked full time. At first investigation their daughter was 22 months old.

Family 3 consisted of a married mother and father with 2 children. The father worked mainly abroad, away from home while the mother worked part time and was responsible for childcare. At first investigation, their daughters were aged 8 months and 36 months. The 8 month old girl was excluded from the analysis due to not meeting the age requirement of the methodologies used (between years 1 and 5).

Results

Family 1

Family 1 remained intact between Time 1 and Time 2, they reported no major life events in-between investigations and reported that their family life had remained stable. Between Time 1 and Time 2, both children's maternal Attachment Q-Set scores rose. Whilst the younger sibling's maternal Parental Secure Base Support Q-Set score rose, the older sibling's actually fell. Maternal sensitivity stayed constant for the younger sibling, but rose for the older sibling (Table 5.5.1).

Table 5.5.1: *Maternal attachment and maternal sensitivity*

Child	AQS Time 1	AQS Time 2	PSBS Time 1	PSBS Time 2	Sensitivity Time 1	Sensitivity Time 2
Younger Sibling	0.02	0.13	0.18	0.28	2	2
Older Sibling	0.24	0.31	0.26	0.09	2	5

Paternal attachment quality, as measured by the Attachment Q-Set fell for the younger sibling in between Time 1 and Time 2. However for the older sibling, there was little change. For both children, paternal attachment, as measured by the Parental Secure Base Support Q-Set saw little change. Paternal sensitivity remained the same for both siblings (Table 5.5.2).

Table 5.5.2: *Paternal attachment and paternal sensitivity*

Child	AQS Time 1	AQS Time 2	PSBS Time 1	PSBS Time 2	Sensitivity Time 1	Sensitivity Time 2
Younger Sibling	0.08	0.18	0.17	0.10	2	2
Older Sibling	0.23	0.24	0.40	0.36	5	5

Compared with Time 1, in Time 2 the younger sibling displayed more positive socio-emotional actions and asked far less questions. The older sibling asked fewer questions and performed less negative socio-emotional actions, by comparison (Table 5.5.3).

Table 5.5.3: *Child Bales' Analysis interactional patterns, Time 1 and (Time 2)*

Child	Positive socio emotion actions	Attempted answers	Questions	Negative socio emotional actions
Younger Sibling	5 (9)	3 (5)	15 (0)	2 (2)
Older Sibling	0 (0)	2 (1)	4 (1)	13 (8)

Compared with Time 1, in Time 2, the mother provided more information, and asked fewer questions of both children (Table 5.5.4).

Table 5.5.4: *Maternal Bales' Analysis interactions, Time 1 and (Time 2)*

Child	Positive socio emotion actions	Attempted answers	Questions	Negative socio emotional actions
Younger Sibling	0 (0)	5 (11)	0 (3)	0 (0)
Older Sibling	0 (0)	1 (8)	0 (3)	0 (0)

Compared to Time 1, in Time 2 the father provided less information and displayed more negative socio-emotional actions to both children (Table 5.5.5).

Table 5.5.5: *Paternal Bales' Analysis interactions, Time 1 and (Time 2)*

Child	Positive socio emotion actions	Attempted answers	Questions	Negative socio emotional actions
Younger Sibling	0 (0)	12 (8)	0 (1)	0 (3)
Older Sibling	0 (1)	4 (6)	0 (1)	0 (3)

Maternal reports indicate a slight increase in asocial behaviours and reactive aggression, but a slight decrease in proactive aggression between Time 1 and Time 2. For the older sibling, a slight decrease in proactive aggression and a slight increase in reactive aggression was seen (Table 5.5.6).

Table 5.5.6: *Maternal reports of child peer behaviours, Time 1 and (Time 2)*

Child	Excluded	Asocial	Prosocial	Proactive Aggression	Reactive Aggression
Younger Sibling	1.43 (1.43)	1.15 (1.71)	1.83 (1.83)	1.67 (1.33)	1.67 (2.17)
Older Sibling	1.14 (1.14)	1.29 (1.29)	2.17 (2.17)	2.00 (1.67)	1.67 (2.00)

Paternal reports indicate that for both children, there was stability in exclusion, asocial behaviours and pro-social behaviours. Both siblings saw a decrease in proactive aggression and an increase in reactive aggression (Table 5.5.7).

Table 5.5.7: *Paternal reports of child peer behaviours, Time 1 and (Time 2)*

Child	Excluded	Asocial	Prosocial	Proactive Aggression	Reactive Aggression
Younger Sibling	1.14 (1.14)	1.57 (1.57)	2.00 (2.00)	2.00 (1.00)	1.00 (2.00)
Older Sibling	1.14 (1.14)	1.43 (1.43)	2.00 (2.00)	1.67 (1.00)	1.00 (1.67)

Family 2

Family 2 reported significant changes between Time 1 and Time 2. Due to issues within the spousal relationship, the couple temporarily separated. Before Time 2, they had reconciled any issues and had reformed a functional relationship. They reported that without the strife which characterised their relationship at Time 1, they felt able to respond more consistently to their child's bids for interaction. At Time 2, following the reconciliation of the spousal relationship, the child's maternal attachment, as rated by the Attachment Q-

Set, rose. This was the largest change in maternal sensitivity out of the three families and saw the child moving from insecurely attached, to securely attached. However security as measured on the Parental Secure Base Support Q-Set fell in between Time 1 and Time 2. Maternal sensitivity remained the same in Time 1 and Time 2 (Table 5.5.8).

Table 5.5.8: *Maternal attachment and maternal sensitivity*

AQS Time 1	AQS Time 2	PSBS Time 1	PSBS Time 2	Sensitivity Time 1	Sensitivity Time 2
0.12	0.56	0.65	0.55	8	8

Between Time 1 and Time 2, paternal security, as measured by the Attachment Q-Set and the Parental Secure Base Support Q-Set increased. This change in attachment quality was the largest seen in the current study and was accompanied by a large change in paternal sensitivity (Table 5.5.9).

Table 5.5.9: *Paternal attachment and paternal sensitivity*

AQS Time 1	AQS Time 2	PSBS Time 1	PSBS Time 2	Sensitivity Time 1	Sensitivity Time 2
0.06	0.66	0.20	0.55	2	8

The investigation at Time 2 was dramatically different from the investigation at Time 1 in terms of the child's interactions. Time 1 was characterised by a large amount of negative socio-emotional actions and only one positive socio-emotional action. Time 2 however saw

a reversal in the pattern with a large amount of positive socio-emotional actions and only two negative socio-emotional actions (Table 5.5.10).

Table 5.5.10: *Child Bales' Analysis interactional patterns, Time 1 and (Time 2)*

Positive socio emotion actions	Attempted answers	Questions	Negative socio emotional actions
1 (14)	1 (2)	0 (2)	22 (2)

There was a higher proportion of positive socio-emotional maternal interactions towards the child in Time 2 than there were in Time 1. There was little difference in other types of interactions between the two investigations (Table 5.5.11).

Table 5.5.11: *Maternal Bales' Analysis interactions, Time 1 and (Time 2)*

Positive socio emotion actions	Attempted answers	Questions	Negative socio emotional actions
1 (7)	12 (10)	2 (2)	0 (0)

There were more positive socio-emotional father-child interactions in Time 1 than Time 2. In addition, more information and opinions were sought, and less information/direction was provided (Table 5.5.12).

Table 5.5.12: *Paternal Bales' Analysis interactions, Time 1 and (Time 2)*

Positive socio emotion actions	Attempted answers	Questions	Negative socio emotional actions
0 (3)	19 (14)	0 (6)	0 (0)

Maternal reports of child behaviour indicated that the child was less excluded by peers, less asocial and more pro-social, at Time 2 than at Time 1. The child's level of aggression, as reported by the mother, remained constant between investigations (Table 5.5.13).

Table 5.5.13: *Maternal reports of child peer behaviours, Time 1 and (Time 2)*

Excluded	Asocial	Prosocial	Proactive Aggression	Reactive Aggression
1.57 (1.00)	1.57 (1.50)	2.67 (2.71)	1.00 (1.00)	1.00 (1.00)

As with maternal reports, paternal reports of child behaviour indicated that the child was less excluded and more pro-social at Time 2, than at Time 1. In agreement with the maternal reports, both proactive and reactive aggression levels remained constant between investigations. However, the paternal report indicated that the child was more asocial at Time 2, than at Time 1 (Table 5.5.14).

Table 5.5.14: *Paternal reports of child peer behaviours, Time 1 and (Time 2)*

Excluded	Asocial	Prosocial	Proactive Aggression	Reactive Aggression
1.14 (1.00)	1.43 (1.50)	2.67 (2.86)	1.00 (1.00)	1.00 (1.00)

Family 3

During the period between Time 1 and Time 2, the family's youngest sibling's (aged 8 months at first investigation) motor skills had improved. As a result of this increase in movement, the mother's attention was split between children far more at Time 2, than at Time 1. Despite this, Family 3 reported stability in the caregiving environment between Time 1 and Time 2. As with Family 1, given stability of caregiving environment, attachment quality as assessed by the Attachment Q-Set, rose between Time 1 and Time 2 (Table 5.5.15).

Table 5.5.15: *Maternal attachment and maternal sensitivity*

AQS Time 1	AQS Time 2	PSBS Time 1	PSBS Time 2	Sensitivity Time 1	Sensitivity Time 2
0.38	0.50	0.67	0.61	8	8

The main difference in child lead interactions between Time 1 and Time 2 was that the child interacted with her mother less often in Time 2, than in Time 1 (Table 5.5.16).

Table 5.5.16: *Child Bales' Analysis interactional patterns, Time 1 and (Time 2)*

Positive socio emotion actions	Attempted answers	Questions	Negative socio emotional actions
11 (7)	8 (4)	8 (6)	2 (2)

As with child lead interactions, the mother from Family 3 interacted with their child less at Time 2 than at Time 1. This, when combined with how often the child interacted with her mother, is likely due to the younger sibling requiring more of the mother's attention in Time 2 than in Time 1 (Table 5.5.17).

Table 5.5.17: *Maternal Bales' Analysis interactions, Time 1 and (Time 2)*

Positive socio emotion actions	Attempted answers	Questions	Negative socio emotional actions
9 (1)	13 (5)	5 (0)	0 (0)

Maternal reports of child behaviour indicated that the child's level of peer exclusion fell, along with pro-social behaviours and proactive aggression. While asocial behaviours remained the same, reactive aggression increased (Table 5.5.18).

Table 5.5.18: *Maternal reports of child peer behaviours, Time 1 and (Time 2)*

Excluded	Asocial	Prosocial	Proactive Aggression	Reactive Aggression
1.00 (1.14)	1.14 (1.14)	2.50 (2.33)	1.33 (1.00)	1.00 (1.67)

Discussion

As expected, where stability within the caregiving context was found there was a tendency towards stability of attachment quality. None of the families reported a life event which could be conceptualised as a significant negative life event (such as the loss of a parent, chronic or severe illness of parent or child, parent mental illness or parent drug abuse). Despite not experiencing such events, between Time 1 and Time 2, two of the six children's attachment classification, as measured by the Attachment Q-Set, changed. It is noteworthy that both of these children's attachment qualities increased over time, seeing them go from being insecurely attached to being classified as securely attached.

In Family 1, where there was stability in the caregiving environment, both children's attachment quality increased between Time 1 and Time 2. It is worth noting that using the standard cut off point for classifying a child as securely attached of 0.30, this increase in maternal attachment quality saw the older sibling become securely attached to his mother at Time 2, whereas the younger sibling remained insecurely attached, despite the increase. This increase in attachment was accompanied by decrease in proactive aggression and an increase in reactive aggression.

