# Validation of an attachment tool for use with deaf children

Thesis submitted for the degree of

**Doctor of Philosophy** 

**Department of Health Sciences** 

**University of Leicester** 

By

Joanna Downes

April 2009

# Application of an attachment tool for use with deaf

children

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# Abstract

There has been substantial research evidence on the role of attachment theory in hearing but not deaf children, whose families often receive inconsistent interventions, with adverse impact on the parent-child attachment. Such research is impeded by the lack of appropriate attachment measures. The aim of this study was to adapt such an attachment measure, and to evaluate its application with deaf children. The Manchester Child Attachment Story Task (MCAST) was initially administered to four deaf children, where an alternative transcript of the vignettes and interpreter protocol had to be developed. The researcher subsequently established a new pictorial method, the Deaf Child Attachment Story Task (DCAST), with supplementary administration, coding, and communication procedures. This was applied with 18 deaf children aged 3-9 years, recruited from eight Local Educational Authorities. The mental age obtained from the non-verbal scale of the Kaufman Assessment Battery for Children was between 2.50 to 12.5 years. The Language Proficiency Profile (LPP) was also completed, with equivalent scores of 1-7 years. Assigned ratings of attachment (secure: 50% vs. insecure: 50%) were different to norms obtained for the general population, but partially supported previous studies in deaf children and attachment. A questionnaire (QoFL) and a semi-structured interview collected data to explore the context for the development of the child's attachment. Significant associations for secure attachment were identified for ten variables, including family life not being affected by communication, the child being confident and outgoing, and the child having both deaf and hearing friends. This provides relative validation of the new measure. These associations had partial support from themes identified in transcripts, including attitudes and difficulties with communication, and child behavioural problems. The findings can contribute to a better understanding of deaf children's attachment strategies. The adapted attachment measure has implications for future research and clinical practice with deaf children.

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To Michael James and Elizabeth Joanna, love always, your Mummy. X

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#### **Chapter One**

# Attachment theory and its potential implications for deaf children

#### **1.1 Introduction**

The aim of this chapter is to provide a foundation on which the reader can develop an understanding of how the development of attachment in hearing children can be affected, and how it may thus prove more challenging for deaf children. To achieve this, the chapter is divided into three sections: firstly the introduction of core concepts of attachment theory; secondly, the relationship between maternal behaviour and attachment development in the general population; and thirdly, evidence on disabled children will be discussed, including a critique of maternal adjustment to and acceptance of the diagnosis. As it has been found that some support services can be less than optimal (to be discussed further in chapter two), it can be difficult for parents to come to terms with a diagnosis, which may consequently affect the mother-child relationship and the development of attachment.

#### **1.2 Bowlby's attachment theory**

To explain the relationship between the child and their mother, Anna Freud (1951) developed a psychoanalytic theoretical framework. She first postulated the theory 'Reduction Drive', according to which the infant's needs were purely physical and were

met by the mother. Bowlby (1958) was critical of this primitive theory as he conceptualised a more complex child-mother relationship. Freud strongly believed in the importance of the effects of 'early trauma', with which Bowlby agreed, as early traumatic experiences can impact throughout a child's development. In Bowlby's landmark paper "The Nature of the Child's Tie to his Mother" (1958), he adopted an evolutionary-ethological approach and launched the Attachment theory. He demonstrated how this framework can be explained by borrowing principles from ethnology, evolution theory, cognitive psychology and psychoanalysis. The foundation for Attachment theory was Bowlby's evolutionary belief that in order to survive, all primates were predisposed to form an attachment with another primate (Sroufe, 1986). Consequently, the primate or human infant would develop a reciprocal relationship with their mother, who would enhance their survival by protecting them in the infantile period, when they were at their most vulnerable.

#### **1.2.1 Development of attachment**

Attachment is an integral part of normal development. The development of secure attachment gives the child a higher chance of survival, in which they develop their relationship with their primary caregiver from which they can then apply themselves to other life situations. Ainsworth (1973) proposed that attachment develops through stages and that the child becomes attached by the age of seven months. For norms of distribution in attachment coding, Ainsworth et al. (1978) suggested a ratio of two thirds for secure and

one third for insecure codings, with a few ambivalent attachments. The phases put forward by Ainsworth (1973) are presented in the following Table 1.1.

Age	Phase	New behaviours
0-2	Indiscriminate social	Visual fixation, visual tracking, listening, rooting and
mths	responsiveness	postural adjustment.
3-6	Ability to discriminate	More proximity-seeking and contact-maintaining
mths	social responsiveness	behaviours.
7	Active initiative in	Following, approaching, clinging and learning new
mths-3	seeking proximity and	methods for proximity seeking and contact
yrs	contact	maintenance.
>3	Goal-corrected	Can predict consequences of certain behaviours. Still
years	partnership	egocentric but starts to recognise mother's
		perspective.

 Table 1.1 Ainsworth's stages of attachment development

By the final but ongoing phase, the child is attached (if not already), and this attachment cannot be disrupted, whatever conditions or strain s/he is put under. It will consequently be the *quality* of the attachment and the child's temperament that will mediate the child's positive or negative life experiences. For the attachment system to advance in parallel to the child's developmental changes, Marvin (1972, cited in Greenberg & Marvin, 1979)

suggested that communication competence is crucial for the sophistication of the attachment system, for example using communication to establish that the mother is nearby, despite being out of sight, and using physical touch to assuage distress. As the child develops, their increasing cognitive ability allows for more complex behaviours to be employed to gain proximity, using both non-verbal and verbal means, for example body language, visual attention, and expression of affect towards parents (Bar-Haim et al., 2000). One then proposes the question: how do a deaf child and their parents, who do not have access to the knowledge of communication techniques or share a common language, develop a sophisticated attachment system?

#### 1.2.2 Secure base and maternal behaviour

The attachment figure (caregiver) forms the child's secure base (Ainsworth, 1963; Bowlby, 1988), providing the child with confidence to explore and learn about the world; a securely attached child gradually explores further away from their secure base, while an insecurely attached child will not venture so far away. The child's behaviours complement the attachment figure's own subset of behaviours, with the common goal of alleviating the child's distress, or removing the child from a real or potential threat (Bowlby, 1980). For secure children, sensitive parents will respond to a child's distress, even when they cannot see an obvious threat. Parents who are sensitive will be able to recognise the child's signals and engage in the appropriate behaviour. For example, if the child cries quietly, the parent may give them a quick cuddle; but if the child cries loudly as if they have hurt themselves,

a faster and intensified response is obtained. In contrast, for insecure children, an insensitive caregiver may ignore or misread the child's signals and respond inappropriately. In the previous example, if the child cries quietly, the caregiver may on one occasion ignore them and not act, while on another occasion respond by stroking their arm gently. Over time, these inconsistent responses may encourage insecure attachment patterns to develop, which have been defined as resistant/ambivalent (C) and avoidant (A) (Ainsworth et al., 1978).

With consistent caregiving from the primary caregiver, it seems inevitable that securely attached children are better adjusted and more likely to reciprocate with more rewarding interactions, and to engage in less anxious or demanding behaviours. In contrast, those with anxious/ambivalent attachments are more likely to produce whiny and clinging behaviours, as opposed to detached behaviours from avoidant children who can easily become aggressive. Consequently, ambivalent or avoidant patterns can elicit a cycle of unfavourable responses from the parent, that continue to provoke the same behaviours from the child (Bowlby, 1988). These patterns are dictated by the child's inner representations of how their actions and their primary caregivers behaviours reciprocate. It is thus important to understand how the internal working model develops, as what the child learns from their environment provides the scaffolding for their future interactions.

#### **1.2.3 Internal working model**

The internal working model is considered one of the two key constructs of attachment theory (Waters & Waters, 2006). In the context of the reciprocal relationship with the mother and the child's increasing cognitive ability, a 'model of representation' is developed. This framework incorporates children's expectations about themselves, the world and relationships (Bowlby, 1973 & 1980). Such a model presents the child with a selection of actions, which can lead to solutions for dissolving different levels of distress in different situations, based on past experience (Bretherton, 1993). Children use verbal and/or physical behaviours with varying levels of intensity, depending on the expected outcome, for example the response required from the caregiver and the nature of the caregiver's response (Bowlby, 1969, 1973 & 1980). The style of caregiving will shape how the child's attachment pattern develops, as the style of caregiving received will be integrated into the working model for reference in future distressing situations. For example, those who receive sensitive and responsive caregiving will develop an internal model of feeling worthwhile and self-reliant. Whereas caregivers who are inconsistent in caregiving, or ignore the child's needs, will induce the (insecure) child to develop an internal working where they perceive themselves as being worthless and inept (Bretherton, 1988).

Through this reciprocal experience, Ainsworth and Bowlby suggested that every individual had their own unique way (model) of adapting to change and "shaped his interpersonal

environment in terms of inner working models of self and others" (Sroufe, 1986, p.842). They also emphasised that knowledge is a product of the accumulation of experience throughout early and later life. This means that the secure child will perceive their environment differently to how an insecure child would. For example, if the secure child perceives a mild indicator of danger, for example a spider, they may feel brave enough to venture near it, because previous experience has taught them that their mother will consistently attend to their needs, thus giving them confidence to explore further from their secure base. An insecure child may respond in one of two ways: either perceives it as too threatening, because the spider might hurt them and their mother might not come to their aid; or they may not regard the indicator as dangerous, due to not having learnt how to differentiate between various situations and environments.

In an attempt to explain how the internal working model develops, Thompson (1999) stated that the child collects information regarding expectations about others, long-term attachment-related memories, and the child's own narratives about events, thoughts and understanding of others (including the theory of mind). Thompson (2000) also suggested that for a high quality model to develop, the necessary medium for such collection is shared discourse; for example, in shared discourse with a sensitive caregiver who discusses openly and honestly a distressing situation, the child will comprehend what they have or may encounter, such as feelings or consequences. The child will then incorporate the knowledge they have gained from this event of shared discourse into their internal working

model (Thompson, 2000). This gives further concern about how difficult it may be for a deaf child to develop an internal working model, especially one of this complexity and quality, without the medium to communicate reciprocally.

#### 1.3 Maternal behaviour and attachment

It is worth considering the mechanisms that underpin different types of maternal behaviours, as the researcher will discuss in chapter two how maternal adjustment to the diagnosis of deafness can affect the child's attachment development. George and Solomon (1996) found that secure mothers gave a positive and realistic description of themselves and their child. In contrast, insecure rejecting mothers were negative, dismissing and not fully aware of the child's vulnerabilities or risks. Uncertain mothers gave ambiguous or contradictory descriptions which incorporated both positive and negative perceptions.

Further evidence for the effect of maternal behaviour on attachment style was established by Crittenden (1981 & 1988), who concluded that mothers signalled affective cues that reflected their own attachment patterns. For instance, a rejecting/inferring pattern may cause the mother to unintentionally show warmth to the infant, but when the infant responds accordingly, the mother becomes detached and withdrawn. These caregivers often do not know how to consistently elicit the desired response in their child, nor do they know how to accurately read affective cues. For these mothers to respond in a positive way, they would need to be taught to recognise their own emotions and behaviours before they are able to identify their child's needs, and consequently determine how best to meet them.

Maternal sensitivity is, however, not the sole determinant of secure attachment. This is not predicted by single factors, but rather by multiple and interacting parenting antecedents, as suggested by De Wolff and Van Ijzendoorn (1997). These authors concluded that no single factor of sensitivity could be 'exclusive'. Other factors found to be equally important were features of maternal interactive behaviour, such as positive attitudes, emotional support and stimulation. The researcher will, therefore, briefly discuss the main contributing factors, which may also have particular relevance to deaf children's development of attachment.

#### **1.3.1 Maternal discourse and attachment**

This subsection explores further how the communication between mother and child affects the quality of attachment, regardless of hearing status. The purpose of this is to introduce the reader to research in the field of communication and attachment, and thus highlight how these interact with each other. Consequently, the reader will appreciate in chapter two how the potentially more challenging issue of communicative competence may affect attachment development in deaf children, where the ability for communication may be lacking or be of a lower quality. Crittenden (1996) provides an interesting insight into the links of language and psychopathology from an attachment perspective, and emphasises that the use of language may be used to distract or mislead the child in the presence of an insecure caregiving style. The function of language is ultimately to share experience in communicative dyads (for example mother and child pairs), where the actual experience itself does not have to be encountered, and to share and receive information about events that have happened or are to happen, in conjunction with emotions. Language is thus an important tool in developing attachment constructs, but when the caregiver is not clear and consistent in their intentions, it can confuse or impair the chances of secure attachment development (Crittenden, 1996). Using real-life examples, Crittenden (1996) demonstrated how children with avoidant strategies may use language to meet their goals, by avoiding actual expression of affect or warmth, instead talking about irrelevant issues, or covering up true feelings in the presence of a significant other (caregiver/child).

Bowlby described 'open and honest communication' as being important for secure attachment development, because it encourages the development of self-esteem and selfconcept, with the mother being sensitive to the child's needs, while understanding their increasing desire for autonomy (Bowlby, 1988). Bowlby demonstrated this concept using cases of children who had witnessed serious traumatic events such as a parent attempting or committing suicide, who were then ridiculed or told by the surviving parent that what they had seen was not 'real', or a nightmare, or they were being 'silly'. Even though the surviving parent may have had the intention of trying to protect their child by not discussing the traumatic event, the child consequently learns to mistrust situations they experience, and starts distorting between reality and fantasy. Grossman (1999) explains that, although secure children do encounter negative experiences, they are able to discuss and, through dialogue, integrate "negative feelings, memories, motives, intentions and plans, as well as concern for others" (p.257). Whereas children with insecure attachment are not given the opportunity to discuss negative events or memories, as in the examples described by Bowlby (1988) in relation to traumatic events (as discussed above). Emphasising the importance of language, Grossman (1999) concludes that "beyond infancy, attachment development requires language discourse with significant others to establish meaningful relationships, as well as goals in life worth pursuing" (p. 266). This shows that it is important for children to communicate openly about distressing events with their attachment figure. This can prove difficult if a deaf child and their parent do not have access to communicative skills. There is thus a heightened possibility that if deaf children are not able to honestly discuss distressing events as frequently as hearing children, they may be at higher risk of clouding fantasy with reality, as suggested by Bowlby.