For Family 2, the period in-between Time 1 and Time 2 was one of substantial change in caregiving environment. The mother and father had separated and reunited, having resolved their conflict(s). This change in spousal relationship was accompanied by a marked change in child attachment quality with both the mother and the father. In addition, there was a striking change in the child's interactions from Time 1 to Time 2. Time 1 was characterised largely by the child performing an abundance of negative socio-emotional actions and only one positive socio-emotional action. In Time 2 however, this pattern was reversed, with the child displaying an abundance of positive socio-emotional actions and

only two negative socio-emotional actions. In addition, the child's level of peer-exclusion fell and their pro-social behaviours rose. Notably, the mother reported that asocial behaviours fell, while the father indicated that asocial behaviours rose. The finding that improvements in the spousal relationship were associated with an increase in both maternal and paternal attachment quality, and that this increase was associated with more positive interactions is of paramount importance to attachment theory. Furthermore, the data again supports the argument that attachment should be viewed contextually.

In Family 3, despite the mother's attention being increasingly diverted onto the younger sibling in Time 2, whereas in Time 1 the older sibling was the predominant focus of the mother, the older sibling's maternal attachment quality improved with time. This may suggest that despite the decrease in the quantity of interactions, the type of care was sufficient to ensure stability in child-mother attachment quality.

A consistent finding across the sample was that with the increase of attachment quality, there was a decrease in proactive aggression and an increase in reactive aggression. This is perhaps explained in an increase in confidence, as a child's attachment security increases, so does their ability to retaliate to an aggressor. Another consistent finding is that where attachment quality increased on the Attachment Q-Set, it tended to decrease on the Parental Secure Base Support Q-Set. This finding can be explained by the relationship between security scores on the Parental Secure Base Support Q-Set and dependency scores on the Attachment Q-Set (Study 1 & 2), as attachment increases, dependency decreases.

The current data suggest that where stability in caregiving environment exists, a child's security increases, or perhaps becomes more concrete. This finding is in concordance with that of Symons et al. (1998). Findings from the current study suggest that attachment quality is not as stable as once assumed. As Bowlby hypothesised (1969/ 1982) a child's

attachment may be updated as a result of new information and experiences. The data suggest that rather than investigating significant life events per se, changes in attachment may be better understood by looking at changes in interactions, within the caregiving environment. The main focus of research investigating the stability of attachment quality has investigated what events may result in a securely attached child becoming insecurely attached, to date little research has investigated what naturally occurring contextual factors may increase a child's attachment quality. The current data expand upon the knowledge base by demonstrating that attachment qualities can be improved by resolving conflicts within the spousal relationship. The overwhelming majority of attachment research is dyadic in nature, primarily investigating the child-mother dyad. It is important to note that this dyad usually exists within a larger family group. By including the family within the current study, it became clear that events outside the child-mother dyad may influence child-mother attachment quality. This finding lends empirical evidence to Cowan's (1997) argument that including the family in attachment investigations is beneficial to understanding how attachment strategies are created and maintained. Based upon this, it is strongly asserted that future attachment studies should include the family.

5.6: Study 6; Second Repeated Measures Investigation; Case Study

Introduction

The current study took the form of a case study and concerns attachment stability within a single family. The case study involved three separate investigations of a military family, over the period of a year. There is a considerable body of evidence concerning the potential negative psycho-social consequences of family instability (paternal absence and presence) which is commonplace in the military family (Cozza, Chun & Polo, 2005; Drummet, Coleman & Cable, 2003; Jensen et al., 1986; Kelley, Hock, Smith, Jarvis, Bonney & Gaffney, 2001; Vormbrock, 1993). Despite the cycle of separation and reunion in military families, little research directly relates the experiences of military families to child attachment quality. Commonly in military families, it is the father who separates/ reunites with the family, as fathers are seen as largely peripheral to attachment, this may explain why the instability faced with military families has attracted little attachment research. However, given the associations between paternal interactions and sensitivity with a child's psychosocial development (Study 2) and the finding that events within the spousal relationship are associated with a child's attachment quality (Study 5), the current study aims to expand upon the literature by investigating a cycle of military family instability and its relationship with child attachment.

Prior obtainable investigations into the effects of the instability experienced by children in military families have relied on either cross-sectional or retrospective techniques (e.g., Drummet et al., 2003; Jensen et al., 1986). Previous commentators who have lead

investigations into the military family have argued that the cycle of disruption associated with the military family is connected with an increase in psychosocial risks, such as emotional disturbance and behavioural disorders (e.g., Jensen, Lewis & Xenakis, 1986). This psychosocial risk is explained by stressors that mothers in military families face, which are a consequence of the cycle of separation and reunion they often experience. Mothers in families where the father is in a cycle of leaving and returning often experience role adjustment, where they adapt to cope with the demands placed upon them by the departure of their spouse. Such demands include the stressor of being alone, resentment of both the partner and the military and adjustment to being in charge of finances and so on (Kelley et al., 2001; Vormbrock, 1993). The stressors associated with spousal separation may impact upon the mother's interactions with her children, indeed research has demonstrated that following spousal separation, mothers can become more punitive in their interactions (Hetherington et al., 1982).

Patterns of family instability are not unique to military families and nor are many of the stressors faced by them (Cabrera, 2010). While the case study is a military family, cycles of father presence and absence are arguably common to other children. As such, it is argued here that the role adjustment that mothers face in military families is also common to many mothers. Over a third of all children are born to unmarried couples, when unmarried couples do separate, often the child's biological mother and father tend to maintain an on/off romantic relationship (Cabrera, 2010), described as a "visiting" relationship (Carlson & McLanahan, 2010 p.242). While visiting relationships are much more common amongst unmarried mothers and fathers, they also exist in married couples that have separated. This culminates to a situation whereby 40% of children will experience their parents separating, a number of which will at one point experience visiting relationships (Cabrera, 2010; Carlson & McLanahan, 2010). The amount of social support available to military

families and visiting relationships may vary, and the cause of separation certainly varies. Despite such differences, the cycle of paternal separation/reunion and the stressors of role adjustment faced by mothers in visiting relationships may parallel to an extent the experiences of military families.

Where Study 2 investigated the role of the present father and Study 3 investigated the role of the absent father, the current study explores a family where the father is in a cycle of separation and reunion. In a family where the father was in a cycle of being separated from, and reunited with the family, it was investigated what relationship this cycle of instability would have with child-mother attachment quality. In addition, over the three investigations taking place over the period of a year, the mother's level of sensitivity was assessed, alongside her interactional patterns with both children. In order to assess whether any change in attachment stability would be related to a change in child psychosocial behaviour, child interactions, both at home and with peers were also assessed.

Method

Sample Selection

The sample in this case study consisted of one Caucasian family, which participated in three separate observations, over the period of a year, each six months apart. The family was drawn from the larger sample used throughout the thesis. As with all other families, their children attended private nurseries in the Nottingham area of the UK. Participants were recruited by letter, via their nurseries and were not paid for their participation. Like all other families, the family in the current study were low-risk, middle class and were above the poverty line. None of the family members had any known history of abuse or neglect, nor had either caregiver ever received a mental health diagnosis.

The family consisted of a married mother and father with 2 children. The father worked for the armed forces and spent most of the year, during which the investigation took place, on two separate tours of duty (Table 5.6.1). At first investigation, their daughters were aged 24 and 36 months old, the mother was 36 years old and the father was 38 years old.

Table 5.6.1: *Events within the family during the investigation*

	Time 1	Time 2	Time 3
Family state	This investigation took place a week prior to the father returning from the first tour of duty. The mother and both siblings were present.	This investigation took place two weeks after the father had returned from the first tour of duty. The mother, father and both siblings were present.	The final investigation took place a week after the father had departed on his second tour of duty. The mother and both siblings were present.

Results

Despite the level of maternal sensitivity remaining constant for both children across all three investigations, both siblings' attachment quality, as measured by the Attachment Q-Set, fell over the investigations. The Parental Secure Base Support Q-Set shows a different pattern however, the young child's maternal attachment quality was the same at Time 1 and Time 3, but increased at Time 2. However, the older sibling's maternal attachment security, as measured by the Parental Secure Base Support Q-Set rose over the three investigations (Table 5.6.2).

Table 5.6.2: *Maternal attachment and maternal sensitivity*

Child	AQS Time 1	AQS Time 2	AQS Time 3	PSBS Time 1	PSBS Time 2	PSBS Time 3	Sensitivity Time 1	Sensitivity Time 2	Sensitivity Time 3
Younger Sibling	0.61	0.40	0.19	0.38	0.42	0.38	5	5	5
Older Sibling	0.42	0.39	0.38	0.07	0.33	0.57	8	8	8

Both siblings performed more positive socio-emotional actions, gave more information/ more opinion and sought more information at Time 2 than at Time 1 or Time 3. Other than this increase in interaction at Time 2, interactions at Time 1 and Time 3 were consistent, except that there was a slight tendency for the older sibling to perform less negative socio-emotional actions in each observation (Table 5.6.3).

Table 5.6.3: *Child Bales' analysis interactional patterns*

Child	Positive socio emotion actions			Attempted answers			Questions			Negative socio emotional actions		
	1	2	3	1	2	3	1	2	3	1	2	3
Younger Sibling	3	5	4	2	4	5	3	4	3	1	1	1
Older Sibling	4	6	4	5	6	4	6	8	5	2	1	0

Compared with Time 1, at Time 3 the mother engaged in ore compliant, positive socio-emotional actions with both siblings. She provided less information to the older sibling and asked for less information from the younger sibling. At Time 2, the mother generally interacted less with both siblings than at Time 1 or Time 3. The only negative maternal

socio-emotional action was during Time 3 and was directed at the younger sibling (Table 5.6.4).

Table 5.6.4: *Maternal Bales' analysis interactional patterns*

Child	Positive socio emotion actions			Attempted answers			Questions			Negative socio emotional actions		
	1	2	3	1	2	3	1	2	3	1	2	3
Younger Sibling	3	4	6	8	7	8	2	4	4	0	0	1
Older Sibling	1	6	8	11	9	6	6	5	6	0	0	0

Compared with Time 1, at Time 3, the younger sibling became more excluded by peers, more asocial, more prosocial, more proactively aggressive and more reactively aggressive. At Time 2, the younger sibling was reported to be more pro-social than at Time 1 and Time 3. Maternal behaviour reports of the older sibling overall remained largely consistent, except for reporting an increase in reactive aggression at Time 3, compared to Time 1. At Time 2, maternal reports indicate that the older sibling was less excluded and less asocial than at Time 1 or Time 3 (Table 5.6.5).

Table 5.6.5: *Maternal reports of child peer behaviours*

Child	Excluded			Asocial			Prosocial			Proactive Aggression			Reactive Aggression		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Younger Sibling	1.17	1.17	1.50	1.00	1.20	1.40	2.00	2.50	2.17	1.33	1.33	1.67	1.33	1.33	2.00
Older Sibling	1.17	1.00	1.17	1.20	1.00	1.20	2.50	2.50	3.00	1.00	1.00	1.00	1.00	1.00	1.33

Discussion

The main finding within the current study was that in a family which existed in a cycle of paternal presence and absence, maternal attachment quality as measured by the Attachment Q-Set, decreased over the period of investigation for both children. While the older sibling's maternal attachment decreased, the younger sibling's maternal attachment quality decreased to a much larger extent. For the younger child, the decrease in attachment quality was associated with an increase in exclusion by peers, increasing levels of asocial/ prosocial behaviour, and higher levels of both proactive and reactive aggression. While the increase in prosocial behaviours may seem in contradiction to the other findings, it is important to realise that an over reliance on prosocial behaviours and appeasement of others at the detriment to the self, is a descriptor of insecure attachment (see Chapter 1) (Crittenden, 1992, 1995, 2002). This finding adds to the convincing body of evidence which illustrates the influence and importance of attachment quality in child-peer relationships interactions outside of the home. The finding that the detrimental effects were more pronounced in the younger sibling is especially noteworthy and may if further validated, have substantial repercussions. Bowlby hypothesised that the pre-school years are the

period whereby the goal-corrected partnership is being formed (Bowlby, 1969). The older sibling was by the end of the investigation leaving the pre-school period and consequently leaving the stage where the goal-corrected partnership is learned. An explanation for this finding is that the end of the pre-school age range may represent a time whereby attachment quality is becoming more stable than previously. If this is the case, it appears that the pre-school period is perhaps a developmental stage whereby attachment quality is particularly susceptible to change and as the child develops into the school age, their attachment type becomes more stable. Wider scale, longitudinal examinations are required to ascertain whether this finding was unique, or is indicative of an age effect in the stability of attachment quality. In concordance with the previous study, as scores on the Attachment Q-Set increased over time, for the older sibling, scores on the Parental Secure Base Support Q-Set decreased.

It is striking that while maternal sensitivity and mother-child interactions did not markedly change over the year period, attachment security fell for both children. The mother reported feelings of depressed affect towards the end of the investigation, due to the stressors associated with being a member of a military family. Despite these feelings, this did not result in a change in mother-child sensitivity or more general interactions. If the reported maternal depressive symptoms were associated with the reduction in child attachment quality, it is unclear what processes explained this. If maternal and paternal attachments are separate constructs, as the data from Study 1 and 2 suggest, the current data implies that attachment quality may be transmitted via other mechanisms alongside maternal sensitivity. Previous research has found that maternal depression is associated with instability in attachment (Weinfield, Sroufe & Egeland, 2000), the authors assumed that onset of maternal depressive feelings may result in changes in mother-child interactions, however this was not the case in the current study. In view of this, future

research could investigate what mechanisms or factors explain the association between maternal depressive onset and attachment instability.

The finding that even when the family was reunited, attachment quality continued to decline is an important one. Far from being an issue free period, the time surrounding family reunion after a service member has returned from a tour of duty, previous authors argue that this time can be just as difficult as the separation period (Kelley et al., 2001; Vormbrock, 1993). As the father returns, they may be rejected by the children, they may also struggle to fit back into the family, due to the mother's role having changed as a result of separation, they may find that their role has now changed, as well as possibly how the household as a whole is ran.

The association between attachment quality and caregiver environment instability is not just an issue pertinent to the military community. In 'visiting' families (Cabrera, 2010), the cycle of paternal presence and absence could be argued to mirror the experiences within a military family. There are of course important differences between military families and the instability faced in many non-military families. Despite differences which may exist, there may be parallels in the challenges faced by mothers in both military families and non-military families where there is instability in the family dynamic. In concordance with findings from the previous study, the current data indicate that mother-child attachment quality is associated with events that unfold within the mother-father relationship. This again, asserts the importance and influence of the child's whole caregiving context, rather than simply investigating the child-mother dyad. For an overview of the results across all six studies, see Table 5.7.

Table 5.7: *Table to Show Key Findings Across Studies*

Study	Key Findings
Study 1 – The role of the mother in attachment	<p>Positive association between maternal sensitivity and child-mother attachment (AQS).</p> <p>Negative association between child-mother attachment (PSBS), asocial behaviours and child-peer aggression (nursery reports).</p> <p>No association between maternal AQS security and PSBS.</p>
Study 2 – The role of the father in attachment	<p>Positive association between paternal sensitivity and child-father attachment (AQS and PSBS).</p> <p>Negative association between child-father attachment (PSBS) and prosocial behaviours (father reports).</p> <p>Negative association between child-father attachment (PSBS) and peer exclusion (nursery reports).</p> <p>No association between paternal AQS security and PSBS.</p>
Study 3 – Comparison of Family Types	<p>No difference in SES or child-mother attachment between family types.</p> <p>Children with an absent father were rated as having highest peer exclusion (mother ratings).</p> <p>Children with an absent/ uninvolved father were both rated as being more reactively aggressive than those with an involved father (mother ratings).</p>
Study 4 – Siblings	<p>Child-mother attachment discordance in 3/9 sibling pairs.</p> <p>Maternal attachment did not differ between older/ younger groups.</p> <p>Maternal sensitivity and mother-child interactions both differed between older/ younger sibling groups.</p>
Study 5 – Repeated Measures	<p>General increase of attachment security and a decrease in aggression across all four children.</p> <p>2/4 of the children’s attachment classification (AQS) went from being insecurely to securely attached to their mother.</p> <p>No significant negative life event reported by any family.</p> <p>Maternal sensitivity did not differ between investigations.</p> <p>The greatest increase in maternal attachment was in a family where the mother-father relationship improved.</p>

Chapter 6: Discussion

The current research sought to test attachment theory in the family home, to establish how well its concepts translate from the laboratory into the child's natural environment. A consistent argument within the thesis is that while much is understood regarding the importance and influence of a child's maternal attachment quality, less is understood about paternal attachment and what role their context plays in forming their attachment(s).

Attachment quality is commonly explained in dyads, viewed separately from the family (Johnson, 2001; Kozłowska & Hanney, 2002). Child attachment quality within a dyad is most usually categorised via separation/reunion episodes (e.g., Ainsworth et al., 1978). In adopting this approach, previous studies have established the primacy of the mother-child relationship in shaping a child's attachment quality (Lamb, 1977, 2010, 2012). Attachment literature with a focus on the mother-child dyad has provided a wealth of findings highlighting the importance of a child's maternal attachment quality (Bukatko & Daehler, 1995; Fraley, 2002; Fraley & Spieker, 2003; Styron & Janoff-Bulman, 1997). This focus on mothers is largely due to the historic assumption of the mother as the primary caregiver and is based on the level of separation anxiety established in children with stay at home mothers (Ainsworth et al., 1978). While traditional dyadic attachment investigations have demonstrated that maternal attachment is largely stable across the infant-pre-school age range (e.g., Bigelow et al., 2010), research has also revealed unexplained variance in attachment stability, unaccounted for by dyadic approaches (Frosch et al., 2000). Likewise, there is unexplained variance in sibling attachment (Bosso, 1985; Ward et al., 1988) and the role of the father in attachment has yet to be fully established (Lamb, 2010).

The goal of the current research was to expand attachment literature beyond separation/reunion and the mother-child dyad. The argument here is that attempts to include the family in attachment research have been constrained by methodology, principally the strange situation. In recent years there has been a call for a more contextually orientated approach to attachment theory (Akister, 1998; Cowan, 1997; Kozłowska & Hanney, 2002; Lucassen, et al., 2011; Marvin & Stewart, 1990; Rutter, 1995). This has occurred alongside the conceptualisation of the Dynamic Maturational Model of attachment, which views attachment as a functional, learned strategy, rather than simply separation anxiety (Crittenden, 1992, 1995, 2005). Whilst a contextual shift has occurred in theoretical literature and the methodology exists to enable such an approach (van IJzendoorn et al., 2004; Waters & Deane, 1987), empirical work to support the viewpoint is in its infancy. While a number of studies have included the family in some capacity, the argument here is they have rarely been conducted in an ecologically valid manner, as a result, reliable evidence is limited. The current research answered the call for more ecologically valid attachment research. In order to expand upon existing literature, each separate study had a common goal. This shared goal was to venture beyond measuring a child's attachment quality and to further our understanding of associations between a child's family and their attachment quality.

Why go outside of the Laboratory?

In their meta-analysis, de Wolff and van IJzendoorn (1997) found the mean association between maternal sensitivity and attachment quality was 0.24. They argued that the closer the setting in which attachment was measured, was to the original Baltimore study (Ainsworth et al., 1978), the higher the association was between sensitivity and attachment

quality. Accordingly, to explore the role the family plays in attachment quality, the decision made to place the investigation in the home and measure attachment via Q-methodology. In addition to enabling the use of Q-methodology, placing the research in the home also allowed the observation of naturally occurring interactions which may explain variance in attachment. The primary benefit of a home based approach was that paternal attachment could be explored. In an attempt to expand attachment theory, previous researchers have examined the father's role in attachment (Lamb, 1977, 2010). Having established the centralness of sensitivity to attachment in stay at home mothers (Ainsworth et al., 1978), attempts to find the same association in paternal attachment have yielded inconsistent results (Pleck, 2010). A central argument within the thesis is that comparing levels of separation anxiety with modern caregivers, especially working fathers, against baselines established in mothers during the mid 20th Century may be a limited rationale. Accordingly, commentators have suggested that the strange situation may be less appropriate a measurement tool for use with working caregivers (Bretherton, 2010). In support of this, research by Braungart-Reiker and colleagues (1999) found no association between sensitivity and separation anxiety in a sample of working mothers. The current research explored the argument that observer rated Q-methodology used in the home may be more appropriate for working caregivers than the strange situation. The finding that in the home, a strong association was found between paternal attachment and sensitivity supports this argument.

In addition to laboratory based work failing to establish the paternal role, there are also uncertainties regarding attachment quality in siblings. Despite a trend towards concordance in sibling attachment classifications, up to a third of sibling pairs have been seen to have discordant classifications (Bosso, 1985; Dunn, 1983; van IJzendoorn, 2000; Ward et al., 1988). Studies thus far have suggested that a possible explanation for

incongruence is differences in caregiver interactions (e.g., Kowal et al., 2004). Additionally, Jaffe, Beebe, Feldstein, Crown and Jasnow (2001) showed differences in home and laboratory mother-child interactions, demonstrating that there may be issues with relying solely on laboratory approaches to explain sibling attachment discordance. By placing the current research within the home and using triadic observations, advances in knowledge related to sibling discordance were made.

Why include the family?

Dyadic approaches often ignore the complexity of family dynamics a child may experience. Caregiver-child relationships exist within a wider family context which is rarely accounted for (Kozłowska & Hanney, 2002; Lamb, 2012). This thesis explored the assertion that to further our understanding of attachment, research must embrace the call for an ecologically valid approach to research. By observing the family, it was expected that some of the previously unanswered questions within attachment quality would be clarified.

The first logical step towards including the family in attachment theory was the inclusion of the father. Historically attachment research has often ignored fathers (Lamb, 1977, 2010). For example, previous studies have observed poor social and cognitive outcomes in children with single parents and have explained this in terms of spousal separation having the potential to disrupt the child-mother attachment relationship (Amato, 2000; Amato & Dorius, 2010; Amato & Soblewski, 2004; Coley & Medeiros, 2007; Greene & Moore, 2000; Martin et al., 2007; Tamis-LeMonda et al., 2004). Such an explanation wholly neglects the father-child relationship. Furthermore, research which has investigated father-child relationships has produced inconsistent findings. While some research investigating paternal contributions to child development have found links between father-child

interactions and the child's aggression levels and peer exclusion, thus far it has been difficult to relate these concepts to attachment theory, due to historic low associations between paternal sensitivity and attachment quality (Caldera, 2004). In their meta-analysis, de Wolff and van IJzendoorn (1997) found that the association between sensitivity and attachment quality is greater for mothers (0.24) than fathers (0.13). Given this discordance, some researchers have concluded fathers may not be as central to the child's attachment quality as the mother (Braungart-Reiker, Courtney & Garwood, 1999), instead conceptualising the paternal role as being that of a playmate or a secondary caregiver (Lucassen et al., 2011). Since the inception of attachment theory in the 1960's, there is a greater degree of plasticity of the paternal role in child development and for many, the nature and quantities of father-child interactions have changed (Pleck, 2010). Accordingly, fathers do not present as a homogenous group and this heterogeneity should be considered when investigating father-child relationships. By accounting for the role of paternal involvement, advancements in knowledge were made regarding the potential importance of paternal attachment.

The second necessary step towards contextualising attachment was the inclusion of siblings. In studying sibling attachment, the primary mode of investigation in the literature and the approach adopted in the current study was to investigate older and younger sibling pairs. This is an accepted approach for a number of reasons; firstly the "transition to siblinghood" (Volling, 2005, p. 542) has been seen as a time of risk in attachment, as caregiver attention shifts towards the younger sibling. As a result, the arrival of a sibling has been linked to areas of poor adjustment, such as regressive behaviour, anxiety, and confrontation (Stewart, Mobley, Van Tuyl & Salvador, 1987). Secondly, there is also evidence to suggest that younger siblings are often slightly favoured by their mothers (Richmond, Stocker, & Rienks, 2005). The time period of adjustment following the arrival of

a sibling may also prove problematic for the older child and is characterised by individual differences, but what these may be and how they relate to attachment quality, has yet to be identified (Volling, 2005). Despite these findings, where discordance in attachment has been found, it has not been associated with birth order (Bosso, 1985; Dunn, 1983). An explanation offered for discordance in sibling attachment quality is that it is likely the result of differences in caregiver interactions (Ward et al., 1988). This explanation presents itself as a conundrum, as it is unclear whether this constitutes to differences in caregiver sensitivity or other, as yet unidentified interactions related to attachment. If caregiver sensitivity differs between siblings, it has yet to be established why this may be the case. In addition, if there are additional caregiver interactions that are associated with attachment quality, which are separate from sensitivity, these have also yet to be established.