Referring to the example used by Grossman, where the secure child and their mother work through negative experiences, Bretherton (1995) defines this as 'co-construction'. Bretherton cites a study where a similar concept to Grossman is used by Miller et al. (1993). In the latter study, a mother and child repeatedly read a story with an upsetting event, until the child has resolved their concerns. This, as Bretherton points out, is the sign of open and honest maternal communication, equipping the child with experience and knowledge in dealing with a distressing event. If the mother does not read the book again, or only reads it once more, regardless of whether the child has resolved their concerns, they might internalise this experience and not learn how to respond to future stressors, thus potentially leading to insecure attachment (Bretherton, 1995). This could indicate that the child will not be taught the skills to recognise and discuss their emotions and associated behaviours. They may often become anxious, because by now they know of a certain trigger that could hurt them, but do not have the emotional intelligence to process it.

The concept of open and honest communication was validated further in a longitudinal study by Main et al. (1985), in which they observed communication between mothers and children at six years, who had previously been labelled secure and insecure at 12 months. It was found that the conversation between mother and child in the secure group was free flowing, with high content of affective expression, as opposed to insecure dyads where conversations were inconsistent, impersonal and lacked affective content. Klann-Delius and Hofmeister (1997) explored whether securely attached and non-securely attached children shared different levels of communication between secure and insecure children in the presence of a stressor, which occurred during the strange situation separation test. It was concluded that securely attached children may be better equipped to handle stressful

situations in terms of communicative competence. In contrast, insecure children often take longer to respond to their mothers. Klann-Delius and Hofmeister suggested that could "be an expression of a more problematic departure for the elaboration of a goal-corrected partnership in vocal-verbal dialogue" (p.86).

The importance of communication for the development of attachment can be understood from an educational and cognitive perspective by applying Vygtosky's (1987) model, which has been defined as Zone of Proximal Development. In this model, the adult provides the child with a structure, so that they can increase their knowledge and problemsolving skills. For the adult to successfully provide appropriate 'scaffolding', they should be sensitive to the child's needs, while at the same time encourage autonomy. In that way, the child can become more independent and confident in their own ability, while remaining reassured that they can receive help if faced with difficulties. This reflects the rationale behind attachment theory in an evolutionary sense, where, if the child encounters danger, they know that they can or will be protected.

In conclusion, these studies show that, regardless of the child's hearing ability, it is through shared discourse that they learn to deal with distressing situations and arising emotions and to achieve assuagement. This provides hope for mothers of newly diagnosed babies with a hearing loss, as it indicates that the hearing loss itself should not be a barrier. One ponders the question whether, even if a hearing mother is sensitive, she may still need information and support on how to communicate with her deaf baby. This is because hearing mothers having been brought up as hearing people, rely on their hearing to communicate. In contrast, a number of communication techniques are employed by deaf mothers of deaf children (as discussed in chapter two) that have been found to lead to more effective maternal communication.

#### 1.3.2 How maternal discourse can affect deaf children in their development of

#### attachment

Bretherton (1995) found a strong influence of the maternal role on attachment development, but this influence can be weakened if the child has cognitive difficulties that impair their ability to understand communication. Bretherton states that those cognitive deficits can be counter-balanced by an open and honest maternal communication style. The underpinning mechanisms are, however, more complex. For example, when the mother is not supported, she may feel inadequate in her ability to communicate with the child, and this lack of skills can affect her behaviour towards her offspring.

The previously discussed findings demonstrate the significance of the discourse in which a child engages, rather than the importance of the phonetic production of words. Unfortunately, society is preoccupied with speech (Munoz-Baell et al., 2008), which is reflected in many parents' initial responses to receiving the diagnosis of their child's deafness and their concerns regarding whether their child will learn to speak (Marschark,
2007). As will be discussed later in this chapter and chapter two, communication has been found to facilitate secure attachment, whether in spoken or sign language (see chapter two). The researcher will now discuss briefly how cognitive development can impact attachment, as this factor is linked with both linguistic and communicative development.

#### 1.4 Interaction between cognitive development and attachment

As already discussed, cognitive and linguistic development facilitate the evolution and maturation of attachment strategies. It is also important to consider the context in which the child's attachment could be affected when their cognitive development is not nurtured. If the child does not have access to communicative skills to allow them to engage in discourse with their mother, this may in turn affect their attachment development and consequently their cognitive development. The researcher will, therefore, briefly consider theories and their evidence base of the relationship between attachment and cognitive development.

Bowlby describes that a child who is secure will have the confidence to explore their environment, as they know that their caregiver is available if they need her. The child then develops this confidence further, as they become increasingly capable of processing more complex information and learning about their surroundings. Based on this framework, several studies examined differences in cognitive ability between secure and insecure children. For example, Vondra et al. (2001) found that children aged three and a half years, who had been categorised as having secure attachment at 12, 18 and 24 months, were more likely to have higher emotional and behavioural regulation ability than those with insecure attachments. They also found that the child's attachment category at the ages of 12 and 18 months did not predict whether they had externalising behaviour problems at three and a half years, whereas the latter were predicted by attachment categorises (insecure or disorganised) at 24 months.

An area of great interest in deaf child development is that of theory of mind (which is discussed further in chapter two). As previously discussed, level of communication has been found to have some impact on development of secure attachment, and this could be compounded by the development of theory of mind. It was found that maternal references to state of mind were associated with theory of mind development in hearing children, however the use of maternal references was not associated with attachment security (Ontai & Thompson, 2008).

Exploring other aspects of child development, Jacobsen et al. (1994) found that selfconfidence was higher in children with secure attachment than those with insecuredisorganised attachment. Securely attached children also had higher skills of cognitive functioning than children of the same chronological age but with insecure attachment representations. The authors speculated as to whether it is the child's inherent cognitive skills that enable them to develop secure attachments, or whether secure attachments can lead to higher cognitive functioning. Jacobsen and Hoffman (1997) conducted a further study with children aged 7-15 years, and found that secure attachment representations were significantly associated with attention-participation, security about self and academic achievement. The research design did not enable the researchers to explain why secure children performed better in these tasks, as both variables could be mediated by other factors such as maximising school attainment because of more adaptive social functioning and relationships.

Similar mechanisms are possibly involved in the development of mental health problems. Several meta-analyses, for example Green and Goldwyn (2002), found that "attachment disorganisation is a powerful predictor of a range of later social and cognitive difficulties and psychopathology" (p.835). This finding is of relevance in deaf children. As deaf children have a high prevalence of mental health needs, a plausible hypothesis is that a substantial proportion of these deaf children might also have disorganised attachment patterns. This association has been postulated for disabled children by Howe, who suggested that "...if children with a disability are indeed at increased risk of maltreatment, then we should expect more disabled children than non-disabled to have an attachment classification of disorganised." (2006, p.750).

The researcher has so far highlighted findings on the relationship between emotional regulation, cognitive development and attachment. The reader has to bear in mind, in the

context of language difficulties that the development of cognitive and emotional skills may prove a challenge for deaf children, thus potentially interfering with the development of secure attachment. For this reason, previous research on disabled children will be critically reviewed from the time the parents were given the diagnosis of disability to later childhood. As previously highlighted, absence of special needs does not guarantee that the child will develop secure attachment. It can, however, be more difficult for children with special needs to develop secure attachment because of additional barriers, for example communication or cognitive development.

# **1.5 Parents of disabled infants**

It is thus important next to consider findings from research with hearing children with disabilities, and how their attachment development can be affected. This is because such a major life event can impact on the child's attachment pattern if the parents do not resolve issues surrounding the diagnosis of their child's disability (Heard & Lake, 1997). This discussion will aid further understanding of the implications for parents when they are faced with the diagnosis of their child's deafness, as well as their coping responses (see chapter two). In the following section, the researcher discusses evidence of potential consequences for the mother-child relationship when receiving a diagnosis of disability. Similar processes operate for deaf children and their families, in the context of existing professional attitudes and available supports.

# 1.5.1 The parents: trauma of the diagnosis of the child's disability and consequences for the mother-child relationship

The loss of an attachment figure is often classified as a traumatic event (Bowlby, 1973 & 1980) and so is the experience of the non-physical loss of a 'perfect' baby through receiving a disability of diagnosis. This traumatic event cannot be underestimated, as "to lose a symbol of attachment is to lose a part of oneself" (Williams, 2006, p.323). Following the diagnosis, it is recognised in the literature that parents may go through stages of grieving, including shock, denial, anger and depression (Beazley & Moore, 1995); guilt (Worden, 2002); and changes in their psychosocial functioning (Huebner and Thomas, 1995). The key factor to consider is whether the parent successfully resolves their grief, and is therefore able to move on to deal with the challenges and consequences of the diagnosis.

Ho and Keiley (2003) suggest that parents may not be able to come to terms with the diagnosis if they continue to deny it. Despite this, several researchers suggest that most parents are able to eventually come to terms with their child's disability (Frey et al., 1989). The earlier authors Ho and Keiley (2003) reviewed studies and suggested that the way the parents come to terms with the diagnosis can depend on what societal and educational views exist on a particular disability. Even so, there is a risk that professionals expect parents to go through those stages of grieving, and if they do not exhibit those symptoms, the professionals may think that the parents are not accepting the diagnosis (Beazley &

Moore, 1995). Beazley and Moore even go as far as stating that professionals can misinterpret parents' distress as a natural grief reaction, when in fact parental distress is due to the limitations of the services they receive.

A holistic theory of how parents adjust to having a disabled child has been put forward as the Stress and Coping model (Lazarus & Folkman, 1984). This model incorporates the stressor, its context, how the person appraises the stressor, and how the environment and others affect the stressor. It also considers how the parent copes with the stressful situation, by regulating (modifying or stopping) the stressor through an emotion- and problemfocused approach (Knussen & Sloper, 1992). This model has useful practice implications, as it can empower parents to reflect on their situation, for example with more information on the diagnosis and options on what to do next. The above-mentioned framework of the stages of grieving is a rather negative model, where the parent is perceived as a passive individual who cannot be enabled to deal with the diagnosis in a more positive way. Knussen and Sloper (1992) make an interesting point that many professionals working within the 'medical model' with regards to disabled children, predominantly focus on a 'cure', rather than helping parents with information on the diagnosis, alternative options and psychosocial support. Such professionals often view deaf children in the same way. The implications of the medical model for deaf children's development are discussed in chapter two.

Parents who have been unable to accept the diagnosis, or who have not received support to positively adapt to having a deaf or disabled child, could end up having negative expectations of their child's ability, and this may affect their parenting. For example, they may be less encouraging towards the child as a result of their own negative expectations (Gilbride, 1993). Moses (1985) suggests that, if the parent does not accept the diagnosis, this can adversely affect their attachment. Consequently, it is important to facilitate the grieving process, because without acceptance the parent cannot move on from the diagnosis to the pragmatics of bringing up their child. As the child grows up and attempts to meet each expected milestone, the parent may re-experience grief (Moses, 1985). This may be related to their lack of preparation and understanding that disabled children achieve milestones at different times and how best to help their child achieve its potential.

Recent evidence by Barnett et al. (2006) supports the above theory. This study highlights the importance of mothers' grief resolution regarding their child's diagnosis of a congenital disorder, using the 'Reaction to Diagnosis' interview developed by Pianta and Marvin(1992a &1992b). Children with secure attachments were significantly more likely to have mothers who had successfully adapted to their child's diagnosis. The sample, however, included children with different types of disorders. For example, children with physical disorders that could be treated or corrected with surgery, had parents who were more likely to have a "resolved state of mind" (Barnett et al., 2006, p.103) than those children with neurological disorders. This may inevitably affect how the parents adapt, as

they may feel more negatively about their child's diagnosis if they believe this cannot be treated, or their child will never improve. The authors suggest that more efforts are needed to help parents to resolve the diagnosis early on, in order for the whole family to adapt positively to their child.

This is an interesting point because, even though these diagnoses of physical disability or deafness are different, there are also similarities in how the diagnosis of deafness may be perceived by parents. If a parent perceives the diagnosis of deafness as very negative, for example, in the context of the medical model (their child has something wrong with them), they may have more difficulties in resolving the diagnosis than if they viewed it through the cultural model, which holds that their child is just as able to fully function in society as any hearing child. In reference to an earlier section on the mechanisms underpinning different types of maternal behaviour, a mother with a negative self-perception, thus engaging in an insecure style of caregiving, may find it harder to adjust to a diagnosis of disability of which she has minimal knowledge (George & Solomon, 1996). In contrast, a secure mother who has a more positive view of herself may be more confident and resilient, able to learn and adapt to the diagnosis, and more sensitive in realising what is needed in terms of maternal care (e.g. learning how to communicate). In light of these issues, the researcher will explore other aspects of the relationship between the maternal caregiver and the disabled infant, as it is in this interpersonal space that the child's attachment pattern develops.

#### 1.5.2 Maternal communication with disabled infants

Mothers of disabled infants may try to over-compensate for their child's difficulties in spontaneously initiating communication or engaging in fluent turn-taking. Brooks-Gunn and Lewis (1984) reviewed previous research and stated that in play sessions, mothers of disabled children were often more controlling in their interactive sequences than mothers of non-disabled children. These findings are still being confirmed 20 years later (Kim & Mahoney, 2004) where mothers of disabled children have been identified as less sensitive and more directive in their interactions than mothers of normally developing children. These authors put forward an interesting question: "Are parents more responsive and affective because their children are more active and engaged, or do children become more active and engaged because their parents have a responsive and affective style of interaction?" (2004, p.36). One could apply this question to deaf children and parental communication: would it be the child's characteristics that enabled them to engage more with their mother, even if she did not know how to communicate with them, or would the mother need to know how to communicate with her child in order to enable them to interact with her?

# 1.5.3 Attachment research in disabled infants and children

An overview of attachment research in disabled children is relevant to the thesis, because of the potential implications for deaf children where some caregivers may view their child in the medical context (in a negative light as 'hearing impaired') rather than in the cultural context (positive member of the Deaf community). In the former medical context, there may be similarities between deaf and physically or learning disabled children, therefore research findings on the attachment relationships among such groups will be briefly reviewed.