In order to establish the reasons for sibling discordance, triadic observational data are appropriate (Johnson, 2011) and were used in the current research. Sibling discordance in attachment was explored by comparing attachment quality between siblings, differences in how each child interacts within their family and how their mother interacts with both siblings when viewed as a triad. Study 4 thus represented the first attempt in obtainable literature to qualitatively investigate triadic child interactions, caregiver interactional patterns, maternal sensitivity and child attachment quality contemporaneously, while the mother and both of her children interacted simultaneously in the home.

Following the inclusion of the father and siblings, it was then necessary to see how changes in family dynamic were related to changes in attachment quality. There has been much debate over the degree of fixedness of a child's attachment quality and the resulting level of determinism in attachment theory (Hamilton, 2000; Waters, Hamilton & Weinfield, 2000; Waters et al., 2000; Waters, Weinfield & Hamilton, 2000). While previous research has found links between attachment quality decreasing and maternal significant negative

life events, there remains unexplained variance (Lewis, Feiring & Rosenthal, 2000; Weinfield, Sroufe & Egeland, 2000). It has yet to be established how much of this unexplained variance in attachment stability is accounted for by changes in the family, rather than events experienced by the mother. In addition, there is a dearth of research which demonstrates natural instability which functions to increase, rather than decrease, a child's attachment quality.

What has been learned?

The contents of this thesis expand our understanding of attachment in the pre-school years by demonstrating that including the family in attachment research produces a comprehensive insight into attachment. A child's attachment quality has influences beyond that of the mother-child dyad. By isolating dyads and measuring attachment purely in terms of separation anxiety, research ignores the diversity of families and the contextual element of a child's attachment quality. It is argued here that there remains much more to learn by adopting a family based approach in future research (Kozłowska & Hanney, 2002).

The findings from Study 1 suggest that it is possible to measure a child's maternal attachment quality with Q-Sets in their home, without the need to separate the mother and child from the family. Specifically, the degree of mother-child security assessed within this context, and the proportion of children classified as secure/ insecure, which were found to be strikingly similar to that established in laboratory contexts (de Wolff & van IJzendoorn, 1997; van IJzendoorn et al., 2004). Not only that, if studies aim to investigate how attachment quality is maintained, the home may represent a superior context within which to base research, compared to a laboratory. As Bowlby (1966/1982) argued, attachment qualities are maintained via natural interactions between children and their

caregivers within their natural environment. Crittenden (2005, 2008) asserts that by investigating natural interactions, we are able to further understand attachment strategies. The current data support the argument that it is fundamentally no longer necessary to isolate a dyad in order to measure a child's attachment quality to a specific caregiver.

Central to maternal attachment is sensitivity (Ainsworth et al., 1978; Bowlby, 1969/1982; Crittenden, 1992, 1995). The current data suggest that caregiver sensitivity should be viewed as a process, not a personality trait. Equally as important as the decision to place the investigation within the home, was the decision to allow the caregivers and children to act in a normal manner, without a researcher present. Through opting for unstructured observations, the association between maternal sensitivity and child-mother attachment was far stronger than identified in laboratory settings (van IJzendoorn et al., 2004). The mean association between caregiver sensitivity and child attachment quality, as assessed via the Attachment Q-Set, has been reported to be 0.24 (de Wolff & van IJzendoorn, 1997), the strength of association in the current data was more than double this, for both mothers and fathers.

Using laboratory approaches, previous research has typically described differing levels of attachment quality between: children with working mothers and stay at home mothers; mothers and fathers and; children in different family types (see Chapter 3). While all the children in the current sample were in some form of child-care, the level of attachment quality was remarkably similar to populations in the literature who were not in childcare (de Wolff & van IJzendoorn, 1997; van IJzendoorn et al., 2004). Also noteworthy was the finding that maternal attachment quality did not differ between children with single parents or two parents. A key argument here is that differences in separation and reunion may not necessarily equate to differences in attachment quality. The data gathered within the thesis support this argument. Viewing attachment purely as separation anxiety rather

than a functional, coherent strategy wholly neglects the dynamics of many family types. Currently the strange situation is the most used research tool in attachment, a procedure that categorises children based upon their separation/reunion anxiety. The current data have indicated the advantages of assessing attachment quality in the home using Q-Sets, suggesting that laboratory based separation/ reunion episodes are no longer necessary. As such, the strange situation may have been shown to be limited in certain circumstances.

By not using the strange situation to investigate child-father attachment, advances in understanding the potential importance of paternal attachment were made possible. Chapter 3 discussed previous research measuring child-father attachment via the strange situation, which has shown inconsistencies in associations between paternal attachment, child behaviour and paternal sensitivity. The current data show no such inconsistencies. It is argued that this is largely due to two reasons. Firstly, the current research acknowledges the heterogeneity of fathers. Rather than researching fathers as a single group, the research instead categorised fathers into three groups, based upon Pleck's (2010) re-conceptualisation of fathers. As such, the interactions of fathers classified as involved were investigated directly while uninvolved and absent fathers were investigated indirectly. Secondly, it has been suggested by previous commentators (e.g., Bretherton, 1985, 2010) that due to the strange situation's emphasis on episodes of separation and reunion, it may not be an appropriate tool for investigating child-father attachment, the current research lends empirical evidence to support this claim. Due to the decisions made in the current thesis, it is argued that a more robust investigation of child-father attachment was made possible.

The results presented here suggest that fathers may play a more central role in attachment to that previously accepted. The data suggest that fathers may act as attachment figures in parallel with mothers and are not as previously conceived, either simply a breadwinner, a

support role for the mother or a stand in caregiver. By including fathers appropriately, a greater understanding of paternal attachment was achieved. While some previous research promotes the father as a secondary caregiver (Amato & Dorius, 2010; Crockenberg, 1981; Lopez, Melendez & Rice, 2000), a comparison of children's attachment quality with their mother and father revealed no significant differences. Similarly, specific caregiving interactions associated with secure attachment were found to be similar for mothers and fathers. These findings support the argument that there are issues when considering a hierarchy of attachment caregiver. As Lamb (2010) has argued, research has historically focused on the differences in how mothers and fathers interact with their children and has largely ignored similarities in caregiving. This approach has polarised parents and arguably contributed to unnecessarily marginalising fathers as caregivers.

Research has supported the marginalisation of fathers by demonstrating a weak link between paternal sensitivity and separation/ reunion behaviour (Belsky, 1983; Caldera et al., 1995; Easterbrooks & Goldberg, 1984; Grossmann & Grossmann, 1992; Rosen & Rothbaum, 1993; Volling & Belsky, 1992). Far from sensitivity being unrelated to paternal attachment, the results show that child-father attachment quality was highly related to levels of paternal sensitivity, even more so than for mothers. Furthermore, child-father attachment quality was associated with peer interactions in a different manner to that of child-mother attachment quality, suggesting a duality of attachment, hitherto undiscovered. It was expected that given associations between paternal interactions and child aggression levels (Amato & Dorius, 2010; Crockenberg, 1981; Lopez, Melendez & Rice, 2000), that as child-father attachment rose, levels of proactive aggression levels would fall. This association was only trend level, likely due to the relatively small number of child-father dyads investigated. The conclusion made from this is that not only is paternal

attachment separate from maternal attachment, it also contributes to the child's psychosocial development in a complimentary manner to maternal attachment quality.

In addition to directly observing involved fathers, an indirect investigation of the paternal role took place in Study 3. While previous studies have offered explanations for poor social and cognitive outcomes identified in children without involved fathers, it has been difficult to ascertain what proportion of these outcomes are due to socio-economic status, or differences in the mother-child dyad, or a lack of paternal interactions (see Chapter 3). In a sample where socio-economic status was stable across family type, child-mother attachment was also stable. It was also found that child-peer interactions differed between family types. Differences in aggression and exclusion levels between children were related to their level of received paternal involvement, not differences in maternal attachment or mother-child interactions. Based upon this, it was concluded that poor social and cognitive outcomes in children in single-parent families are potentially the result of the lack of a paternal relationship, rather than socio-economic status or the child-mother dyad suffering as a result of mother-father separation. The associations between paternal attachment and child-peer interactions described in Study 2 support this argument. By venturing beyond the mother-child dyad, these advancements in knowledge were made possible. It is hoped that one positive outcome of the research is to highlight the benefits that simply including families and specifically fathers in attachment research can yield.

Expansions in knowledge resulting from an integrative perspective were not restricted to paternal involvement. The research contained within this thesis also expands the literature on sibling attachment discordance. Consistent with previous research (Bosso, 1985; Dunn, 1983; Teti & Ablard, 1989; van IJzendoorn, 2000; Ward et al., 1988), discordance in attachment quality was found in a third of sibling pairs. The data suggest that discordance in sibling interaction may not be due to differences in either caregiver sensitivity or

differences in mother-child interactions alone. Based on this finding, it is likely that a portion of unexplained variance in attachment is more contextual than previously thought. With the current data, a firm conclusion regarding attachment discordance in siblings is difficult to make. A possible explanation for sibling discordance is that siblings engage in social comparison processes (Feinberg et al., 2001). Social comparison processes are when children “compare the amount and type of information they receive from parents, relative to their siblings, as a way to gauge the quality of their relationship with their parents” (Kowal et al., 2004, p. 664). As yet, social comparison processes have not been related directly to attachment theory, due to the traditional dyadic approach. The current data indicate that not only is it possible to measure a child’s attachment quality with their sibling(s) present, a contextual approach may actually be more valid and thus preferable in researching siblings than isolating dyads. This is due to previous research asserting that mother-child interactions are altered by the presence of siblings (Bryant, 1982; Johnson, 2001), suggesting that triadic observations may be more ecologically valid than dyadic observations. This reasoning is supported by the effect size between caregiver sensitivity and attachment quality was greater than that found in dyadic, laboratory based measurements.

Further to expanding knowledge on fathers and siblings, including the child’s caregiving context has implications for understanding the stability of attachment quality over time. In a non-clinical population it was found that there was a trend of stability and that instability in attachment was related to changes in caregiving context, rather than negative life events experienced by the mother. The current data suggest that it should not be assumed that a child’s attachment is necessarily stable when no such negative event occurs. Data gathered in Studies 5 and 6 lend empirical evidence to previous theorising (Volling, 2005), by identifying that a proportion of instability of attachment was explained in terms of issues

related to the spousal relationship, rather than negative life events. A finding with valuable implications for the understanding of attachment stability was the finding that in a family characterised by spousal conflict, the child was insecurely attached. Six months later when the spousal conflict had ceased, the child was found to be securely attached to both mother and father. The results indicated a proportion of change in attachment was associated with improvements in the mother-father relationship. This finding suggests that both attachment theory and attachment interventions could benefit from adopting a more family orientated perspective.

Implications and Applications of the Findings

In addition to expanses in knowledge, the findings contained within this thesis may have societal implications. Historically, attachment research has elevated the mother to the status of primary caregiver. It is evident that a perceived hierarchy of parenting exists in both research literature and also in wider society (Lamb, 2012). One consequence of these perceptions is that when a child is taken away from the mother for safety reasons, they are almost always placed with the maternal grandmother (Dowdell, 2004). Fathers can be overlooked in access proceedings, arguably due to perceptions about their limited capacity for parenting compared to mothers. The current data indicate that the notion of an attachment hierarchy may not hold true and has provided a re-conceptualisation for fathers and their perceived capacity for parenting. Given the role of research in forming societal perceptions, it is hoped that further research adopt a similarly integrative stance.

A failure to take the importance of the unique family sub-systems into account when designing attachment interventions is argued here to be a failure to maximise the intervention's chance of success. For example, equipping a new mother with improved

parenting skills could be undermined without support from her spouse. If the father is not included, by definition they are excluded and as a result they are less likely to understand and appreciate the importance of the new teachings (Chandler & Field, 1997). Additionally, siblings, education, employment etc which can limit a caregiver's ability to respond effectively to the child could all have an impact on the success of any intervention and thus should be taken into consideration. The data from Study 6 showed that instability in caregiving context was associated with a greater change in attachment quality in the younger child. Further research should aim to investigate if this is still the case in a much larger sample size. If it is found to be the case that fixedness is related to age, interventions may be best aimed at certain age groups.

The findings have potential implications on the issue of paternal rights. Fathers can find themselves excluded from activities such as midwife visits and also enjoy few paternal rights, such as paternity leave and unwed fathers experience a particular lack of paternal rights (Nolan, 2004). Where paternal rights have been discussed, in particular access rights, the pertinent issue has been one of equality (e.g., Shanley, 1995). The assertion thus far has been that a father's access to their child is in the foremost interest of the father, rather than being advantageous for the child. This perception is associated with inconsistencies regarding the paternal role in child development. The current data indicate that where there is an involved father, characterised by warm and consistent caregiving, the child experiences less peer exclusion and a reduced rate of aggression. The influence of child-father attachment, if explored comprehensively, may necessitate a shift in understanding the issue of access rights. The current data implicate the father's role in mediating peer exclusion and aggression in childhood. It is argued that the findings regarding pre-schoolers described in the current thesis are perhaps the first step towards later life problems in children without a father present identified in other research (Amato & Keith, 1991; Clarke-

Stewart et al., 2000; Hetherington et al., 1982; Nair & Murray, 2005; Woodward et al., 2000). Over a third of children are born into unmarried families and half of these fathers will be non-resident before the child's third birthday (Coley, 2001; Martin et al., 2007; Osborne & McLanahan, 2007). With an increase in non-marital births (Martin et al., 2007), coupled with a dearth of paternal rights for unmarried fathers, issues surrounding poor social and cognitive outcomes in children lacking paternal interactions are likely to worsen with time (Carlson & McLanahan, 2010). This is not to suggest however that paternal involvement is an issue of simply absence vs. presence, it is not. Indeed as the current study found, fathers can be resident and uninvolved. Likewise, fathers can still be involved, without having to be resident, using Pleck's (2010) criteria for paternal involvement.

The findings have applications relevant to psychological practise, in addition to implications for how fathers are perceived in society. Attachment interventions have focused primarily on the mother-child dyad away from the home, often with limited success (Mercer et al., 2003; Zilberstein, 2006). This lack of success can be explained in terms of environmental factors that can act as barriers to caregiver sensitivity, such as poor spousal relations not being accounted for during interventions. In contrast to some attachment interventions which exclude not only fathers but the entire caregiving context, the current data indicate that it may be possible to improve a child's insecure attachment by resolving mother-father issues. It is hoped that an implication of the current research is the broadening of how we understand attachment formation, moving away from isolating dyads towards contextual, more ecologically valid investigations. By adopting a more family orientated approach, attachment interventions have a far greater chance of successfully improving a child's attachment. The argument put forward is that until attachment interventions shift towards a more family orientated approach, their effectiveness is likely to be limited. It is possible to measure attachment within the home using Q-Sets, it is also possible to identify

probably causes of low attachment quality contemporaneously, providing researchers with a platform from which to develop interventions. Given the influence of attachment in later life adjustment, it is argued that the results from the current thesis be used to influence the facilitation of positive attachment qualities, in order to avoid any potential repercussions associated with poor attachment later in life.

Future Research

While the current data have answered many questions and provided valuable insights, they have also raised several questions and provided new directions for future research. To date no obtainable literature has directly compared the Attachment Q-Set and Parental Secure Base Support Q-Set. Consequently, the current data represents the first attempt to use both the Attachment Q-Set and the Parental Secure Base Support Q-Set contemporaneously. As both sorts are attachment measures, it was expected that scores on the Security criterion of the Attachment Q-Set and the Parental Secure Base Support Q-Set scores would be associated, however this was not the case. Parental Secure Base Support Q-Set scores were associated with peer behaviours, but not parental sensitivity. Conversely, Attachment Q-Set scores were associated with parental sensitivity, but not the child's peer behaviours. Given that the Parental Secure Base Support scores were associated with the Dependency criterion of the Attachment Q-Set, it is likely that both Q-Sets are tapping into the attachment construct in different ways. Findings from the studies concerning stability found that as attachment security scores on the Attachment Q-Set increased over time, scores on the Parental Secure Base Support Q-Set actually decreased. In addition to the lack of association between Q-Set scores, data from the stability studies demonstrated that as Attachment Q-Set scores rose over time, Parental Secure Base

Support Q-Set scores fell. Given the lack of research using the Parental Secure Base Support Q-Set, it is difficult to explain this situation with a degree of certainty. However, several speculative explanations can be offered. It is plausible that both measures are actually assessing different dimensions of the same security construct, as evidenced by the difference in how the two security scores correlate differently with sensitivity and peer behaviours. Notwithstanding, it is clear that the Parental Secure Base Support Q-Set is not measuring attachment quality in a comparable fashion to the Attachment Q-Set. In addition to exploring the disagreement between the two scales, it would seem that future research could explore utilising both Attachment Q-Sets, in order to capture more of a child's attachment strategy than either Q-Set alone can.

The findings regarding sibling discordance call for further research. Both maternal sensitivity and interaction patterns differed between older and younger sibling groups. Specifically older siblings received higher levels of sensitive care and younger siblings received more positive socio-emotional actions. Despite this, these differences did not account for attachment discordance. The data suggest that discordance is a more complex issue than simply differences in interactions. It is unclear how much of the variance in sibling attachment is associated with differing maternal interactions, differences in sensitivity or social comparison processes. With the current sample size, it is impossible to reach any firm conclusions. It is also difficult to explain why differences in mother-child interactions and sensitivity exist. This exploratory study has shown direction for further research. A potential avenue for future research is to ascertain why it might be the case that when maternal sensitivity differs between siblings, this does not necessarily mean differences in attachment. Larger scale, more extensive longitudinal family based work is needed, using multiple time points to tracking individual trajectories, with an appropriate multi level modelling approach (Volling, 2005). While establishing differences in

interactions and sensitivity between siblings is non-problematic, researching social comparison processes within the pre-school age range is more challenging. The pertinent issue in social comparison in sibling differences is not differences in treatment necessarily, it is the individual's appraisal of fairness that is most pertinent (Feinberg et al., 2001). Parents do not therefore need to treat siblings the same, they need to treat them in a way that is perceived as fair. Accurately investigating the concept of fairness in a pre-school sample may require careful consideration. The current findings bring into view a further complication for studying siblings, the notion of within group heterogeneity.

The historical approach to investigating sibling attachment is by group analysis, usually by age, rather than investigating differential mother-child interactions between siblings (e.g., Bosso, 1985; Dunn, 1983; Ward, Vaughn & Rob, 1988). However, group analyses (whether by older/ younger or least/ most attached siblings) have not been shown to explain attachment discordance in siblings, in either the current thesis or previous research. The lack of investigations into differential mother-child interactions is perhaps explained by the assumption that a shared mother equates to a shared caregiving environment (e.g., O'Connor & Croft, 2001).

The current data suggest that the assumption of a shared environment is flawed, as siblings were shown to often experience markedly different mother-child interactions to one another. Rather than focus on sibling groups, it is suggested that future research should examine how mothers interact with siblings in concordant and discordant sibling pairs. One potential method that future researchers could use to explore the role that differential sibling mother-child interactions experienced play in attachment discordance is sequential analysis, whereby discrete temporal sequences of events are described using contingency tables (Bakeman & Gottman, 1986). Sequential analysis has seen limited use in attachment research in childhood and thus far has only been applied to investigating the maternal

reports of emerging attachment behaviours of adoptees during early infancy (Stovall & Dozier, 2000). However, given its ability to catalogue each child's behaviours, how the parent responds to these behaviours (in terms of nurturing/ rejecting) and the possibilities of examining distributions of behaviours between siblings makes sequential analysis an appropriate tool.

Although this research provides valuable insights into attachment within the caregiving context, there are limitations that should be acknowledged. An unfortunate recruitment limitation to the current research was that whilst single mothers, two parent families with an uninvolved father and two parent families with an involved father were accounted for, single fathers were not. This was due entirely to the difficulty in recruiting sufficient numbers, not only do single fathers number far less than single mothers, there are fewer gatekeeper organisations via which to access them. Due to the research being conducted within the child's home, non-residential involved fathers were not accounted for within the current studies. In order to assess the contributions that non-residential fathers make, future research could include this group. In addition, single fathers as a group are not represented in the current research and are underrepresented in research as a whole (Breivika, Olweusa & Edresesena, 2009; Risman, 1986). A potential avenue for future research could be to compare the attachment qualities of children with single fathers and father-child interactions in such families with single mothers and fathers in two parent families. By doing so, additional modern family types could be investigated and advancements in understanding fathers' contribution to child development could be further understood.

A limitation of the studies contained within this thesis was the small number of participants in some groups. Due to the small numbers firm conclusions cannot always be made. A particular issue with the small sample size was the number of sibling pairs investigated,

were this number higher, a more comprehensive statistical analysis would have taken place in order to further elucidate sibling discordance. It should be acknowledged that the research presented is largely exploratory in nature, particularly the work with siblings and is meant as the first step towards a more contextual conceptualisation of attachment. Despite every effort being made to maximise the number of families involved in the study, due to financial and time constraints, it was unfeasible to recruit a larger number of participants. Due to the nature of the research requiring the whole family to be present for the duration of the observation, conducting the research incurred difficulties. This was particularly an issue with regards to the number of involved fathers in the study. An issue that had the potential to become a limitation is that participants self-selected. It is possible that these families were highly invested in parenting and/ or childcare and thus may not represent a wholly generalisable population. This was reflected in the fact that the average socio-economic status was slightly above the population mean. Despite self-selection representing a potential bias in participants, the proportion of secure and insecure children was consistent with previous research (Chapter 4). The similarity in proportion of secure and insecure children between the current data and previous research suggests that self-selection bias was not present within the current sample.

The current data indicate the usefulness of Q-Sets in investigating attachment and the potential they hold for future research aiming to increase understanding of attachment. Having the unstructured investigations take place in the child's home without an observer present is taking positive steps towards ecological validity, when compared to not only laboratory based research but many structured home based studies. However, there are limitations to currently existing attachment based Q-Sets. One such issue pertinent to the current data is the inability to categorise children fully as using an A, B or C Dynamic Maturational Model attachment strategy via Q-Sets. When attachment quality is treated as

a dichotomous variable, secure refers to the B pattern while insecure refers to both A and C patterns. The A and C patterns of attachment are psychological opposites and differ in terms of both how they manifest themselves, their psychological meanings and clinical implications (Kozłowska & Hanney, 2002). Unfortunately, existing Attachment Q-Sets are limited to categorising children as either securely attached or insecurely attached.

While the current Attachment Q-Set cannot differentiate between types of insecure attachment, it has two separate criterion scores, one for Security, another for Dependency. It would be feasible to devise a Q-Set based upon the Dynamic Maturational Model of attachment (Crittenden, 1992, 1995, 2002) which encapsulates three separate criteria, one for each attachment strategy. Once such a tool is developed, it would be possible to validate it against strange situation classifications. A home based assessment should not only be able to predict how the child will act in a traditional Strange situation but would also highlight possible explanations for behaviours with peers, outside the mother-child dyad. In the studies, there was disagreement between Q-Sets, given the lack of research that has used the Parental Secure Base Support Q-Set, only post hoc explanations have been offered for this. In order to fully understand the unique properties of each Q-Set and why they differ, further research could be conducted using both Q-Sets. The usefulness of Q-Sets is limited until it is possible to categorise attachment using the full Dynamic Maturational Model of Attachment (Crittenden, 1992, 1995, 2002). In terms of existent methodologies, van IJzendoorn et al. (2004) have argued self-report Attachment Q-Sets are a less valid measurement of child attachment when compared to observer ratings. Given that a number of the 90 Q-set items are filler items designed to reduce social desirability, a potential avenue for future research could be to remove these filler items, resulting in a shorter but equally reliable scale for use only with observers.