# 1.5.4 Attachment theory and disabled children

According to the attachment theory, maternal sensitivity would allow for the child's disability to be accurately and sensitively cared for. In other words, the mother would be able to meet the child's needs and tailor her own actions, such as communication or physical interactions, to promote the child's development. The influence of maternal behaviour has been found to be a more important factor in determining attachment security than child-related problems. In a meta-analysis by Van Ijzendoorn et al. (1992), the authors found that, "when children are impaired (physically or mentally in various degrees), their mothers are generally capable of compensating for this potential handicap in the dyadic relationship; child problems do not, therefore, usually, lead to a significant decrease of secure attachment compared to the normal population" (p.854). Although there may be a higher likelihood of insecure attachment styles, having a disability is not a risk factor per se.

This view was partially supported by Tessier et al. (2002) who found that disabled and non-disabled infants were distinguished by the quality of insecure codings, rather than by the proportion of secure-insecure coding. This means that, although there were no differences in the proportion of secure and insecurely rated children in the disabled versus non-disabled group, it was the quality of the behaviours exhibited by the disabled children in the insecure codings that were different to those shown by the non-disabled group. The authors explain that the scores were lower in the disabled group (meaning more insecure) than for the non-disabled group. Even though those results may show no differences in disabled and non-disabled children's attachment, the authors stress that insecure attachment-style behaviours manifested more during the observations of the disabled group. As children in this study were 15-24 months of age, the researcher queries whether the attachment style could change after the age when children were expected to develop higher communicative and physical ability, for example detailed conversations and walking towards the attachment figure. This is especially true if, for instance, the parent has not come to terms with the diagnosis of disability, and does not accept that their child may not reach all milestones of 'normal' development.

The researcher will also briefly discuss the evidence on the relationship between autism and attachment, because deaf children are commonly compared to children with autism in terms of theory of mind development. Due to many deaf children not having access to learning communication, they may also have a delayed development in theory of mind. This will be discussed further in chapter two.

#### 1.5.5 Autism and attachment

In previous studies on attachment and autism, different variables have been found to be related to security of attachment. For example, Sigman and Ungerer (1984) found that the skill of symbolic play was the strongest predictor of secure attachment. In contrast, Sigman and Mundy (1989) found no differences in autistic children's attachment behaviours, in groups with and without representational skills. This was supported by Naber et al. (2007), who found no association between coding of attachment security and skill of associated joint attention skills in play for children with autism. However, in a subsequent study (Naber et al., 2008), the same authors established that length of play was associated with attachment security in children with autism. What is of more significance was that they found the attachment security to be a stronger predictor of the child's development of play than their autism disorder. Naber et al. (2008) also identified differences in length of play between secure and disorganised children with autism spectrum disorder. This indicates that secure attachment can help the child improve their social play and learn more advanced types of play (e.g. symbolic).

These studies have important significance for deaf children because even with children who only have a hearing loss and no neurological deficits, their access to language learning could delay their development of communication skills. In this case, children and mothers who have insecure attachment could be given support in order to interact more efficiently and learn communication techniques to help the child develop a range of skills.

# 1.6. Cross cultural application of attachment theory and measures

It is relevant to briefly discuss research in attachment and cultural differences because in the Deaf community, there is a socio-cultural model that classifies a Deaf person as a member of a cultural and linguistic minority (please refer to chapter two for more information). The secure-base construct of attachment theory is said to be present in different cultures (Ainsworth, 1967). The debate starts when researchers try to identify how mothers behave from culture to culture and whether those behaviours reflect the same attachment styles or not. Carlson and Harwood (2003) concluded that there should be a culture-specific definition of maternal sensitivity. This is because from their study, they found that even though the maternal behaviours of Puerto Rican mothers were of a more intrusive and controlling nature than Anglo-American mothers, they were warm and sensitive and consistent with their culture's expectations of their child's behaviour. Carlson and Harwood (2003) explained that in the context of Ainsworth's (1973) definition of maternal sensitivity. Puerto Ricans mothers would be classified as 'interfering', which these authors believe is not the case. In another cultural study, Yeo (2003) explained how Aboriginal children in an Aboriginal community will have several mothers and may be breastfed until five years old, which is not the norm in westernised culture. This could

result in the children being assessed as having different styles of attachment if classified using westernised definitions of attachment. Cheung and Hong (2005) also discuss that cultures may have a different outlook, for instance, 'individualistic' is used to describe American culture, whereas 'collectivistic' is more appropriate for Chinese communities. Using an ethnographic approach to defining maternal behaviours, Posada et al. (2004) investigated the concept of maternal sensitivity having a link with security of attachment and found that even when they described maternal behaviours in Colombian mothers, the definitions were similar to Ainsworth's (1978). These authors however acknowledged that even though the secure-base construct can apply to different cultures, there could be culture-specific maternal behaviours which are "context sensitive" (p.510). They suggest the need for validated attachment instruments for measuring quality of attachment in a cross-cultural context attachment. Rothbaum et al. (2007) stated that there were differences in maternal caregiving in Japanese and American mothers where Japanese mothers valued accommodating (sensitive to others' needs) behaviours more than American mothers who wanted their child to be as successful as possible. These findings reflect Cheung and Hong (2005)'s description of individualistic (American) and collectivistic (Japanese). In their conclusion, Rothbaum et al. (2007) emphasise that an understanding of cultural values and history is crucial in studying attachment within that context.

# **1.7 Summary**

The application of attachment theory and research to disabled children gives indication of what issues need to be considered in deaf children and attachment, where there is a paucity of available research evidence. It has been demonstrated that from the time that the diagnosis of disability is established, through to how the mother engages in communication with her child, can mediate how the child's attachment develops. As ratings of security are similar in disabled and non-disabled children, interventionists should therefore strive to enable secure attachment by investigating how best to meet the caregiver and child's needs. Differences identified in cross cultural research in attachment indicate that this might need some consideration in administration of an attachment instrument that was developed for use with hearing children. However, the lack of research may be related to the absence of appropriate and standardised measures for use with deaf children. The task of the study is rather vast in the context of almost non-existent research on deafness and attachment to offer any methodological guidance. The researcher will next introduce the reader to some aspects of and evidence on deaf child development, which will enable the reader to establish potential links between deafness and attachment, and thus can inform the aims and design of this study.

# **Chapter Two**

# Developmental issues of deaf children

#### **2.1 Introduction**

The aim of the chapter is to introduce the reader to literature on deaf child development, in particular attachment and communication issues. The child's development, through their interactions with their caregiver, will mediate how their attachment pattern develops. Professionals involved in the child's care constitute a third mediating factor, which varies across services. Their impact can be both positive and negative and is relevant to this study because their advice and intervention can affect the parent's caregiving style. This critique of the literature thus forms the foundation to the argument on the importance of understanding further the attachment development in deaf children. Before attachment in special needs populations is studied, the apparatus that measures their attachment patterns needs to be verified as appropriate. In order to understand what could interfere with the child's ability to perform an attachment assessment in terms of their development, the researcher will identify potential key areas that could prevent optimal development that may in turn affect their performance in the assessment.

#### 2.2 Background

As there is sparse research on deaf children and attachment, the researcher took the opportunity to discuss findings in deaf children and selected associated factors, for example, maternal discourse. The aim of this is to bridge the research gap between the fields of deaf children and attachment, by considering the evidence about the effects on attachment development of factors such as professional support and communication. Particular aspects of maternal communication and their association with attachment development have been extensively researched in hearing, but not deaf, children. It is thus important to also examine these connections in deaf children and their parents. Throughout this discussion, it should be emphasised that deaf populations are heterogeneous (Marschark, 1993), with their development depending on multiple variables such as hearing loss, age, professional intervention, and family functioning. This, therefore, represents a challenging group in terms of conducting research and identifying variables that affect child development in the emotional, language, social and psychological domains. The understanding of concepts and terminology is important in the interpretation of the literature, for which reason, key issues in deaf child development are overviewed below.

#### **2.3 Terms of reference**

Although the researcher does not view deafness from a medical perspective, she considered it was important to enlighten the reader with regards terminology relating to both the medical and cultural models of deafness and communication modalities. Firstly, the researcher will discuss the different methods of communication, as communication is the main characteristic of developmental research in deaf children. Secondly, the definitions of deafness will be discussed, because these affect how deaf children are perceived in research and by society.

# 2.3.1 Communication modalities

There are three communication modalities which can affect how the child develops, is perceived and assessed. These modalities are outlined below:

 Table 2.1 Communication Modalities

British Sign	This is a fully functioning structured natural language with grammar and			
Language	vocabulary (Sutton-Spence and Woll, 1999). It is the natural language of			
(BSL)	the Deaf community (Ladd, 2005). If someone is 'signing', that means			
	they are communicating in sign language. Even though it is the natural			
	language of the deaf community, the second, oralist approach is still			
	dominant in the UK (Grimes et al., 2007).			
Oral	The term <i>oral</i> refers to a child that communicates in spoken language,			
	without the use of sign language. This method emphasises the use of			
	residual hearing, lip-reading and speech (Adams & Rohring, 2004)			
	explains this approach emphasises the use of residual hearing, lip-			
	reading and speech.			
Sign Supported	Sutton-Spence and Woll (1999) explain that SSE communicates the			
English (SSE)	main lexical items in sign language, where the rest of the sentence, for			
	example the grammar, is spoken. This method can be incorporated into			

conversations by people who are either fluent in BSL who have limited
English or those fluent in English and with limited signs vocabulary.

The language used can often indicate the model adopted by the professionals, family and school. The researcher will, therefore, discuss each model and its potential implications for the child's development and attachment.

#### 2.3.2 Medical and socio-cultural model

It is important for the reader to contextualise different definitions of deafness when evaluating deaf research. This is because how the deaf child is viewed as an individual, can affect their sense of self and how their family and others treat and interact with them.

# 2.3.2.1 Medical model of deafness

The pathological or medical model of deafness requires that the hearing loss is corrected or 'cured' (Munoz-Baell et al., 2008). The aim of this model is that the child will learn to lipread and speak like hearing people (Munoz-Baell and Ruiz, 2000), and thus be accepted by society. There are several implications of this model for the child's development. One is the misconception that the child can understand people through lipreading without additional aids (Alegria et al., 1999). Another is that although hearing aids and cochlear implants do not restore full hearing, there has been a substantial increase in the number of

deaf children using implants (Leigh et al., 2008). In contrast, the researcher will now discuss a model where deaf children are not regarded as requiring treatment.

#### 2.3.2.2 Social and cultural model of deafness

The social and cultural model views the deaf person as Deaf (with capital D), rather than disabled (Lane, 1995), i.e. as member of a linguistic minority who uses sign language (of any nationality) and is proud to be a fully functioning member of their Deaf community with a Deaf identity (Munoz-Baell and Ruiz, 2000). The Deaf person is not perceived as needing treatment or rehabilitation, and is given every opportunity to access and learn sign language. Ladd (2005) takes a cultural-linguistic perspective and describes Deaf people as 'visuo-gesturo-tactile biological entities' (p.13) who can contribute positively to society. In an additional interpretation of this model, the learning of British Sign Language allows the person to develop a Deaf identity (Valentine and Skelton, 2007a).

These two models, therefore, represent two very different environments for the child to grow up in. In the former, the child is expected to conform to the language of their hearing parents and the hearing society in their home, family and school life. The latter model is based on the framework of learning sign language and developing a Deaf identity.

# 2.3.3 Hearing levels and what they might mean

It is important to consider different levels of hearing loss, as their meaning can be confusing. Definitions used in the field of deafness can be misleading to the deaf individual and their families as to the child's capabilities in hearing and speech. The degree of hearing loss can be mild, moderate, severe or profound (Marschark, 1993), but the same hearing loss may affect each child differently (Roberts and Hindley, 1999). This means that a child should not be assessed negatively against another child who has the same hearing loss, for example if their speech development is not comparable.

Medical description	Level of hearing loss (decibels-dB) (British Association of Teachers Of the Deaf, 1985)	Example of what the child can hear (RNID, 2007)
Mild	No more than 40 dBHL	Some difficulty hearing speech
Moderate	41- 70 dBHL	Difficulty hearing speech without hearing aid
Severe	71-95 dBHL	Relies a lot on lipreading, even with hearing aid
Profound	96 dBHL or over	Relies on lipreading

Table 2.2 Formal and informal definitions of hearing loss

# 2.3.4 Different labels of 'deafness'

To complicate matters further, there are also different labels to categorise a person with a hearing loss. These largely depend on the preferences of parents, professionals and the deaf person themselves (Roberts & Hindley, 1999).

Label of 'deaf'	What it means	Who might use it
deaf	Any hearing loss. Usually used	Parents, professionals or the deaf
	in research to mean those who	person themselves.
	do not use sign language.	
Deaf	Member of Deaf community	The Deaf person, their parents who
	and uses sign language.	accept their identity as member of deaf
		community, and the deaf community.
Hard of Hearing	Oral deaf person. Does not use	Parents, who may have problems
	sign language and uses speech.	accepting their child has a hearing
		loss, and the deaf person themselves.
Hearing	Full range of hearing loss. Deaf	Popular with professionals and
Impaired	community regard this label as	doctors, or parents who do not want to
	a negative label, because it	admit their child is 'deaf'.
	implies they have an	

Table	2.3	Different	labels (	of 'deaf'	(Taken	from	Roberts	and	Hindlev.	1999)
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'impairment'.	

#### 2.4 Epidemiological findings in the deaf population

The researcher will introduce some epidemiological findings in deaf children, discuss newborn hearing screening programmes and their implications, difficulties in diagnosis, psychopathology, co-morbidity, and risk factors such as abuse. The incidence rates for psychopathology, co-morbidity and abuse in deaf children are high, putting the child and parent under more stress, which may provide a less than optimal environment for developing secure attachment. The initial step of having the diagnosis of deafness is not easy, and this constitutes an early stressor for parents.

#### 2.4.1 Diagnosing deafness

Every year, 840 babies are born deaf in the UK, equivalent to a prevalence rate of around one in 1,000 children (Davis et al., 1997) and the NDCS even suggests that "three babies are born deaf every day" (NDCS website, 2009). Fortnum et al. (2001) found there were 3,800 babies aged nought to four years with a moderate to profound hearing loss in the UK, along with 17,700 children aged five to 16 years. For the population of 17-25 years of age, the figure is 13,300, which amounts to a total of 34,800 moderately to profoundly deaf people from 0 to 25 years living in the UK (NDCS, 2003). However, until recently, it has been the norm for many deaf children not to be diagnosed until their preschool or later years, mostly not before the age of three years (Koester and Meadow-Orlans, 1990). This

means that the sample in the thesis might have been diagnosed as showing hearing loss at a late age. Consequently, the quality of attachment could be affected due to lack of access to communication or interactive experiences between the child and their parent. The researcher will now briefly discuss the newborn hearing screening programme, as this is becoming well established. Further research on attachment will most likely include children who have been diagnosed with their hearing loss at earlier ages.

# 2.4.1.1 Newborn hearing screening programme

The researcher will not discuss the technical procedures involved in this programme, but will rather highlight the psychological considerations that are relevant to the infant-mother relationship. When the thesis started, this programme had not yet been adopted by the NHS, but was welcomed by many professionals in the medical field. The programme consists of screening babies within a few days of birth, to identify which babies need to have a full hearing assessment at a later stage. This then allows professionals to intervene on a medical and audiological basis. The audiologists argue that it is of benefit to the infant at this time, when their brain has maximum adaptability, to be stimulated audio-orally, in order to learn to recognise sounds, phonemes and produce speech (Cone-Wesson, 2003). The researcher will now discuss both the benefits and concerns regarding the newborn screening, and their potential impact on the mother-child relationship.

Parents will recollect everything that happens at the time of being given a diagnosis of deafness for their child (from interviews with parents in Gregory, 1995), and these experiences will remain vivid for the rest of their lives. The situation is similar to that of parents of autistic or other disabled children (as discussed in chapter one), such that if the right social and emotional support is not provided in parallel with medical support, their bond with the child could be adversely affected. Some researchers suggest that it is of benefit that the diagnosis of hearing loss is not made so early. For example, Meadow-Orlans (1990) who stated that "... after the immediate postpartum period is over, the parents and the child usually have had time to develop a healthy attachment before the diagnosis of deafness" (p.308). Preisler (1999) proposes that parents and their deaf children already start to develop natural interaction, which will be interrupted once the diagnosis has been made. This is because the parent will be encouraged to focus on their deaf child's speech, instead of continuing to develop their existing interactive experiences. Later in the chapter, the researcher will discuss how the impact of receiving a diagnosis of deafness can have longstanding negative consequences if family support is not in place to help the child reach their full potential in all domains of development, including communication.

The newborn hearing screening programme was initially set up without any psychological support (Davis and Hind, 2003), along with a 'guideline' for services to follow which was not compulsory ('Department for Education and Skills', May, 2003). The general aim of the screening was to provide intervention for speech and hearing training as early as

possible. The NHS website<sup>1</sup> (2009) makes no reference to emotional, social or psychological support for parents whose baby has been diagnosed as possibly having a hearing loss. It plainly states that the baby will need a second hearing test. So, once a baby is diagnosed as having a possible hearing loss, the time that parents would normally spend enjoying precious time with their newborn is instead spent waiting anxiously for the next test. This could severely impact on the initial stages of bonding and the attachment relationship between the deaf child and their parents.

On the NHS website mentioned above, there is a leaflet, 'your baby's hearing screening' (2009), in which it claims: "Finding out that your baby has a hearing loss early means that you and your baby will get advice and support right from the start." (p.19, 2009). Unfortunately, this claim has not been supported by Tattersall and Young (2006), who found that parents' experiences of the screening was that they did not receive consistent and sensitive support from professionals. Examples included professionals not being clear on the details of their child's hearing loss and what it might mean in terms of hearing; lack of sensitivity in giving the diagnosis; or lack of support to enable the parents absorb the news. In addition to what has been found in terms of grieving, emotional and psychological

<sup>&</sup>lt;sup>1</sup> http://hearing.screening.nhs.uk/

adjustment to the diagnosis, services can further endanger the parents' confidence in caring for their deaf child. From their first day of life, the baby can go through as many as five appointments to confirm their diagnosis. Alarmingly, Tattersall and Young (2006) found that, from the initial test straight after birth, which identifies a possible hearing loss, it can be up to 213 days for the hearing loss to be confirmed. This crucial time for mother-child bonding could instead become a time of worry for the child's future, and this can negatively affect the relationship, which supports earlier findings mentioned above. It will, therefore become imperative in the near future that research should be conducted on deaf children, who were diagnosed at much earlier ages, to identify variables which could affect the attachment relationship, such as length of time for diagnosis, intervention and support. Further discussion of the impact of diagnosis will be presented later in the chapter.

As there are discrepancies in the level of intervention from services surrounding the child's diagnosis, this could contribute to the heterogeneous nature of the deaf population, which thus consequently interferes with educational professionals' ability to diagnose whether they have a learning disability. This is because (as discussed later) different levels of intervention can impact on the child's development, and their chronological age cannot be taken as an indicator of their linguistic and cognitive development.

#### 2.4.2 Profile and co-morbidity among deaf children

The lack of knowledge about deafness, language acquisition and development in spoken and sign language can lead to incorrect assessments of deaf children. Due to this, there have been contradictory findings, as pointed out by Knoors and Vervloed (2003), with incidence rates of deaf children with learning disabilities varying between three and 60%. In a sample of 1,150 deaf children, Jure et al. (1991) found that four percent had symptoms that fulfilled the criteria for autistic spectrum disorder (ASD). This is a high prevalence when compared to the 0.9% for the hearing child population diagnosed with ASD (Green et al., 2005). Due to such high prevalence rates, the researcher will be aware that a deaf child with undiagnosed ASD may have been included in the study.

About 20-40% of all deaf and hard of hearing children are diagnosed with additional disabilities (Holden-Pitt and Diaz, 1998). This is because most causes of deafness have an underlying aetiology of brain damage, such as prematurity, meningitis, prenatal rubella and genetic syndromes (Bond, 2000). Due to the difficulty of diagnosing physical or learning disabilities in deaf children, the researcher also has to be aware that deaf children included in the research may have undiagnosed disabilities. This could present the researcher with more challenges in adapting an attachment assessment to meet the needs of an even more heterogeneous group than that for which it was originally intended (i.e. for non-disabled deaf children). It would also affect the quality of data collected on the child's attachment strategy. The likelihood that some deaf children in this study have additional needs, means

not only that the risk for insecure or disorganised attachment is higher, but also that the accurate observation and assessment of their attachment style is much harder.

Due to the circumstances leading to the diagnosis of deafness and the level of support the family receives, a deaf child has a relatively high risk of developing emotional or behavioural problems, and this will be briefly discussed in the context of attachment relationships with their carers.

#### 2.4.3 Psychopathology

Hindley (2000) states that earlier studies found prevalence rates for emotional and behavioural problems varying from 15.4% to 60% among deaf children. These are two to five times higher than the equivalent rates for the general hearing population. Further support for these findings was provided by Van Eldik et al. (2004), who identified that the ratio of deaf to hearing children with emotional/behavioural problems was 2.6. In addition to this ratio, a recent study found no relation between degree of hearing loss and rate of mental health problems (Fellinger et al., 2008). One must not be quick to pinpoint the deafness itself as being the root of the child's susceptibility to mental health problems, but rather the child's lack of access to hearing and hence communication that would enhance their development (Bond, 2000). In other words, ordinary family life and everyday situations are hard without any adaptations made for the child's lack of hearing. This is endorsed by Stokoe, who states: "What family, society and specialists think and do, have

more effect on the child's cognitive development than not hearing." (2002, p.7). Indeed, Vaccari and Marschark (1997) point out that if a deaf child is allowed to have access to the world through a communication medium, this will facilitate optimal development in emotional, cognitive and social functioning, and including an enhanced sense of self.

Due to the lack of understanding by generic mental health services of deaf people's development, culture and sign language, few deaf children and adults who need mental health services will actually get the help they need (Pollard, 1998; Greco et al., 2008). This is due to a lack of awareness of deafness and deaf people's needs, especially the linguistic and cultural differences that would otherwise prompt professionals to an earlier and more accurate recognition that mental health interventions are required. Deaf persons themselves do not usually know of such specialist (and still scarce) services and how to access them (McClelland et al., 2001). Deaf children's communication difficulties and potential mental health problems place an already vulnerable population at higher risk of abuse and neglect. This is because abuse victims are typically chosen for their low self-esteem and have fewer opportunities to communicate what is happening to them (Kvam, 2004). Mental health problems and trauma can thus all add to the risk of disrupting the attachment relationship with their caregiver.

#### 2.4.4 Abuse in deaf children

The researcher wanted briefly to dwell on this area, because of the significant possibility that deaf children who have also been maltreated are more likely to have disorganised attachments (Howe et al., 1999). It has been repeatedly reported that children with disabilities, including deaf and hard of hearing children, have been found to be at higher risk of maltreatment than children without disabilities (Kendall-Tackett et al., 2005). Sullivan and Knutson (2000) studied police reports and identified an incidence rate of abuse 3.4 times higher for disabled (including deaf) children, compared to non-disabled children. Maltreatment has been defined as "including neglect, physical, sexual or emotional abuse, or any combination" (Sullivan et al., 2000, p.149). Kennedy (1996) states that "lack of sign language or good communication skills is a real risk factor" (p.31) for sexual abuse in deaf children. This highlights how important it is for the deaf child's personal wellbeing and safety that they can communicate effectively with their close ones. Kvam (2004) found that deaf children are at higher risk of being sexually abused at a ratio of 2:1 for girls and 3:1 for boys in comparison with hearing children, thus providing evidence in support of previous theories on the mediating role of communication.

#### 2.5 Development of communicative skills

The researcher will briefly introduce the basic concepts of communication development in both speech and sign language. This has been hotly debated since an infamous conference in Milan, Italy, proposed that countries stop using sign language, which effectively banned deaf children accessing and learning sign language in 1880 (Del Pilar Fernández-Viader & Fuentes, 2004; Hutchison, 2007). Even though the debate in the field of education for deaf children continues to this day (Miller, 2008), access to sign language is a basic human right in terms of 'freedom to speech' (Siegel, 2002, p.258). The researcher only wants to highlight the complexities involved in developing speech or signing by deaf children, so that the reader is aware of the added burden when learning to effectively interact and communicate with their mother and other carers. This will be followed by a section on maternal communication, which is important in contextualising attachment development in deaf children.

Communication skills cover spoken and sign language. The two languages can enable the child to communicate with those around them, if they are given ample opportunity to develop their skills in either or both modes. As noted earlier in the chapter, deaf children are not offered consistent opportunities; therefore, the quality of communication development may vary greatly across this spectrum, regardless of the extent of the hearing loss. As this topic is involved and complex, it is beyond the remit of this chapter. Instead the aim of the chapter is to contribute a balanced view of development in both modes according to existing evidence. The researcher will introduce the basic key precursors of speech and sign, with the challenges or successes the child may encounter. For some professionals, spoken language is the same as language development; for example, the use of sign language equates to not having a language at all (Preisler, 1999). This is a negative

attitude towards sign language and could affect the child's confidence, if they are struggling with speech. Preisler (1999) suggests that language is not developed through hearing and the production of vocal sounds, but rather through the reciprocal and joint attention to actions, understanding, and enjoyment in relationships. The researcher will briefly discuss common key stages and factors in speech and sign language development.

#### 2.5.2 The spoken word

As deaf children have a hearing loss, the degree of hearing loss will inevitably affect how well they hear and speak in English. There are multiple factors that may mediate how well the deaf child learns to speak, and these are briefly discussed.

Briefly, Geers and Moog (1987) described the following factors as being most important in determining whether the child will develop speech: hearing capacity, language competence, nonverbal intelligence, family support, and speech communication attitudes. Prelingual deafness normally refers to a child who has become deaf before learning language (Almeida-Verdu et al., 2008), meaning they will not have learnt to listen for phonological sounds, as opposed to postlingual deafness (after acquiring language) where they may already be able to identify those sounds in order to continue to develop speech. The child's development of attachment could thus be more affected in prelingually deaf children who might not have had the chance to develop some communication skills, as compared to

postlingually deaf children who might have already have had interactive experiences. This issue will be revisited in relation to maternal communication later in this chapter.

As explained earlier, different types of hearing loss can affect people differently, however, if the hearing loss exceeds 90dB (profound deafness), speech perception becomes very difficult (Lamore et al., 1990, p. 235). This may also be the case for those whose hearing loss is not as significant, as found by Yoshinaga-Itano (1999), who stated that even if the child's deafness was identified before six months, those with mild hearing loss had the same language development as those with profound hearing loss.

Blamey et al. (2002) contrasts this by stating profoundly deaf children require a more sophisticated grasp of linguistics to compensate for their greater hearing loss, and to achieve higher speech perception. This means that children with higher levels of hearing only require a lower level of linguistic competence to develop speech perception skills. This may be because the child needs to understand language visually through lipreading, if they cannot hear well enough. This theory was based on earlier findings by Blamey et al. (2001) that implanted children learnt phonemes in order of ease of visibility (meaning lipreading) and place of articulation, more than hearing children do. It is, therefore, not the cochlear implants themselves that produce speech, but rather the ability to hear and perceive phonetic sounds, which enable the child to pronounce them. Yet, despite speech therapy, hearing levels or cochlear implants, Blamey (2003) states that deaf children rarely achieve "full phonetic capability".

The comparison to hearing children is important in administering instruments such as attachment tests that have been primarily designed for and validated on hearing populations. This is because the administrator themselves could also interpret the communication skills of the deaf child incorrectly. McGarr (1983) points out that a naive listener of deaf speech understands less than an experienced listener. The naive listener might identify fewer words than the experienced listener. This means that, if a deaf child performs an attachment task that has not been modified, the administrator may or may not understand their communicative responses, thus conclude and score an inappropriate attachment category.