6.1: Conclusion

The studies contained within the thesis are to be seen as the first steps towards a contextual base and as such, are not meant as conclusive. They do however, illuminate possibilities for further understanding how attachment types are created and maintained. Firstly, the studies demonstrate the capacity to reliably measure attachment quality with either caregiver using Attachment Q-Sets within the home, with the family present. Secondly, the data demonstrate that the child-father attachment relationship is likely a separate entity to that of the child-mother relationship, with each uniquely contributing to the child's attachment representation in different ways. Thirdly, as siblings' attachment quality was found to sometimes differ, the data suggest that maternal sensitivity is not a stable trait, it is a contextual process. Lastly, the studies show that attachment quality in the pre-school years may be less stable than previously thought.

Simply by including fathers in attachment investigations, researchers are able to observe the contribution fathers make to their child's psychological development from an attachment perspective. The view of the father as a secondary caregiver has likely arisen from a combination of using the inappropriate strange situation procedure to measure paternal attachment and treating fathers as a single homogenous group, which they are not. The current data suggest that this view may be a misperception. In light of the findings, a re-conceptualisation of the father's role in attachment is offered: the child-father relationship is perhaps equal to that of the child-mother relationship; each separate attachment relationship contributing to the child's internal working model in a different manner. Further to this, it is hoped that fathers may be included to a greater degree in future attachment research.

Overall, the data indicate a far greater importance of caregiving context in attachment than previously believed. A family based approach may appear to some to be in disagreement with current attachment theory by venturing beyond the child-mother dyad. To reiterate, this is not the case, Bowlby (1969/ 1982) viewed the mother-child dyad as the first logical step towards understanding attachment, not the theories ultimate destination. Expanding the theory to encapsulate the child's family is the next logical step towards understanding attachment. Whilst numerous commentators have theorised upon the logical benefits of such an approach, there is a dearth of true ecologically valid, contextual attachment research. The theoretical implications of the research are far reaching, and include a re-conceptualisation of how attachment quality is maintained outside of the child-mother dyad. The finding that child-father attachment is perhaps of equal importance to child-mother attachment has major repercussions for theory, political policy and practice. The findings also have implications for how maternal sensitivity is viewed by attachment theory.

Now that it has been established that the context does influence attachment quality, the focal point for future research should be to take this further. Research should begin by delving deeper into longitudinal, contextual research in order to greater understand the contributions made by fathers and siblings. Another priority for research is the formation of a Dynamic Maturational Model Attachment Q-Set. In conclusion, this set of studies has furthered the ambition of understanding the role that the family plays in attachment theory.

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Appendix A: Participant Consent Form

PARENT CONSENT FORM

Name: _____

Date: _____

By signing this consent form you will be agreeing to understand the following:

- I understand the purpose of this research.
- I have the right to withdraw consent for me and my son/ daughter at any point.
- I know that I have the right to refuse answering any questions that I feel uncomfortable answering.
- I have been given the opportunity to ask questions about any aspect of the research that I am unsure of.
- I am providing consent on behalf of any minors that I am responsible for.
- I know that any names mentioned will be anonymised and all data will be kept securely.
- I can request the withdrawal of any information that I have given for up to three months after taking part.
- If any information regarding harm to vulnerable adults or children is disclosed the researcher has a moral obligation to advise the relevant figures.
- I know that data is also being collected from the pre-school that my child attends.

Signed.....

Date.....

PARENT/ CAREGIVER INFORMATION SHEET

What is this piece of research about?

This research aims to examine how young people in the United Kingdom develop their social skills and to develop new ways of understanding parent-child interactions within modern families. By using new questionnaires and observations looking at how parents and children interact, the research will begin to look more closely at what specific factors affect the development of early social skills both at home and in pre-school settings. It is our hope that from this we can provide a better and unbiased understanding of different types of family.

To achieve this goal we need families to get involved and to take part.

What methods are we using?

We are using a mixture of short questionnaires and observations. The questionnaire is asking for general information on your child's social skills and will be given to both yourselves and with your permission, the relevant pre-school staff (or similar person). Your questionnaire also contains a few questions about your social support. The questionnaires are anonymous and confidential. The observations are an opportunity for us to observe real family life in the UK as it happens. These observations are not invasive or intrusive, you are not under any pressure to do anything outside of your normal routine and there are no right or wrong answers.

Please be aware that if you would like anything editing out of the video we are more than happy to do so.

Please also note that the research team has had full CRB checks.

What does taking part involve doing?

Your participation in this research would involve a maximum of an hour of your time for a very informal observation to take place and to fill in a short questionnaire. I will simply set up a small camera and return in a short while to collect it. Your participation will allow me to gather

natural data on real families outside the usual laboratory setting. Of course your participation is entirely voluntary; you can withdraw at any time and also opt to not answer any given question. Please be aware, for your peace of mind, at no time will the research involve your child being alone with any of the research team.

Please rest assured that no personal details will be made public nor given to anyone outside of the research team.

Where and when will the observation take place?

To ensure that the data collected is unbiased and as real as possible, the observation will take place in your home at a time where your family will be present. The date and time will entirely be up to you. At this time you will also be requested to fill in a very short questionnaire.

What will happen with the data?

All data will be kept confidential to the research team. Observations will be recorded digitally so they can be transcribed and later destroyed following analysis. Additionally, all identifying information will be removed from the transcripts and the write up. All participants' names will be removed from the transcript and will be assigned a code. The list of codes and names of participants will be rerecorded on to a separate document and kept securely on a password protected file.

In the research write up, all identifying information (names and places) will be removed so the information cannot be traced back to any child or family.

What are your rights when taking part?

As parents/guardians, you do have the right to withdraw your consent at any point during the study. You also have the right to refuse to answer any questions on the questionnaire. If you decide to withdraw during the study, any data collected will be destroyed. You can also request your data to be withdrawn after participating. If you decide after the study has taken place that you want me to remove all data gathered about your family, please let me know by post or e-mail within three months. Please note that as the data is anonymous it will not be possible for any of the questionnaires filled in at the pre-school to be traced back to any specific child.

What happens now?

Taking part in the study is really straightforward. Simply contact myself via e-mail, letter, telephone or text. We can then arrange an observation at a date and time that suits you.

In the meantime if you have any further questions regarding the research, please do not hesitate to contact myself using the contact details below. We will be happy to answer any questions or queries you may have.

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Appendix C: Table to show sample split and summary of results for empirical studies

Study	Research question	Measures Used and (specific scales used)	Population	Summary of Findings
Study 1 – The role of the mother in attachment	<ul style="list-style-type: none"> • A test of method - Applicability of Q-Sort to home environment to assess attachment to Mother • Relationship between maternal sensitivity and attachment • Relationship between attachment style with mother, child-peer behaviours and aggression 	<ul style="list-style-type: none"> • Attachment Q-Sort (AQS), • Parental Secure Base Support Q-Sort (PSBS), • Sensitivity vs. Insensitivity Scale, • Child Behaviour Scale (maternal and nursery reports of child prosocial, asocial and excluded behaviours), • Teachers Checklist for Social Behaviour (maternal and nursery reports of child proactive and reactive aggression), 	<ul style="list-style-type: none"> • Twenty-nine children and their mothers. • Mean age of child = 33.62 months (s.d = 12.88 months). • Mean age of mother = 32.55 years (s.d = 6.81 years). • 9 children were from single parent families, the remaining 20 were from two parent families. 	<ul style="list-style-type: none"> • +ve association between maternal sensitivity and child-mother attachment (AQS). • -ve association between child-mother attachment (PSBS), asocial behaviours and child-peer aggression (nursery reports).
Study 2 – The role of the father in attachment	<ul style="list-style-type: none"> • A further test of method - Applicability of Q-Sort to home environment to assess attachment to father • Relationship between paternal sensitivity and attachment • Relationship between attachment style with father, child-peer behaviours and aggression 	<ul style="list-style-type: none"> • Attachment Q-Sort (AQS), • Parental Secure Base Support Q-Sort (PSBS), • Sensitivity vs. Insensitivity Scale, • Child Behaviour Scale (paternal and nursery reports of child prosocial, asocial and excluded behaviours), • Teachers Checklist for Social Behaviour (paternal and nursery reports of child proactive and reactive aggression), 	<ul style="list-style-type: none"> • Fifteen children and their fathers. • Mean age of child = 32.47 months (s.d = 16.27 months). • Mean age of father = 32.53 years (s.d = 4.49 years). • Only one child was from a single parent family, the remaining fourteen were from two parent families. 	<ul style="list-style-type: none"> • +ve association between paternal sensitivity and child-father attachment (AQS and PSBS). • -ve association between child-father attachment (PSBS) and prosocial behaviours (father reports). • -ve association between child-father attachment (PSBS) and peer exclusion (nursery reports).

<p>Study 3 – Comparison of Family Types</p>	<ul style="list-style-type: none"> • Compare children with an absent father, uninvolved father and involved father in terms of: <ul style="list-style-type: none"> • Socio-economic status • Attachment quality with mother • Interactional Patterns • Child-peer behaviours • Aggression • Compare mothers between the three groups in terms of: <ul style="list-style-type: none"> • Sensitivity • Interactional patterns 	<ul style="list-style-type: none"> • Attachment Q-Sort (AQS), • Parental Secure Base Support Q-Sort (PSBS), • Sensitivity vs. Insensitivity Scale, • Bales, • Child Behaviour Scale (maternal and nursery ratings of child prosocial, asocial and excluded behaviours), • Teachers Checklist for Social Behaviour (maternal and nursery ratings of child proactive and reactive aggression), 	<ul style="list-style-type: none"> • Whole sample of 30 children, their mothers (n= 29) and fathers (n = 15) • Mean age of child = 33.27 months (s.d = 12.80 months). • Mean age of mother = 32.55 years (s.d = 6.81 years). • Mean age of father = 32.53 years (s.d = 4.49 years). • Children with an absent father (n = 9), an uninvolved father (n = 7) and those with an involved father (n = 14). 	<ul style="list-style-type: none"> • No difference in SES or child-mother attachment between groups. • Children with an absent father were rated as having highest peer exclusion (mother ratings). • Children with an absent/uninvolved father were both rated as being more reactively aggressive than those with an involved father (mother ratings).
<p>Study 4 – Siblings</p>	<ul style="list-style-type: none"> • Compare attachment quality and maternal interactions between siblings. • Whether any difference in attachment is a function of age or birth order. • Whether any difference in attachment is associated with interactional quality with mother. 	<ul style="list-style-type: none"> • Attachment Q-Sort (AQS), • Parental Secure Base Support Q-Sort (PSBS), • Sensitivity vs. Insensitivity Scale, • Bales, 	<ul style="list-style-type: none"> • 7 sibling pairs, 1 sibling trio • Mean age of child = 37.29 months (s.d = 12.87 months). • Mean age of mother = 31 years (s.d = 6.41 years). • Mean age of father = 30.33 years (s.d = 3.21 years). • 7 children were from single parent families, the remaining 10 were from two parent families. 	<ul style="list-style-type: none"> • Child-mother attachment discordance in 3/9 sibling pairs. • Maternal attachment did not differ between older/younger groups. • Maternal sensitivity and mother-child interactions both differed between older/younger sibling groups.