It is arduous for deaf children to learn to speak, but it is equally difficult for them to learn to sign, mostly because of the access to quality sign language and the context in which to learn. A child needs constant praise and encouragement to learn to communicate, without being punished for not being successful in one modality or the other, as their self-esteem will be affected. For this reason, the researcher will briefly discuss sign language development before considering its relationship to maternal communication.

#### 2.5.3 Sign language: the natural language of deaf children

The first and foremost barrier to sign language development in deaf children is the fact that more than 90% of deaf children are born to hearing parents (Moores, 2001). This is because most hearing parents have no knowledge or opportunity to learn BSL, which results in delayed language development for their child (Brennan, 2003). When one of the five senses is lost, the remaining senses compensate for this, and it seems only natural that a deaf child would learn to sign to communicate (Henggeler et al., 1984). Sign language is a visual medium and the deaf child can see their own signs, feel their own physical movements, and perceive others' signing and body expression. As mentioned earlier, BSL is a full structural language.

Deaf children can bilingually learn sign language and English in parallel and this has psychological benefits for the child (Munoz-Baell et al., 2008). Preisler (1999) explains that deaf children should be allowed to develop bilingually, as this will provide them with full access to communication in order to understand their environment, which will enable optimal socio-emotional and cognitive development. Unfortunately, as mentioned earlier in relation to parents' difficulties in getting full support and unbiased information about communication modalities, many parents will not have access to sign language classes, nor know that bilingualism is possible for deaf children. Those families who do get access to learning sign language can receive input that varies in quality of education, which can
impact further on the child's development on communication skills. This mechanism will be discussed in more detail.

# 2.5.3.1 Process of developing sign language skills

The pathway for the development of sign language starts from around the age of six months (babbling) for both deaf and hearing infants, although hearing infants later develop more complex sounds (canonical syllables) (Lederberg, 2003). At age 22 months, deaf children of hearing parents who do not sign will make more vocalisations than gestures, the vocalisations being incomprehensible. This may lead to communication breakdown at an early age, as the deaf infant is not able to learn language in a spoken English environment (Spencer, 1993). Deaf children of deaf parents and hearing children of hearing parents are already developing linguistic skills at 18 months, showing that it is possible to develop communication at an early age (Lederberg, 2003). This indicates that parents who do not use sign language will mediate when and how well the deaf child develops sign language. If the parents learn sign language as soon as the child is diagnosed as deaf, and provide as full and rich a signing environment as deaf parents do, the deaf child can develop linguistic skills in sign language on a par with hearing peers' skills in spoken language. This is supported by findings that deaf toddlers of hearing parents who do not use sign language have a slower lexical and language development, which is delayed in comparison with hearing children and has wider developmental variation in levels of development within that group (Lederberg and Spencer, 2001; Mayne et al., 2000; Moeller, 2000).

Another study, however, found that it was the age of diagnosis and extent of cognitive impairment rather than the mode of communication, degree of hearing loss, gender or ethnicity that mediated the lexical development of the deaf child (Mayne et al., 2000). This can have controversial implications, as it could mean that the recently introduced newborn hearing screening programme might be expected to result in deaf children who speak as well as their hearing peers. This has not been found to be the case by an evaluation of the programme that did not establish any benefits of early identification for language development (Thomson et al., 2001).

Evaluating language development from a different perspective, Lederberg (2003), outlined three main environmental factors that can facilitate vocabulary development in deaf children. These are:

- 1. Frequency (total amount of language the mother uses)
- 2. Visual accessibility (does the mother make their lips visible to the child when talking about an object (by directing the child's attention to their face?)
- 3. Contingency (the way the mother uses words and the non-verbal context in which these are used).

This study does not account for age of diagnosis or cognitive impairment as the variable for lexical development. This could be because the way the mother communicates with her child is more influential in shaping their lexical development than the time when the child was diagnosed deaf. Support for the mother to adjust her utterances to match the needs of the child reflects the role of the 'sensitive' caregiver in attachment theory. For example, a sensitive mother would have adjusted her own communicative intent to match the needs of the child, whereas an insensitive mother who had her baby confirmed deaf after a few weeks might not have adjusted her communicative intent at all. In other words, the mother could have known there was something 'wrong' without having it confirmed by professionals. However, if a deaf baby has additional disabilities, it could further impede development of language skills. Lederberg's proposed framework did not include deaf children with additional disabilities.

The important topic of maternal communication will now be discussed to shed light on how the deaf child's development of attachment could be affected in the context of their interactions with their mother.

#### 2.6 Maternal communication

It is important for the mother and child to have consistent communicative interaction in whatever modality they are *both* capable of, which will thus bring them closer to each other (Wallis et al., 2004). In this study on communication modalities used by deaf children and hearing mothers, Wallis et al. selected three groups of oral, signing and 'mismatch' communication. The mismatch group consisted of "children who used sign in adolescence but not in early childhood or who, while signing in early childhood, had a mother who did

not" (p.7). The authors found that the mental health functioning of the children who used oral and signing (with signing mothers) did not differ, but that they had a significant difference with the mismatch group. Of the 27 children in the mismatch group, 48.1% were found to be within the clinical range, 14% to be borderline and 37% to be 'normal'; the latter contrasted with 80 % and 73.3 % of oral and signing children respectively. Even though the oral group had slightly better ratings, the author points out that the signing group did not have mothers who were native signers, so this may have affected their relationship. This is supported by Spencer and Lederberg (1997) who explain that, even if hearing parents of deaf children learn sign language, it is not on a par with the language exchanged between hearing parents and their hearing children.

"Lack of parent-child socialisation coupled with poor communication and fragile emotional bonds has created a weak link between the deaf person and his or her family of origin that has culminated in further separating the deaf individual from the hearing world in adulthood." (Becker, 1987, p. 61)

This means that, as the child does not experience full involvement within their family life, including communication and emotional interaction, they can disconnect themselves from the hearing world through not being able to understand it or feel part of it. This would most likely affect the child's confidence participating in the family and the hearing environment, as they are likely to think that they are perceived negatively by the hearing community.

When observing the interaction between the hearing mother and her deaf child, one has to consider whether the mother has been taught how to adjust her communication output to match her child's visual needs (as discussed later in this chapter). Also, whether the child has learnt the method of looking at an object and then looking at their mother (Wood et al., 1986), which may not manifest until after preschool age. This could inevitably affect how the mother and child interact, consequently the quality of their attachment relationship.

## 2.6.1 Emotional and cognitive aspects of maternal communication

Research has generally found a consistent trend that having a deaf child can be more stressful than a hearing child (Twardosz & Jozwiak, 1981; Meinzen-Derr et al., 2008). One implication of additional stressors may be the limited opportunity for 'relaxed' conversation, where the parent or child would be more likely to express affect towards each other (Twardosz & Jozwiak, 1981). The same authors explain further that the child's disability may prevent them from perceiving the caregivers expressions, which may consequently prevent them from reciprocating the appropriate level of affection. This means that the child may not understand where and when certain emotions might be used if they cannot hear the emotional expression to link it to that event. This is consistent with earlier findings by Odom et al. (1973), that deaf children aged seven to eight years could sort out photographs of emotional faces as accurately as the hearing control group, but they could not place the emotional face in the appropriate circumstance. This might mean that

they have not learnt the causes or the context of particular emotions. The reason could possibly be due to receiving no or minimal explanations from their carers when previously faced with similar situations. For example, when a mother was angry with the child for breaking an object, or when a sibling was happy, but this emotion was not made explicit to the child. In attachment development, this means that the child's inability to regulate what happens in distressing situations and to learn about other people's feelings could impair their strategies to resolve distress and understand the consequences of their actions.

This is an interesting point to consider, because deaf children may not be able to hear their caregiver's tone of voice. For example, if the caregiver is talking in a caring, warm tone of voice in a situation where maybe the child is upset or intimate with the adult, the child will not perceive these emotions, if not accompanied by a nonverbal visual expression. The child may miss out on an expression of affect by the parent if the parent does not really realise that the child cannot hear them. Thus, if the parent talks with a blank face expression, the child may not realise the intensity of love or affect the parent is trying to convey to them and in turn, the child may not express the emotion back to the parent, which reinforces the idea in the parent that their child is oblivious or not interested in them. The quality of the interpersonal relationship between child and parent may thus be affected.

White and White (1984) found an association between the mother's responsive behaviour when the child was 24 months and their later socio-emotional functioning between one and

half to four and half years later. This means that if the mother was more responsive when the child was 24 months, the child was more likely to be better adjusted later on. In the same study, no link was found between maternal directiveness (maternal control of interactions) at age 24 months and later language development, which contradicts previous studies. More importantly, the authors found an association between the mother's emotional state and the child's language and socio-emotional development. This could have implications for services that provide support to mothers who have a newly diagnosed deaf child. What this study is also suggesting is that the level of language the child has earlier on is of little importance when compared with the mother's emotional state and feelings towards her child's abilities.

A recent study found the importance of maternal communication on the child's cognitive development, namely their theory of mind. Moeller and Schick (2006) found that mothers with more proficient sign language skills were more likely or able to talk about mental states with their deaf child. The maternal sign language skill was also found to be significantly linked with the deaf child's language skills, and with their theory of mind development. In contrast, these authors found that, if the mothers' signing skills were limited, so was their deaf child's language and theory of mind. Such cognitive skills would enable the deaf child to appreciate how their actions affect other people, and vice versa. In terms of attachment, it would allow their internal working model to develop by understanding further their relationships and social interactions.

### 2.6.2 Communication techniques of d/Deaf parents

Deaf parents of deaf children are consistently found to use visual-tactile communication techniques (Loots & Devise, 2003). Three main techniques were identified by Loots & Devise (2003), where the mother would tap the child, get in the child's field of vision, and/or wait for them to look at the mother or the object in question before she signed what she wanted to say. In a similar study, Waxman and Spencer (1997) went further to label what they called 'attention re-directing strategies' that were used by deaf mothers in their study that included waving objects in the child's field of vision to draw them into a conversation. They found that deaf mothers changed their communication techniques as the child developed, and were more successful in engaging the child's attention.

Although research shows that deaf children of deaf parents are generally well adjusted, this does not always imply that sign language is better than speech. Devilliers et al. (1993) found that deaf parents who used speech were able to employ gestures whilst in interaction with their deaf children, helping them to understand grammatical structure and content of the parents' language. This could be an important point in understanding how interventions can help deaf children. Deaf parents already have the knowledge of what it is like to be deaf, and have an understanding of what is expected and how to communicate with a deaf child. In this context, the deaf child has access to a rich medium, either sign or speech,

which enables them to experience rich discourse with grammar, lexicons, structure and non-verbal language that they would miss with speech alone.

# 2.6.3 Parental style of interaction

Several studies have looked at the maternal directiveness in interaction between hearing mothers and their deaf oral children, and some have established that 'over-control' is a frequent occurrence in these interactions. Vaccari and Marschark (1997) reviewed studies on communication of deaf children and their parents. They concluded that maternal control is not necessarily negative as mothers try to sustain their interaction and the attention of their child, but in cases of where over-control occurs, it can be detrimental to the child's development. It is also extremely difficult for severely deaf children to develop spoken language, without having their hearing to rely on at a young age, because they need to rely instead on other cues that are beyond their cognitive ability. Some parents may not be sensitive to the communication needs of their deaf child. Vaccari and Marschark point out that parents need to learn communicative skills, and to access support and education immediately after their child's deafness is diagnosed. Other studies have identified the need for educating parents on how to communicate with their deaf child. For example, Gregory (1988) identified that hearing mothers sometimes lacked sensitivity to their child's cues for interaction, by not reciprocating appropriately to the deaf child's behaviours. This was supported by a later study (Meadow-Orlans & Spencer, 1996) where mismatched groups of deaf/hearing mothers and deaf/hearing infants showed that mothers had less sensitivity to

their infant's cues than mothers in matched groups. The recommendation arising from the findings was that mothers should be taught how to tune in more to their infant's cues to improve their communication competence. This has been shown to improve expressive language in deaf children, if the hearing mother thus becomes more responsive as a result (Pressman et al., 1999).

The above studies may have implications for attachment development in deaf children. Attachment security may be improved if the hearing mother learns how to be sensitive towards her deaf child's cues in order to facilitate effective communication, which can then prompt advanced linguistic development in the child. The latter allows the child to learn more complex concepts, for example emotions and how they affect other people.

An alternative perspective of the hearing mother-deaf child communication style was offered by Jamieson (1994), who suggested that, during a problem-solving task, hearing mothers were continually imparting information to try to maintain interaction with their deaf child, rather than being perceived as 'controlling the interaction'. In the same study, it was found that hearing mothers were using visual-audio means, while deaf mothers were using sequential-visual approaches to explain the same problem-solving task. Mothers were thus not found to change their methods of communication and interaction to match the needs of their deaf child, or rather they did not know how to do this. The importance of the mother being able to respond sensitively was supported by Tamis-LeMonda et al. (2001),

who established an association between maternal responsiveness and children's language milestones. From an attachment perspective, the mothers in this study would be labelled 'insensitive' for not changing their methods: this seems extreme, as how can they adapt if they do not know or are unaware of other strategies, such as the ones being used by deaf mothers? The tools hearing mothers have are limited and will limit how they reciprocate in interactions with their deaf child, making their exchanges less sufficient and meaningful because of lack of skills to engage the child.

Considering maternal communication from a different angle, mothers sometimes do not provide sufficient scaffolding for linguistic improvement. Moeller and Luetke-Stahlman (1990) found that hearing parents of deaf children were more likely than hearing parents of hearing children or deaf parents of deaf children to underestimate their deaf child's linguistic ability; and that they reciprocated by producing simpler, shorter and less cognitively complex sentences than the child was capable of receiving. This action does not help the child develop higher-level linguistic or cognitive skills, because it does not give them more information to build on than what they already know. This goes against the norm of how hearing parents communicate with their hearing children. For example, White and White (1984), cite Snow's theory of the direct-influence model, where the parent adjusts their own language to meet the child's level and beyond, in order to help the child progress a little further with their language development. It seems that there may be confusion about what is the best approach for mothers to use when interacting or engaging in dialogue with their child. Mothers may actually be sensitive, but they can only do so much without education on a topic, for example deafness, about which they may know nothing. It is difficult enough for them to know how to interact with the deaf child, let alone have to think about which modality to use. It could be of great benefit for mothers to observe how deaf parents or adults communicate, so they could learn skills such as turn taking, non-verbal communication and visuo-tactile methods.

Difficulty in communication can cause frustration for the mother and child. One such area is discipline, which will be discussed briefly.

## 2.6.4 Communication and parental discipline

One well-known early study that is often cited in research on deaf children and communication is that of Schlesinger and Meadow (1972), who found that mothers of deaf children reported as being more comfortable to 'spank' their children than mothers of hearing children. The difference between those two groups was significant, 71% and 25% respectively. Many mothers believed that spanking "was a legitimate control device" (Schlesinger and Meadow, 1972, p.104). Only a quarter of mothers with deaf children had reservations about spanking, in contrast with half of hearing mothers with hearing children. This shows that there is a high likelihood for hearing mothers of deaf children to have thought about using spanking, even though they may not have actually spanked their child.

Among children with siblings, a much higher proportion of hearing mothers of deaf children said they spanked the child (35%), compared to only eight percent for the hearing mothers of hearing children. One of the reasons for the increased likelihood for the hearing mother to smack their deaf child, is that they cannot communicate efficiently to discipline the child, so they feel they have to use a physical method instead. This shows that deaf children may be treated relatively differently within the family, and this could affect how the child is viewed by others in the family and by the child themselves. This could inevitably affect the development of their attachment security. The child may develop a lower sense of self-worth, such as the view that they deserve to be smacked more than their siblings, and may not have a full understanding of the reasons for being smacked and more severely punished than their siblings.

Although earlier findings may have partly reflected societal views on child rearing, support has been found by a recent study by Knutson et al. (2004). Three groups were studied:

- 1. Hearing mothers with hearing children
- 2. Hearing mothers with deaf children who had no cochlear implants
- 3. Hearing mothers with deaf children who were about to receive cochlear implants.

The latter two groups were found to be more likely to use physical discipline than hearing mothers with hearing children, and their discipline was more likely to become more physically severe if the child's behaviour became dangerous. More recently, Mathos & Broussard (2005), in a review of studies on deaf children and their families, pointed out that

effective discipline requires the parent and child to have fluent communication. It has been discussed in this chapter that it can be challenging for the parent and child to develop efficient communication with each other if they do not have the right access to language support.

In attachment development, a mother's inclination to use physical discipline could potentially have a strong impact on the child. This is because spanking the child, rather than taking time to communicate a potentially distressing event, can hinder the child's understanding of how their own actions are linked to other people's behaviours, emotionally and physically. This could be even more pronounced and entrenched if the mother is likely to victimise the deaf child by abusing or neglecting them, thus resulting in trauma and consequent mental health problems.

### 2.7 Psychological development in deaf children: Theory of Mind

It has often been reported that deaf children's chronological age does not match their mental age in various developmental domains, such as language development (e.g. Percy-Smith et al., 2008) and theory of mind (Lundy, 2002).

There have been many studies on deaf children and theory of mind development. The general consensus is that deaf children of deaf parents have more advanced theory of mind development than deaf children of hearing parents (for review, see Peterson and Siegal,

2000). Similarly, studies observing autistic and deaf children found common deficits in theory of mind when compared with hearing non-autistic children. Peterson and Siegel (1995) suggest that substantial deprivation of conversation and limited discourse between the mother and deaf child are the main factors for the low levels of theory of mind. If these perceptions are correct, they could lead to attachment difficulties in the deaf child, who receives inadequate communicative or linguistic input.

## 2.8 Interactions between families and professionals

In this section, the researcher will discuss the care pathways following the child's diagnosis. From the moment the child is diagnosed deaf, the parents are likely to contact several professionals (Dalzell et al., 2007), some of whom may reflect the medical model in the way they provide information, guide the parents' decisions, and advise the parents on what they think is best for the child. It is during this period, often considered as a 'critical life event' (Hintermair, 2006), of receiving the diagnosis of deafness that the parents have to make many important decisions regarding the future upbringing of their child. Unfortunately, during this chaotic time, parents are overwhelmed with professionals and frequently conflicting types of advice, while they experience their own grief, and this can affect attachment with their deaf child (Dalzell et al., 2007). The researcher wants to consider how medically-influenced professionals behave in both clinical and academic settings, because it is those professionals who indirectly have significant impact on how the parents adjust to or come to terms with their child's deafness. This is an important

component of the chapter, because many studies have shown that the time surrounding the diagnosis has a significant impact on the parents and the family, and will be remembered for years to come (for example, Gregory et al., 1995).

## **2.8.1 Experience of diagnosis and intervention**

The critical life event of diagnosis is a traumatic experience (Hintermair, 2006) and if the parents do not resolve the trauma, the child has been found to have higher risk of disorganised attachment (Van Ijzendoorn et al., 1999). The way parents are given the diagnosis of the child's deafness could also increase the stressful impact of this diagnosis. Several studies, for example, Beazley and Moore (1995) and Robinshaw and Evans (2001), found similar parental experiences of the delivery of diagnosis, where professionals would convey in a few words that the child was deaf, without full sympathetic explanations of the circumstances. The very nature in which this diagnosis is provided will often stay with the parents for years to come, and can affect their perception of their deaf child (Meadow-Orlans, 1987). The experiences of hearing parents can be more profound, as they have no knowledge or skills of deafness (as mentioned earlier in chapter), or they have only incidentally met hard-of-hearing elderly people (Gregory, 1995). These earlier studies are still being repeated with similar results, over ten years later, where parents are still insensitively being given the diagnosis of their child's hearing loss through the newborn hearing screening programme (Tattersall and Young, 2006).

It is, therefore, appropriate here briefly to discuss the association between resolution of diagnosis experience and attachment security. Marvin and Pianta (1996) developed a tool to establish whether there is such a link between the type and level of resolution and attachment security. In a sample of mothers of children diagnosed with cerebral palsy, a substantial proportion (83%) who had resolved their diagnostic experience were found to have secure attachment. Cerebral palsy is a different condition to deafness, but this study shows the potential effect of unresolved trauma of diagnosis on security of attachment. This is supported by Mathos & Broussard (2005), who recommend that parents understand in detail the circumstances of their child's hearing capabilities, so that they know what to expect when interacting with their child.

This was also supported by a recent study (Barnett et al., 2006), where they used the Pianta and Marvin's's (1992) Reaction to Diagnosis interview. It was established that resolution of parental grief was harder for parents who had children diagnosed with neurological anomalies, as opposed to physical anomalies that could be corrected with surgery. The neurological diagnoses were not complete, as the exact nature of the child's intelligence could not be ascertained at the same time. This meant the parents were unclear about what their child would be able to achieve, mentally and physically, for some years to come. Inevitably, this uncertainty about their child's future development could have interfered with the maternal resolution process. In the context of receiving the diagnosis from professionals, Tattersall and Young (2006) reported that many parents do not feel that they received adequate explanation of the characteristics of their child's hearing, and of the meaning of different levels of hearing loss. As suggested by Barnett et al. (2006), clear understanding of the implications of a diagnosis is important in the resolution of the trauma, which otherwise could lead to parental mental health problems such as depression (Mathos & Broussard, 2005). This could be one of the reasons, as mentioned earlier in the chapter, why deaf children are also at increased risk for emotional and behavioural difficulties.

Studies have consistently highlighted the importance of support for parents around the time of diagnosis of deafness (for example, since an early study by Greenberg, 1983). In a review of studies on the relation between stressors and resources for families with deaf children, Hintermair (2006) states that the availability of social support and resources can mediate how the parents cope with the diagnosis. Over 20 years after Greenberg's 1983 instrumental study on the importance of family support, parents of newly diagnosed deaf children in the UK still do not receive sufficient and consistent types of resources (Robinshaw & Evans, 2001).

The importance of the above studies cannot be underestimated, as they consequently affect parents' quality of interaction with their child. Hindley (2000) suggests that the communicative relationship between parent and child should enable maximum expression through affective, non-verbal and verbal means, in order to enhance secure attachment.

This is supported by Howe (2006), who states that parents should have an early understanding of their child's disabilities and how this will affect the parent-child interaction. In that way, they become better equipped to adjust their behaviour and communication to sensitively meet the needs of their child, and this will further enable secure attachment development.

### 2.8.2 How do professionals view the deaf child?

A good example of professionals adopting the medical model is demonstrated in the approach taken by Geers and Moog (1987). In this study, the researchers developed a tool to predict spoken language acquisition in profoundly deaf children. Family support was one of the potentially mediating factors for the development of spoken language. However, their concept of family support was whether the parents cared for the child's hearing aids, and whether they were involved in their child's speech therapy or schooling. No mention or consideration was given to the parent's or child's emotional wellbeing.

Green (2001) found that "mothers are hurt when healthcare professionals cannot seem to see past the disability to the child they love" (p.805). When professionals adopt the medical model, it is more likely for them to see the child as having a disability or impairment. If the professional views the child through the cultural model as having the potential to be a fullyfunctioning member of their family, with sign language, deaf identity, and membership of the deaf community, this would inevitably change their views on how to best support the family in their intervention. It could also affect how the parents make their decisions, and how the professional views the child as an individual, i.e. as a child who needs nourishing and treasuring, rather than 'repairing'.

## 2.8.3 Parents' dilemmas and decisions

One of the most important decisions that the parents need to make is whether to use sign language or speech, or both, to communicate with their child (Meadow-Orlans, 1990). Major risks of choosing the wrong communication method for the child include delayed development, late access to education by placing the child in an oral system, and consequently no or limited progress over the years. Parents or educational professionals may then remove the child from the oral school and place them in a total communication system after they have failed to develop language (Musselman et al., 1996). While the child is in the 'wrong' place, such as an oral school, they are not able to learn, or develop confidence, self-esteem, social behaviour and communication with their peers in the mainstream classroom. The implications can be long lasting, as found by Musselman's study.

It is inevitable that these children's opportunity for optimal development of secure attachment has been greatly impeded by the lack of an effective medium in which to communicate with their mothers. A study on cochlear-implanted children found that parents deemed communication in either spoken or sign language, to be 'useful'. Watson et al. (2007) asked parents through questionnaires what modality they used post-implantation, and most (113 out of 119) changed to spoken language. Despite this, most parents still considered sign language as a useful medium for themselves and their child to communicate when needed, or with deaf peers. It would be interesting to know exactly how much the child used sign language and what the child's own feelings were about using spoken or sign language. More importantly, this study showed that parents and deaf children appreciated access to sign language, which should be encouraged even if the deaf child has a cochlear implant.

Another important decision relating to the deaf child's development is whether they are to be implanted with an electronic cochlear. At the start of this research, the number of implanted children was not high, but there has since been a steady increase, as the implants become more widely available (Swanwick and Tsverik, 2007). Despite generic belief, electronic cochlears do not change deaf people into hearing ones (Spencer and Marschark, 2003; Walsh, 2003). Several studies have shown support for cochlear implants, depending on certain variables such as age of implantation (Miyamoto et al., 2008), additional disabilities (Berrettini et al., 2008) or continued support for the parent and child (Burger et al., 2008). These three studies suggest relative benefits of cochlear implants. In a study investigating teachers' perceptions and experiences of cochlear implants, they reported that few implantees were 'straightforward or successful users' (Swanwick and Tsverik, 2007, p.226).

Another consideration is that the communication abilities of children with cochlear implants are not always better than those without implants. Preisler et al. (1997) concluded that deaf children with implants could not hold a conversation longer than two or three turns with their parents, whereas their deaf and hearing peers could communicate more efficiently. In a recent study, parents perceptions of their children's cochlear implants reported that their children's hearing levels improved but they were still concerned about the intelligibility of their children's speech and perceptive skills (Archbold et al., 2008). However, Preisler et al. point out that "... being able to pronounce a word or discriminate among different words does not mean being able to hear and understand what is said." (2005, p.261). Despite this, parents in the Archbold et al. (2008) study believed that cochlear implants had improved their child's quality of life, communication and confidence. In a qualitative study, adolescents with cochlear implants explained that they had difficulties in school, because, despite their cochlear implant, they could not hear what was being said in the classroom, and maintained they wanted to have a bicultural identity and to continue using sign language. This would encourage positive psychosocial development (Preisler et al., 2005).

Unfortunately, one of the main consequences of implants is that many parents are discouraged from continuing sign language, and some children might even change schools for this reason. In interviews with parents, Walsh (2003) found that some had a

dichotomous position that, if they wanted their child to speak, they had to have cochlear implants, and that the child had to fit in with their hearing family. One parent even used the words that they did not want a "deaf community child" (p.37). This comes across as a rather naive and negative view of the deaf community and children's prospects. Hannah Walsh (2003) states that "cochlear implant teams in general displayed little awareness of or understanding the deaf community..." (p.24). Many such cochlear implant teams operate within the medical model, therefore limited or no consideration will have been made for the child to continue or develop either their sign language skills or a positive deaf identity. This leaves the question as to what happens to the deaf child and their family if the deaf child does not become a 'successful' user? In other words, if they do not develop any language, how can they communicate with their parents and develop secure attachment?

# 2.8.4 Beyond the diagnosis of deafness: parents' impact on the deaf child's

# development

As previously discussed in this chapter, the quality of how the parents resolve the trauma of the diagnosis can have an effect on their relationship with the child, which in turn impacts on how the child develops their attachment and sense of self. In an early study Meadow and Trybus (1979) suggested three main mediating factors for deaf children's mental health that involve the parents: 1) degree of parental over protectiveness; 2) development of unrealistic expectations for the child's progress; and 3) effectiveness of parent-child communication.

This shows that after the diagnosis has been received, parents should continue to receive support, as initially suggested by Greenberg (1980).