<p>Study 5 – Repeated Measures</p>	<ul style="list-style-type: none"> • To use the Q-Sorts to investigate if attachment quality with mother and father changes between Time 1 and Time 2 (time gap of minimum 6 months, maximum 10 months). • If any changes in attachment with mother or father occur, whether they are associated with variations within child-parent interaction. • If any changes in child attachment quality are related to changes within parental spousal support levels. • Whether any changes in child attachment quality are related to changes in the child’s peer behaviours. 	<ul style="list-style-type: none"> • Attachment Q-Sort (AQS), • Parental Secure Base Support Q-Sort (PSBS), • Sensitivity vs. Insensitivity Scale, • Bales, • Child Behaviour Scale (maternal and paternal ratings of child prosocial, asocial and excluded behaviours), • Teachers Checklist for Social Behaviour (maternal and paternal ratings of child proactive and reactive aggression), 	<ul style="list-style-type: none"> • Four children (three families; one single parent family and two two-parent families) • Mean age of child at Time 1 = 44.50 months (s.d = 21.20 months). • Mean age of mother at Time 1 = 29.75 years (s.d = 6.99 years). • Mean age of father at Time 1 = 28.33 years (s.d = 1.15 years). 	<ul style="list-style-type: none"> • No significant negative life event reported by any family. • Maternal sensitivity did not differ between investigations. • General increase of attachment security and a decrease in aggression across all four children. • 2/4 of the children’s attachment classification (AQS) went from being insecurely to securely attached to their mother. • The greatest increase in maternal attachment was in a family where the mother-father relationship improved.
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<p>Study 6 – Case Study</p>	<ul style="list-style-type: none"> • In a single case study, to use the Q-Sorts to investigate if attachment quality with mother changes between Times 1, 2 and 3 within a family where the caregiving dynamic is in a cycle of change. • If any changes in attachment do occur, whether they are associated with parental behaviour changes. • If changes in attachment are related to changes within spousal support levels. • Whether any changes in attachment are related to changes in the child's peer behaviours. 	<ul style="list-style-type: none"> • Attachment Q-Sort (AQS), • Parental Secure Base Support Q-Sort (PSBS), • Sensitivity vs. Insensitivity Scale, • Bales, • Child Behaviour Scale (maternal ratings of child prosocial, asocial and excluded behaviours), • Teachers Checklist for Social Behaviour (maternal ratings of child proactive and reactive aggression), 	<ul style="list-style-type: none"> • Two children (one two parent family) • Children aged 24 and 36 months, mother aged 36 years and father aged 37 years, Time 1. 	<ul style="list-style-type: none"> • Child-mother attachment decreased over time, more so for the younger child. • The younger child had an increase in asocial, prosocial and aggressive peer behaviours. • Maternal sensitivity was stable across investigations. • Mother reported experiencing depressive symptoms, associated with low marital satisfaction.
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Appendix D: Example Attachment Q-Set

<p>Pile 9</p> <p>1 Child readily shares with mother or lets her hold things if she asks to.</p> <p>7 Child laughs and smiles easily with a lot of different people.</p> <p>15 Child is willing to talk to new people, show them toys, or show them what he can do, if mother asks him to.</p> <p>17 Child quickly loses interest in new adults if they do anything that annoys him.</p> <p>34 When child is upset about mother leaving him, he sits right where he is and cries. Doesn't go after her.</p> <p>66 Child easily grows fond of adults who visit his home and are friendly to him.</p> <p>68 On the average, child is a more active type person than mother.</p> <p>77 When mother asks child to do something, he readily understands what she wants (May or may not obey.)</p> <p>86 Child tries to get mother to imitate him, or quickly notices and enjoys it when mom imitates him on her own.</p> <p>87 If mother laughs at or approves of something the child has done, he repeats again and again.</p>	<p>Pile 8</p> <p>6 When child is near mother and sees something he wants to play with, he fusses or tries to drag mother over to it.</p> <p>18 Child follows mother's suggestions readily, even when they are clearly suggestions rather than orders.</p> <p>21 Child keeps track of mother's location when he plays around the house.</p> <p>26 Child cries when mother leaves him at home with babysitter, father, or grandparent.</p> <p>31 Child wants to be the centre of mother's attention. If mom is busy or talking to someone, he interrupts.</p> <p>57 Child is fearless.</p> <p>64 Child enjoys climbing all over mother when they play.</p> <p>80 Child uses mother's facial expressions as good source of information when something looks risky or threatening.</p> <p>85 Child is strongly attracted to new activities and new toys.</p> <p>89 Child's facial expressions are strong and clear when he is playing with something.</p>	<p>Pile 7</p> <p>4 Child is careful and gentle with toys and pets.</p> <p>5 Child is more interested in people than in things.</p> <p>10 Child often cries or resists when mother takes him to bed for naps or at night.</p> <p>14 When child finds something new to play with, he carries it to mother or shows it to her from across the room.</p> <p>36 Child clearly shows a pattern of using mother as a base from which to explore.</p> <p>42 Child recognizes when mother is upset. Becomes quiet or upset himself. Tries to comfort her. Asks what is wrong, etc.</p> <p>45 Child enjoys dancing or singing along with music.</p> <p>47 Child will accept and enjoy loud sounds or being bounced around in play, if mother smiles and shows that it is supposed to be fun.</p> <p>59 When child finishes with an activity or toy, he generally finds something else to do without returning to mother between activities</p> <p>62 When child is in a happy mood, he is likely to stay that way all day.</p>
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<p>Pile 6</p> <p>11 Child often hugs or cuddles against mother, without her asking or inviting him to do so.</p> <p>12 Child quickly gets used to people or things that initially made him shy or frightened him.</p> <p>13 When the child is upset by mother's leaving, he continues to cry or even gets angry after she is gone.</p> <p>27 Child laughs when mother teases him.</p> <p>37 Child is very active. Always moving around. Prefers active games to quiet ones.</p> <p>43 Child stays closer to mother or returns to her more often than the simple task of keeping track of her requires.</p> <p>60 If mother reassures him by saying "It's OK" or "It won't hurt you", child will approach or play with things that initially made him cautious or afraid.</p> <p>71 If held in mother's arms, child stops crying and quickly recovers after being frightened or upset.</p> <p>74 When mother doesn't do what child wants right away, child behaves as if mom were not going to do it at all.</p> <p>90 If mother moves very far, child follows along and continues his play in the area she has moved to. (Doesn't have to be called or carried along; doesn't stop play or get upset.)</p>	<p>Pile 5</p> <p>3 When he is upset or injured, child will accept comforting from adults other than mother.</p> <p>8 When child cries, he cries hard.</p> <p>9 Child is light hearted and playful most of the time.</p> <p>16 Child prefers toys that are modelled after living things (e.g., dolls, stuffed animals).</p> <p>23 When mother sits with other family members, or is affectionate with them, child tries to get mom's affection for himself.</p> <p>33 Child sometimes signals mother (or gives the impression) that he wants to be put down, and then fusses or wants to be picked right back up.</p> <p>40 Child examines new objects or toys in great detail. Tries to use them in different ways or to take them apart.</p> <p>41 When mother says to follow her, child does so.</p> <p>52 Child has trouble handling small objects or putting small things together.</p> <p>78 Child enjoys being hugged or held by people other than his parents and/or grandparents.</p>	<p>Pile 4</p> <p>20 Child ignores most bumps, falls, or startles.</p> <p>22 Child acts like an affectionate parent toward dolls, pets, or infants.</p> <p>28 Child enjoys relaxing in mother's lap.</p> <p>35 Child is independent with mother. Prefers to play on his own; leaves mother easily when he wants to play.</p> <p>44 Child asks for and enjoys having mother hold, hug, and cuddle him.</p> <p>53 Child puts his arms around mother or puts his hand on her shoulder when she picks him up.</p> <p>63 Even before trying things himself, child tries to get someone to help him.</p> <p>69 Rarely asks mother for help. Middle if child is too young to ask.</p> <p>82 Child spends most of his play time with just a few favourite toys or activities.</p> <p>83 When child is bored, he goes to mother looking for something to do.</p>
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Pile 3	Pile 2	Pile 1
<p>32 When mother says "No" or punishes him, child stops misbehaving (at least at that time).</p> <p>38 Child is demanding and impatient with mother. Fusses and persists unless she does what he wants right away.</p> <p>39 Child is often serious and businesslike when playing away from mother or alone with his toys.</p> <p>48 Child readily lets new adults hold or share things he has, if they ask to.</p> <p>49 Runs to mother with a shy smile when new people visit the home.</p> <p>55 Child copies a number of behaviours or way of doing things from watching mother's behaviour.</p> <p>58 Child largely ignores adults who visit the home Finds his own activities more interesting</p> <p>70 Child quickly greets his mother with a big smile when she enters the room. (Shows her a toy, gestures, or says "Hi, Mommy").</p> <p>76 When given a choice, child would rather play with toys than with adults.</p> <p>84 Child makes at least some effort to be clean and tidy around the house.</p>	<p>19 When mother tells child to bring or give her something, he obeys.</p> <p>24 When mother speaks firmly or raises her voice at him, child becomes upset, sorry, or ashamed about displeasing her.</p> <p>50 Child's initial reaction when people visit the home is to ignore or avoid them, even if he eventually warms up to them.</p> <p>51 Child enjoys climbing all over visitors when he plays with them.</p> <p>54 Child acts like he expects mother to interfere with his activities when she is simply trying to help him with something.</p> <p>56 Child becomes shy or loses interest when an activity looks like it might be difficult.</p> <p>67 When the family has visitors, child wants them to pay a lot of attention to him.</p> <p>72 If visitors laugh at or approve of something the child does, he repeats it again and again.</p> <p>81 Child cries as a way of getting mother to what he wants.</p> <p>88 When something upsets the child, he stays where he is and cries.</p>	<p>2 When child returns to mother after playing, he is sometimes fussy for no clear reason.</p> <p>25 Child is easy for mother to lose track of when he is playing out of her sight.</p> <p>29 At times, child attends so deeply to something that he doesn't seem to hear when people speak to him.</p> <p>30 Child easily becomes angry with toys.</p> <p>46 Child walks and runs around without bumping, dropping, or stumbling.</p> <p>61 Plays roughly with mother. Bumps, scratches, or bites during active play.</p> <p>65 Child is easily upset when mother makes him change from one activity to another.</p> <p>73 Child has a cuddly toy or security blanket that he carries around, takes it to bed, or holds when upset.</p> <p>75 At home, child gets upset or cries when mother walks out of the room.</p> <p>79 Child easily becomes angry at mother.</p>
<p>~ 237 ~</p>		

Appendix E: Example Parental Secure Base Support Q-Set

<p>Pile 7</p> <p>1 Parent asks child about his/her feelings or experience during play.</p> <p>8 If child is upset, parent comes close, offers contact, comforts, and helps transition back to play.</p> <p>11 Acknowledges child when (s)he comes close.</p> <p>12 Praises child's performance.</p> <p>13 Accepts ordinary (i.e. child not upset) bids for contact.</p> <p>30 Supervises closely and consistently (whether from nearby or at a distance.)</p> <p>45 Patient with child; doesn't become hurried or intrusive.</p>	<p>Pile 6</p> <p>3 Parent models emotional reaction during child's play.</p> <p>9 Parent readily stops conversation, reading, etc. to supervise or respond to child.</p> <p>18 Seems interested/amused by child's play.</p> <p>22 Allows child to explore as far away as is prudent.</p> <p>35 Helps maintain child's interest in an activity.</p> <p>38 Addresses child warmly.</p> <p>49 Seems knowledgeable/insightful about children's motivation and behaviour.</p>	<p>Pile 5</p> <p>2 Engages in the same activity as the child.</p> <p>5 If not within 6-8 feet, parent maintains active contact by talking with child during play.</p> <p>16 Elaborates - explains rules or instructions.</p> <p>34 Expressive during interaction with child.</p> <p>39 Active supervision.</p> <p>43 Helps child perform activities that are difficult/challenging for this child.</p> <p>47 Makes instructions more effective by engaging child.</p>
<p>Pile 4</p> <p>17 Becomes distressed if child engages in mildly risky or unsafe behaviour.</p> <p>19 Repeats or echoes what child says.</p> <p>27 Asks child to explain what (s)he is doing.</p> <p>37 Ignores (extinguishes) or corrects rude or uncooperative behaviour toward her.</p> <p>40 Notices when child enjoys something and comments or engages in affective sharing.</p> <p>42 Level of supervision is sensitive to circumstances and context.</p> <p>48 Responds harshly to risky or unsafe behaviour the first time it occurs.</p>	<p>Pile 3</p> <p>7 Encourages interaction with other children</p> <p>10 After prohibiting risky or unsafe behaviour, parent accepts further disobedience.</p> <p>15 Sees in advance that a behaviour could be risky or unsafe. (May or may not intervene).</p> <p>21 Dresses child appropriately for setting and weather.</p> <p>29 Forces child to do things (s)he is afraid to do.</p> <p>33 Misses prohibited, risky, or unsafe behaviour.</p> <p>44 Alert to safety issues.</p>	<p>Pile 2</p> <p>4 Parent gets into sand, on toys, with child.</p> <p>24 Over-estimates child's competence. Doesn't provide help when needed.</p> <p>25 Follows or moves to a better location to supervise as child moves from place to place.</p> <p>26 Makes sure that child explores a variety of the available toys or activities (including peers).</p> <p>36 Facilitates transitions between activities.</p> <p>41 Moves into position ahead of child's activities (e.g. on apparatus) as appropriate to child's skill level.</p> <p>46 Enrichment orientation</p>

Pile 1

6 Parent suggests imaginative or engaging activities.

14 Parent ignores bids for attention.

20 Mother is worrisome. (Gives lots of instructions, stays closer than necessary, etc.)

23 Under-estimates child's competence. Provides unnecessary help.

28 Forces child to do things (s)he is not interested in.

31 Supervision (from near or far) is intrusive.

32 Misses child's signals or bids for interaction.

Appendix F: An Illustration of Bales' analysis.