# 2.8.5 Deaf identity, deaf role models and 'blue eyes'

Jill Jones (1996) suggests that bilingualism allows identification with other deaf people, so that "we know who we are," and this gives the deaf person confidence, positive wellbeing and deaf identity. Due to their lack of understanding of the Deaf culture and community, some parents may not allow their deaf child access to this community for fear of losing them (Knight and Swanwick, 1999). This could be because many hearing parents have never met a deaf person, for example Harrison et al. (1996) found that two-thirds of parents in their study would like to meet deaf role models. It was found by Bat-Chava (2000) that self-esteem was more prevalent in those that participated in both deaf and hearing communities. Support for this was found by Nikolaraizi and Hadjikakou (2006), who stated that deaf role models were crucial in encouraging "deaf persons to develop self-confidence with regard to both hearing and deaf culture, and construct a balanced identity" (p.490). This could help parents understand what the deaf community is about. Once hearing parents accept that their deaf child may want to join or mix with the deaf community, then the family will not feel threatened by this prospect. Unfortunately, many families and schools do not have an appreciation of Deaf culture, but instead want the deaf child to be part of the hearing world, which could potentially hinder the development of the child's Deaf identity (Valentine and Skelton, 2007a).

Nowadays, it is still common for a deaf child to be the only one that is fluent in sign language within their family, even if it is their preferred language (McKinnon et al., 2004). This is a rather sad situation, because it means that the child may not be respected equally to the rest of their family, and become isolated within their own home environment. In such circumstances, many deaf children may only feel that they belong in their residential school, where they share their common language with their deaf peers, and this further distances them from their family. This can produce ambivalent emotions in the parents with regards to the experiences they went through when they received the diagnosis, thus feel that they have lost their child yet again to the deaf world (McKinnon et al., 2004).

In contrast, for a deaf mother who considers herself a member of the deaf community, it may not even be an 'issue' if she learns that her child is deaf. Najarian (2006) interviewed deaf mothers on their experiences of motherhood, and concluded that their "their preference in having deaf children, shows that *deafness* is a physical attribute, such as blue eyes, rather, than a *disability*" (Najarian, 2006, p.109). This outlook on the child's deafness could potentially be a factor in how the mother views her child in a positive way, such as it is as ordinary to be deaf as it is to have 'blue eyes'. One would expect this to be a positive contribution towards the mother-child relationship in the context of attachment development. On the other hand, where the mother is hearing and has no knowledge of deafness, the child may be treated or viewed differently or as a 'different' child by someone

who views 'deafness' as a disability rather than on same level as 'blue eyes'. The researcher will next discuss the few studies that have looked specifically at attachment in deaf children and the evidence so far.

## 2.9 Attachment and deaf children

So far in this chapter, the researcher has discussed a few key factors that might affect the development of attachment in deaf children. There has been sparse research on attachment among deaf children, in contrast to the substantial amount of studies on hearing children. Greenberg and Marvin's (1979) classic study on deaf children and attachment, compared groups of low and high communicative competence by separating those that used speech and sign language. In this study, the authors identified that in those dyads where sign language was apparently not used (oral group), mothers resorted to simple signs during the Strange Situation test to convey 'wait' to the child before departure (separation episode). In contrast, the high communicative competence group demonstrated higher levels of attachment development. It was also found that behaviours in the signing group were more relaxed, while the oral group exhibited behaviours that reflected insecure criteria. The researcher takes a quote from the paper to illustrate the importance of communication:

"By enabling the child and significant others to communicate by any means possible, the total communication deaf child learns that communication and interaction can be both effective and natural. In contrast, most oral-only trained deaf children find communication to be difficult and frustrating. As a result, the oral child is more likely to avoid or resist interaction." (p.277).

Ledberberg and Mobley (1990) identified that the quality of communicative interactions compared to hearing child-mother dyads was significantly lower between deaf toddlers and their hearing mothers, but that this difference did not apply to the quality of attachment between those two groups. The similarity between the hearing and deaf dyads could be attributed to the intervention programme they were all enrolled in. Despite this, the authors state that the programme was not causal of high quality interactions, as the number of months enrolled did not affect the scores of attachment security. However, the fact that these mothers were already enrolled in an intervention programme means they had access to help and support. Reviewing this study in detail, the authors observed that children "frequently did not respond to their mothers' communication, because they did not seem to hear or see it" (Lederberg and Mobley, 1990, p. 1602). This gives further support to studies reviewed earlier in this chapter on the importance of teaching communication techniques to hearing mothers.

In a review of attachment studies, Lederberg and Prezbindowski (2000) suggest that the language skills between mother and child mediate the quality and frequency of interactions. For example, if the mother is not sensitive or proficient in communication, events as such as affective exchanges between the mother and child, where warmth and reassurance may be expressed, could be infrequent. In contrast, Lederberg and Prezbindowski (2000) state that higher quality of maternal communication not only encourages secure attachment to develop, but also enhances cognitive skills. An interesting finding in Lederberg and Mobley's (1990) study, as reviewed by Lederberg and Prezbindowski (2000), was that the number of secure toddlers with mothers who were college graduates was twice of that for mothers who were not graduates. This postulates the question whether a higher education background gives hearing parents an advantage on how to adapt to having a deaf child.

In an early study on deaf mothers of deaf children, Galenson et al. (1979) stated that the relationship in the deaf mother-deaf child (D-D) dyad was poorer than in the hearing mother-deaf child (H-D) dyad. However, in this study, deaf children who were native signers with deaf mothers were placed in oral schools, and deaf mothers were given therapy without the presence of a sign language interpreter. In a later study by Meadow et al. (1984), they found the opposite, i.e. that the attachment behaviours of deaf children with deaf parents mirrored those found for hearing children when matched for age. The quality of interactions in the D-D dyads was of higher and more complex detail than the H-D dyads. These findings support the framework discussed earlier in this chapter: that deaf parents' knowledge and awareness can contribute to more positive development in deaf children. As found by Greenberg and Marvin's (1979) study, only the children with higher communication skills (including the ability to discuss 'nonpresent' objects) had reached the

goal-corrected partnership stage, which was described as the fourth stage of attachment development (see Table 1.1. in chapter one, Ainsworth, 1973).

The previous findings were partially replicated by Leigh et al. (2004). This study found that the number of matched attachment classifications between deaf mothers and their children, was similar (but slightly lower) to that between hearing children and hearing parents. The reason for the lower matched classifications was not significantly related to whether the parents had deaf or hearing parents (the infants' grandparents) themselves, but possibly rather to the high number of deaf mothers (83%) who had attended residential schools. This could have contributed to a high number of infants having avoidant attachments. Leigh et al. (2004) also proposed that this could be explained in terms of the German culture, where a more autonomous parenting style can be used by mothers, who encourage independence from early ages. In a review of the few studies on deaf children and attachment, Traci and Koester (2003) provide further support to the theory that environmental variables other than deafness usually lead to insecure attachment.

Rather than looking at the effect of communication on attachment, Hadadian (1995) investigated the differences in mother-child and father-child dyads of deaf children and found that although there was no difference in attachment scores, the attachment relationships were 'qualitatively' different. In addition to this, an attitude to deafness measure was also administered and it was established that negative attitudes were

correlated with poor attachment quality. This would be expected in the context of medically-oriented intervention that views deafness as a disability to be cured. The researcher has drawn up a table (Table 1.1) showing an overview of the above studies that employed an attachment measure in their study.

Koester and MacTurk (1991) conducted an unpublished study where they identified no differences in attachment classifications between hearing mothers of deaf or hearing infants, but found more avoidance behaviours in the earlier group. They attributed this to the lack of communicative techniques that deaf infants of hearing mothers had at their disposal to communicate about the mother having left the room. These findings were replicated by a recent study (see below), which also used some of the data for their study.

Koester and Meadow-Orlans (2004) named three published studies that have investigated specifically the deaf child and attachment field. They reported that there are no established data on deaf infants. In their study, they compared attachment classifications for four groups of dyads: deaf mother-deaf child, deaf mother-hearing child, hearing mother-deaf child and hearing mother-hearing child. Having said that, they employed a coder who was proficient in Strange Situation coding, but knew nothing about deaf culture or communication. This researcher wonders what implications this might have had for his coding. In this study, both groups of deaf mothers with deaf or hearing infants had children assigned with disorganised coding and none of the other two groups of hearing mothers

with deaf or hearing infants had any disorganised coding. The researcher again queries whether the coder's lack of knowledge of deaf cultural communication and behaviour led him to view the deaf mothers' behaviour as 'abnormal' and hence wrongly assigned some of the coding. Despite this, there is a higher incidence rate for mental health problems in the deaf population (Hindley, 2000), as already mentioned this chapter, and this might have been a contributing factor. There were no additional data collected on the mothers' mental health and it is not clear whether his codings of deaf mother dyads were verified.

The authors report that there were less proximity seeking behaviours at point of reunion and they suggest cultural behaviours of promoting independence by deaf mothers. They also surmise that the method of the Strange Situation procedure is affected by the fact that deaf infants do not realise the mother has left, as they cannot hear the door open and close. The researcher wonders if a sensitive mother, deaf or hearing, would inform the infant that they are about to leave the room, instead of just walking out. If the mother did not, then maybe she is not sensitive enough to make her infant aware of what is happening around him, meaning that she is not taking steps to compensate for the child's deafness. This study reported lower secure ratings for both deaf mother-deaf and deaf mother-hearing infant dyads than the hearing mother-deaf/hearing infant dyads. It would be useful to know the characteristics of the hearing mothers involved in this study as the hearing mothers of hearing infants had an unusually high proportion of secure codings (89%) as compared to the norms of two thirds for this population. Although the difference of secure codings for hearing mother-deaf infant and hearing mother-hearing infants was not significantly different (supporting the studies above), they also found more avoidant behaviours present during the Strange Situation procedure in the hearing mothers with deaf infants than the other three groups. During the Strange Situation procedures, more avoidant behaviours were present in deaf infants. These authors suggest lack of communicative techniques as the cause for more avoidant behaviours in the deaf infant-hearing mother dyads, a suggestion also put forward by previous studies, i.e. Greenberg & Marvin (1979) and Koester & MacTurk (1991).

Authors	Instrument	Variables correlated with attachment
Greenberg &	Modified	Higher *CC=advanced attachment level (phase
Marvin	Strange	IV). Total communicators more relaxed
(1979)	Situation.	interaction with mothers. Mothers of oral used
	Children: 51	'signs' before leaving child in separation
	months.	episodes.
Meadow et	Strange	Deafness not cause of attachment style but CC
al. (1984)	Situation.	and level of attachment development. **DD
	Children: 12-40	higher level of attachment when CC high.
	months.	

Table 2.4 Overview of attachment measures used for deaf children and attachment

Lederberg &	Strange	No difference between HH# and HD## dyads,
Mobley	Situation	even with delayed language. All deaf children
(1990)	Children: 18-25	already in intervention programs.
	months.	
Hadadian	Attachment Q-	No difference in scores for attachment of
(1995)	set	mother-child/father-child dyads, but
	Children: 20-60	qualitatively different relationships. Attitude to
	months.	deafness correlated with attachment scores.
Leigh et al.	Strange	Rates for transmission of attachment style in DD
(2004)	Situation	does not match HH rates.
	Children: 18	
	months.	
Koester &	Strange	Dyads of hearing mother with deaf or hearing
Meadow-	Situation	infants had more secure codings than both
Orlans	Children: 18	groups of deaf mothers with hearing or deaf
(2004)	months.	infants. The dyads of HD had significantly more
		avoidant codings than the HH group.

\*CC= Communication competence \*\*DD=Deaf parents of Deaf children

#HH=hearing parents of hearing children ##HD=hearing parents of deaf children

As is clear from the above table, only six published studies to date have employed the use of an attachment measure to measure the quality of attachment in deaf children with any variable. This is in stark contrast to the thousands of studies that have been performed with hearing children, investigating their correlations with various variables, ranging from nursery placements to effects of feeding or fostering. None of these studies validated an attachment instrument specifically for use with a deaf population.

### 2.10 The rationale for the study

In chapter one, it was demonstrated how complications for attachment security can occur in hearing children. In addition, the chapter considered protective and risk factors that predict the key methodological issues in the development of attachment measures. Chapter two has reviewed the evidence on the impact of several factors on deaf children's development and attachment relationships. Previous research has also highlighted the heterogeneity of the circumstances surrounding the child's diagnosis of deafness, child's and mother's communication, and therefore the child's development takes place in a context of widely varying degrees and quality of parenting and professional intervention. Such heterogeneity requires an attachment measure that has sufficient flexibility to be applied across the spectrum. This attachment instrument has to be reliable and adapted to the characteristics of deaf children, including differences in communication modalities, cultural issues, and individuality. The need for the application of such a measure was the rationale for this study.

# **Chapter Three**

# Methods

### **3.1 Introduction**

This chapter outlines the hypothesis, rationale and aims of the study, the design and how the researcher aims to prove or disprove her hypothesis. For the process of proving the hypothesis, the researcher will discuss tools for data collection, with justification as to why these were selected; consideration of attachment instruments; give a detailed description of the selected attachment instrument; and description of initial adjustments and additional procedures (for example, interpreter protocol) where required. As this is the first study of its kind in Great Britain, the researcher has designed the methodology to enable an exploratory approach. Data will be collected through a combination of two different kinds of data. Firstly, quantitative data from parents via questionnaires on family life, and the deaf child's language and nonverbal cognitive assessment. Secondly, qualitative data will be collected through semi-structured interviews, detailed observations of the child's performance on the attachment instrument, and their verbal and non-verbal responses to the vignettes. These two types of data will be interpreted in the analysis in relation to the research hypotheses. In particular, the data from the parents through both the interviews and questionnaires will be analysed to indicate the child's type of attachment security and its correlates, i.e. the identification of significant variables.

### 3.2 Objective of the research questions

The primary aim of this piece of research was to establish whether the Manchester Child Attachment Story Task (MCAST) needed to be adapted for use with a deaf population. This is because previous attachment assessments have measured the quality of conversational style and use of vocabulary when coding the child's security of attachment. As there has been no attachment measure designed for use with deaf children, it was considered important to test out whether an attachment measure (namely the MCAST) was suitable in its current format for administration to a deaf population and, if not, how it would need adapting. If new props were required, the researcher would demonstrate relative validity on the new method of attachment assessment. due to the limited sample size, full validity testing will not be possible.