Time	Event	Coding			
		Bales A (Positive socio-emotion actions)	Bales B (Information provided)	Bales C (Information requested)	Bales D (Negative socio-emotional actions)
10.24	Child B asks mother who visited earlier			X	
10.25	Mother tells Child B who the visitor was		X		
10.50	Child A hits mother with toy				X
10.51	Mother responds angrily to Child A				X
11.13	Child A asks where a toy is			X	
11.14	Mother tells Child A where toy is		X		
11.30	Child B asks father if activity is ready			X	
11.31	Father tells Child B that it is not ready		X		
11.53	Father tries to help Child B with an activity		X		
11.53	Child B responds angrily				X
13.30	Child A asks for help			X	
13.31	Mother helps Child A	X			

Appendix G: Ainsworth's Sensitivity vs. Insensitivity Scale

9. Highly sensitive. This mother is exquisitely attuned to B's signals; and responds to them promptly and appropriately. She is able to see things from B's point of view; her perceptions of his signals and communications are not distorted by her own needs and defences. She "reads" B's signals and communications skilfully, and knows what the meaning is of even his subtle, minimal, and understated cue. She nearly always gives B what he indicates that he wants, although perhaps not invariably so. When she feels that it is best not to comply with his demands--for example, when he is too excited, over-imperious, or wants something he should not have-- she is tactful in acknowledging his communication and in offering an acceptable alternative. She has "well-rounded" interactions with B, so that the transaction is smoothly completed and both she and B feel satisfied. Finally, she makes her responses temporally contingent upon B's signals and communications.

7. Sensitive. This mother also interprets B's communications accurately, and responds to them promptly and appropriately but with less sensitivity than mothers with higher ratings. She may be less attuned to B's more subtle behaviours than the highly sensitive mother. Or, perhaps because she is less skilful in dividing her attention between B and competing demands, she may sometimes "miss her cues". B's clear and definite signals are, however, neither missed nor misinterpreted. This mother empathizes with B and sees things from his point of view; her perceptions of his behaviour are not distorted. Perhaps because her perception is less sensitive than that of mothers with higher ratings, her responses are not as consistently prompt or as finely appropriate. But although there may be occasionally little "mismatches", M's interventions and interactions are never seriously out of tune with B's tempo, state and communications.

5. Inconsistently sensitive. Although this mother can be quite sensitive on occasion, there are some periods in which she is insensitive to B's communications. M's inconsistent sensitivity may occur for any one of several reasons, but the outcome is that she seems to have lacunae in regard to her sensitive dealings with B--being sensitive at some times or in respect to some aspects of his experience, but not in others. Her awareness of B may be intermittent--often fairly keen, but sometimes impervious. Or her perception of B's behaviour may be distorted in regard to one or two aspects although it is accurate in other important aspects. She may be prompt and appropriate in response to his communications at times and in most respects, but either inappropriate or slow at other times and in other respects. On the whole, however, she is more frequently sensitive than insensitive. What is striking is that a mother who can be as sensitive as she is on so many occasions can be so insensitive on other occasions.

3. Insensitive. This mother frequently fails to respond to B's communications appropriately and/or promptly, although she may on some occasions show capacity for sensitivity in her responses to and interactions with B. Her insensitivity seems linked to inability to see things from B's point of view. She may be too frequently preoccupied with other things and therefore inaccessible to his signals and communications, or she may misperceive his signals and interpret them inaccurately because of her own wishes or defences. Or she may know well enough what B is communicating but be disinclined to give him what he wants--because it is inconvenient or she not in the mood for it, or because she is determined not to "spoil" him. She may delay an otherwise appropriate response to such an extent that it is no longer contingent upon his signal, and indeed perhaps is no longer appropriate to his

state or mood. Or she may respond with seeming appropriateness to B's communications but break off the transactions before B is satisfied, so that their interactions seem fragmented and incomplete or her responses perfunctory, half-hearted, or impatient. Despite such clear evidence of insensitivity, however, this mother is not consistently or pervasively insensitive as mothers with even lower ratings. Therefore, when the baby's own wishes, moods, and activity are not too deviant from the mother's wishes, moods, and household responsibilities or when the baby is truly distressed or otherwise very forceful and compelling in his communication, this mother can modify her own behaviour and goals and, at this time, can show some sensitivity in her handling of the child.

1. Highly insensitive. The extremely insensitive mother seems geared almost exclusively to her own wishes, moods, and activity. That is M's interventions and initiations of interaction are prompted or shaped largely by signals within herself; if they mesh with B's signals, this is often no more than coincidence. This is not to say that M never responds to B's signals; for sometimes she does if the signals are intense enough, prolonged enough, or often enough repeated. The delay in response is in itself insensitive. Furthermore, since there is usually a disparity between one's own wishes and activity and B's signals, M who is geared largely to her own signals routinely ignores or distorts the meaning of a behaviour. Thus, when M responds to B's signals, her response is inappropriate in kind or fragmented and incomplete.

Appendix H: Parent/ Nursery Questionnaire

Parent/ Caregiver Questions (One per Parent/ Caregiver)

Thank you for participating in our study. Your participation is highly appreciated. The following brief questionnaire is aiming to ascertain general information about your family. You have the right to refuse to answer any question if you wish. ALL questionnaire data is confidential and anonymous.

Are you; Male or Female

Please tell us your age: yrs Please tell us your child's age:

Please rate the extent to which the following statements apply to the child, particularly in the context of their behaviour with peers

	Doesn't apply	Applies sometimes	Certainly applies
1. Not much liked by other children.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Prefers to play alone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Likes to help others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Peers refuse to let this child play with them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Shows a recognition of the feelings of others, is empathic.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Not chosen as a playmate by others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Likes to be alone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Keeps peers at a distance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Peers avoid this child.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Seems concerned when other children are distressed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Kind towards peers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Excluded from peers activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Is ignored by peers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Cooperative with peers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Solitary child.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Shows concern for moral issues (e.g. fairness, welfare of others).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Ridiculed by peers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Avoids peers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Offers help or comfort when other children are upset.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Withdraws from peer activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. When teased or threatened, s/he gets angry easily and strikes back.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. S/he always claims that other children are to blame in a fight and feels that they started the trouble.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. When a peer accidentally hurts her/him (i.e by bumping into them), s/he assumes the peer meant to do it, and gets angry.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. S/he gets other kids to gang up on a peer that s/he does not like.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. S/he uses physical force (or threats) in order to dominate other kids.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. S/he threatens or bullies others in order to get her/his own	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix I: Vignettes of Family Scenarios

Vignette 1:

Family Characteristics:

The family in Vignette 1 comprised of mum, dad and one female child (22 months old).

Setting:

This observation took place in the family's small living room with a television, sofa and a computer on a desk in the back of the room.

Examples of Interactions:

Under the instruction to act as they would do normally, the father opted to watch television while the mother sat at a computer in the back of the living room. The child intermittently played with toys and interacted with either parent.

Starting Point:

The first 10 minutes of the observation were not coded to allow the family to acclimatise to the presence of a camera. Mum changing child (out of view) while dad helps by fetching necessary items.

Summary of Interactions:

10 minutes into the observation, the child cries while mother is changing the child, off camera as instructed in such an occasion. At which point dad attempts to vocally offer reassurance. Mum angrily asks him for help and he complies. Child cries again. Mum is able to comfort the child and dad leaves the room.

Mum continues to attend to the child.

15 minutes into the observation, the child cries for attention and mum asks what is wrong while tidying. Meanwhile, dad is on his phone in the background. Child cries again, mum stops tidying and responds.

A visitor arrives, the family move slightly off camera while mum and dad speak to the visitor. The child follows them and remains silent while they speak.

29 minutes into the observation, the child is upset and cries, dad tries to 'jolly the child up' while mum walks away. Dad is unsuccessful and attempts again, the child runs to mum, still crying.

Child plays alone while mother sits at computer and dad watches television.

30 minutes into the observation, the child displays interest in a toy and dad attempts unsuccessfully to divert the child's attention onto a different toy. Mum and dad disagree about the availability of the toy the child is interested in and dad attempts to divert the child's attention elsewhere, this time successfully.

Child plays alone while mother sits at computer and dad watches television.

36 minutes into the observation, mum and dad verbally disagree about whether to give the child a snack. Child cries out and dad initiates interaction with the child while mum is in the background. Child tries to get dad to follow her and he complies, begins to play with her.

Dad continues to play with the child.

43 minutes into the observation, the child cries and distracted by the previous disagreement, neither mum nor dad responds. Child cries again and this time, dad responds. Mum and dad disagree.

Child plays alone while mother sits at computer and dad watches television.

45 minutes into the observation, the child tries to get dad to follow but dad does not respond. The child then cries and this time dad gets up but does not do as he was asked. Child cries again but neither parent responds.

Child plays alone while mother sits at computer and dad watches television.

Dad stops the camera at 50 minutes.

Vignette 2:

Family Characteristics:

The family in Vignette 2 comprised of mum, dad and two children, both male. The younger child was 4 years old and the older child was 6 years old.

Setting:

This observation took place in the family's living room with a play mat and numerous toys set out in the centre, overlooked by two sofas.

Summary of Interactions:

Under the instruction to act as they would do normally, the family sat near one another on and around the play mat, each playing with toys. Although the family were in close proximity, they largely played independently of one another and rarely interacted, except for the siblings occasionally disagreeing. The father resolved these disputes, while the mother did not get involved.

Starting Point:

The first 10 minutes of the observation were not coded to allow the family to acclimatise to the presence of a camera. Mum, dad and both children playing on the mat.

Examples of Interactions:

12 minutes into the observation, the older child takes a toy that the younger child is playing with. The younger child makes a quiet but angry noise, neither parent reacts. The younger child diverts his attention onto a different toy.

Children, mum and dad play independently of one another.

13 minutes into the observation, dad mentions to mum that the older child has a particular toy. Older child loudly objects, dad states that he has, but the older child objects louder and dad backs down.

15 minutes into the observation, younger child asks for a toy which the older child has nearby but is not using, the dad says ok, to which the older child shouts at dad and dad backs down. Mother offers the younger child a different toy and the younger child accepts.

Children, mum and dad play independently of one another.

16 minutes into the observation, the younger child asks the older child for a toy and is ignored, he asks several more times, his voice getting progressively quieter with every attempt. He continues to be ignored and neither parent responds.

Children, mum and dad play independently of one another.

17 minutes into the observation, the younger child verbalises that he is struggling with a toy, dad helps and mum does not respond.

Dad walks away, neither child follows and continue with their play. Dad shortly returns, neither child reacts and both continue with their play.

21 minutes into the observation, the older child takes a toy off of the younger child. The younger child cries, mum and dad do not say anything to the older child and offer the younger child a different toy instead.

Children, mum and dad play independently of one another.

22 minutes into the observation, the younger child shouts that he wants his toy back (which the older child took) and dad tells him off. The younger child does not respond.

The above interactions are representative of the entire observation and continue in the same manner until the observation ends after 55 minutes.