#### **3.2.1 Research questions**

The researcher has set out to answer the following research questions:

1) Will the MCAST be suitable for administration to deaf children in its original format?

2) If the MCAST is not suitable, then what will be required in terms of:

a) Adaptation to existing procedures in MCAST (including administration and coding)

b) Development of new props or protocols

3) Is the validity of the instrument supported by its association with variables on the child's level of functioning and their family life?
4) Is the validity of the instrument supported further by the complementary data based on parent interviews?

# **3.3 Rationale behind the Research Questions**

From the literature research discussed in chapters one and two, it is demonstrated how important development of secure attachment is for all domains of child development, from basic survival (Bowlby, 1958) to language development (Grossman, 1999). Although selected key areas were discussed in relation to deaf child development, it is significant that deaf children may be presented with many challenges, such as parental resolution of diagnosis (Hintermair, 2006) to accessing communication competence (Greenberg & Marvin, 1979) which may prevent them from developing secure attachment. Additionally, the lack of research in deaf children and attachment (Koester & Meadow-Orlans, 2004) shows that there is much we need to know in this field. This point is made even more important as research has identified that there is a higher risk of mental health problems (Hindley, 2000) and abuse (Kendall-Tackett et al. 2005) in deaf children. In the context of attachment, two significant studies have found that children with behavioural problems (Green & Goldwyn, 2002) and disabled children (Howe, 2006) who may be more vulnerable to maltreatment are at higher risk for disorganised attachment. In order to understand more about attachment development in this population, it is necessary to administer a measure that is valid and reliable for use with deaf children. This presents the

first research question as Burman et al. (2007) states that measures developed for hearing children are not suitable for administration to deaf children. It is therefore necessary to do an initial study to identify whether the MCAST is suitable, and what can be adapted to make it suitable and collect valid data on deaf children's attachment. Several studies have identified key variables to be associated to secure attachment, such as maternal communication (Bretherton, 1995) or cognitive development (Vondra et al. 2001). In contrast, De Woolf &Van Ijzendoorn (1997) suggests a combination of factors rather than singular variables is required. As there is no consistent findings in the few published studies in attachment with deaf children, at present it is not possible to suggest what or which variables are required for development of secure attachment in deaf children. Despite this, the researcher expects to find some similarities between deaf and hearing children for the importance of key developmental aspects, for instance communication (Klann-Delius & Hofmeister, 1997), resolution of diagnosis (Barnett et al. 2006) or emotional skills such as self-confidence (Jacobsen, et al. 1994). Thus any significant associations found for variables previously identified as pivotal for development of secure attachment in hearing children could provide a degree of validation of any new adaptations to the attachment measure.

# 3.4 Research design and sampling

This is a cross-sectional study with deaf children in four health districts. These were not randomly selected, due to constraints in selecting the sample. The constraints were largely to do with confidentiality and the geographical distribution of deaf children. Some local education authorities reported varying numbers of deaf children registered with their Hearing Impairment teams, as compared with other districts, where more were apparently registered with social services for deaf people. It thus became difficult to locate where deaf children resided, and because of confidentiality issues, the researcher was not allowed to obtain a list of the families and instead had to rely on third parties to send the letters on the researcher's behalf. The sample consisted of deaf children between the ages three to eight years, with no additional disabilities, and who had deaf or hearing parents.

# 3.4.1. Sample selection criteria

Each aspect of the criteria is shown below (Table 3.1 Sample selection criteria). Justification of each aspect is discussed below. The sample included children with both deaf and hearing parents. The reader is reminded of the evidence presented in chapter two that having deaf parents affects the deaf child's development differently than having hearing parents. This includes the impact of diagnosis of deafness, development of communication, style of parenting, quality of interactions and attachment.

# Table 3.1 Sample selection criteria

# Criteria for each child

Parent(s) hearing or deaf (either one or both parents)

Parents' and child's first language English or BSL

Child level of hearing loss moderate to profound. With or without Cochlear Implants. With no additional learning or physical disabilities that have been diagnosed.

Age of 3-8 years

Resides in locality of voluntary sector and education department that the researcher contacted, with obtained ethics approval from relevant research committee.

As the study was aimed at identifying the strengths and weaknesses of an attachment instrument for later application in clinical settings, the researcher took this factor into consideration in selecting variables that would best demonstrate this, the most important feature being a sample spectrum of deaf children without learning or physical disabilities.

#### 3.4.2 Level of hearing loss moderate to profound

A wide range of hearing loss is included, because each child's degree of hearing loss may affect their development differently from other children. Two children with the same hearing loss will not have the same developmental profile, including communication and cognitive skills. The prevalence rate of moderate hearing loss is significantly higher than of profound hearing loss, therefore the study would have been restricted if only children with profound deafness had been included. Children with cochlear implants were included because these do not restore hearing levels to 100%. How the cochlear implant affects a child development is similar to traditional hearing aids, with substantial individual variation.

# **3.4.3** Age three to eight years

Due to the small size of the target population, this relatively broad age range was chosen, particularly as the diagnosis of deafness itself varies within each county, depending on their local audiology provision. The MCAST was originally designed for children between four to eight years, so the researcher aimed to establish whether this instrument was also applicable for deaf children in a similar age range, as well as to slightly extend the minimum pre-school age to three years.

# 3.4.4 Deaf child registered with local organisations in Leicester, Leicestershire, North and South Derbyshire, North and South Northamptonshire, and Nottinghamshire

A study by Fortnum et al. (2001) identified 17,160 children, with all levels of hearing loss in the UK, but this figure is possibly not accurate, as there are no formal statistics on deaf adults or children (NDCS Factsheet 2003, accessed through website, March 2009). There is also limited information on the demographics of deaf children, because there is no compulsory register for all deaf or hard of hearing children or adults to join. In the Fortnum et al. (2001) study, the researchers collected data on deaf children who were registered with either or both 'health' and 'education' sources. This indicates that organisations hold incompatible data on deaf children. The children in this study were believed to constitute a relatively representative sample of the national deaf population. The educational approaches differ in each county, with Leicestershire and Northamptonshire adopting primarily oral approaches, and Nottinghamshire and Derbyshire adopting a bilingual philosophy.

# 3.5.4 Child uses either English (through speech) or BSL

The study included all children who used English to speak, sign language or both, in order to establish whether the attachment instrument needed to be modified for all deaf children or only for certain communication subgroups.

# 3.5.5 Parent either deaf or hearing

The potential implications of having hearing or deaf parents have been discussed in chapter two. Children of both deaf and hearing parents were included to explore whether the communication and knowledge of deafness affects the child's ability to perform the attachment test. This is because, as discussed in chapter two, deaf parents are already native signers, so the deaf child has full access to language development opportunities. Deaf parents, therefore, have all the knowledge on bringing up a deaf child. In contrast, hearing parents might be more likely to rely on speech for communicating with their child and might have unresolved feelings about their child being deaf.

# 3.4.5 Parents' first language either English or BSL

As this study already involved two languages, the sample would be heterogeneous and more difficult to analyse, if further languages were included. With an additional language, the cultural aspects and grammatical structure would need to be taken into consideration in the adaptation and coding of the attachment instrument.

# 3.4.6 Recruitment procedure and participating sample

Information and consent letters to parents were sent via the organisations below who had previously agreed to assist by forwarding the letters on the researcher's behalf.

# Table 3.2 Number of letters sent and positive or negative replies

Name of	Number of	<b>Positive responses</b>	Negative responses
organisation	Letters sent to		
	organisation		
Early Years Centre -	October 2001=24	Total Response for	Total response for
Derby		Derby/shire=5	Derby/shire=3. One
Derby National Deaf	May 2003=40		additional parent
Children's society			agreed to participate
(NDCS)			but the child was
Derbyshire County	October 2001=20		subsequently
Hearing Impaired			withdrawn from
Team			study, as she was
			placed in care.
T · / TT ·	0 + 2001 - 2	T ( 1 )	T. ( )
Leicester Hearing	Oct 2001=3	Total response for	Total response for
The Education		Leicester/snire=5	Leicester/snire=2
Leieestershire	$J_{11}J_{12} = 2002 - 10$		
Hearing Impaired	July $2002 - 10$		
Education Team	Sept 2001–25		
	Sept 2001–25		
Centre for Deaf	March 2002=24		
People, Leicester			
	Oct 2002=25		
	Oct 2002=3		
Nottingham	None	Total response for	2, plus one who
Education Dept		Nottingham/shire=5	agreed but the child
Nottingham NDCS	May 2003=25		was excluded because
Nottingham Deaf	3 (DP)		of multiple
Centre			disabilities.
DeafConnect,	Feb 2002=20	Total response for	Total response for
Northampton		Northants=7	Northants=3
Avondale infant &	March 2002=2		
primary school,	(DP)		
Kettering	Feb 2003=10	116	
	July 2003=6		

#### DP=Deaf Parents

In total, 19 children were recruited for the study, of which five children had two deaf parents. One child had a hearing mother and a deaf father. 13 children had two hearing parents. The researcher estimates that approximately 150 parents were contacted, but cannot confirm this because she did not post the letters herself, and the organisations may have selected which families to post letters to. It could not be confirmed by the organisations exactly how many parents they knew of, and how many of those they actually contacted on the researcher's behalf.

Table 3.2 shows a high number of non-participants. This may seem a limitation for a quantitative descriptive study, however the design of mixed quantitative and qualitative methods allowed for in-depth analysis, which was less constrained by the attrition rate. As the study was exploratory in applying an attachment measure that had not previously been validated for this group, incorporation of qualitative data was important in order to gain an understanding of the process of administering the measure, and hence to reach a conclusion on necessary amendments for its future use.

#### **3.5 Measures**

The additional measures used in the study are outlined in Table 3.3:

Component of	Mental ability	Communication	Quality of Family Life
child's functioning			
Tool used to collect	Kaufman K-	Language	Quality of Family Life
this data	ABC (Kaufman	Proficiency Profile	Questionnaire (Hind &
	& Kaufman,	(Bebko &	Davis, 1998).
	1983)	McKinnon, 1993)	

Table 3.3 Tools used to collect data on each child

# 3.5.1 The Kaufman ABC (K-ABC) (Kaufman & Kaufman, 1983)

It is challenging to find a suitable measure of intelligence in the context of communication difficulties and hearing impairment (Gibbins, 1989; Ulissi et al., 1989) and the choice of validated assessments is limited (Maller, 2003). The researcher has to ascertain whether it is a developmental issue brought on by the child's lack of access to education, a learning disability, or just the child not understanding the tasks they are required to perform due to communication difficulties.

The K-ABC is an intelligence test with a nonverbal scale which can be administered without a requirement for sign language or verbal communication. This nonverbal scale included hearing impaired children in its normative sample. In testing the administration of the K-ABC, using sign language or mime, and gesture, Porter and Kirby (1986) found no difference between the nonverbal scale scores. However, they also found that scores

obtained on the K-ABC nonverbal scale were lower than those obtained on the WISC-R Performance scale. This was not supported by Ulissi et al. (1989), who found no significant differences in scores between the WISC-R and the K-ABC. In further support of the validity of the K-ABC, Gibbins (1989) found that the K-ABC was assessing the same features of intelligence as the WISC-R, and established a correlation of 0.84 between these two tests in a US sample. The study by Gibbins (1989) also included a sample of Scottish children; although the correlation between the WISC-R and K-ABC was found to be lower (0.71). In the US sample, deaf children's scores were similar to the hearing national standardisation sample, whereas in the previous study with Scottish deaf children, these were significantly lower than the standardisation sample.

The K-ABC test has been commonly used with deaf children, for example by Dawson et al. (2000) on young children with cochlear implants. This used the non-verbal scale of the K-ABC, because of its higher sensitivity for children who do not communicate like hearing children. Dawson et al. (2000) wanted to identify if any of the children in their study had lower cognitive functioning, which would have been difficult using an intelligence test that relied on spoken English to convey the questions and answers between the subject and examiner. Kline et al. (1992) suggested that, as the K-ABC, among other intelligence tests, was only intended to be used for screening purposes, the examiner should use other supporting measures for specific areas of functioning such as maths. In this study, the

researcher used the Language Proficiency Profile (Bebko & McKinnon, 1993) as an additional measure of the deaf child's language skills.

The Kaufman ABC has non-verbal scales, which have been applied and validated for use with deaf children. They are also appropriate for situations in which the examiner does not communicate in the same language as the child. The following nonverbal scales from the K-ABC were used with each child in this study, according to their age:

Age 4	Age 5	Age 6 to 12
2. Face recognition		
3. Hand movements	3. Hand movements	3. Hand movements
4. Triangles	4. Triangles	4. Triangles
	8. Matrix analogies	8. Matrix analogies
	9. Spatial memory	9. Spatial memory
		10. Photo series

 Table 3.4 Nonverbal scales of the K-ABC

The subtests have an initial practice item and two teaching items, so that the child learns how to attempt the task. The scores from these practice items are not added to the final score. If the child cannot perform the second or third item (teaching items), the researcher can conclude that the child has difficulty in completing the rest of that scale (Kaufman & Kaufman, 1983). In each scale, only the first response is marked. This is scored positively

if correct, and negatively if incorrect. If an answer had to be clarified, the examiner can write 'Q', and decide whether to include it in the final scoring or not. The scores start with the practice item, then is followed by the first test items. The subtest continues, until the child gets three or four answers wrong, when it stops. This is because each subtest starts low in difficulty and gradually becomes harder. In the nonverbal scale, the triangle subtest is the only timed subtest, with an allowance of two minutes.

The scoring of the items is calculated by subtracting the starting item from the ceiling item, thus obtaining a raw score. The raw score is then transformed to a scaled score, which provides the national percentile. The examiner can identify which of the subtests were the child's strengths and weaknesses, choose a band of error (the authors suggest 90% confidence or higher for reliable results) and obtain an age equivalent for each subtest score. Finally, a global score can be derived from the total of the subtests to get a standard score, which will give the percentile rank for the child's nonverbal scale results. These instructions were derived from the Kaufman and Kaufman (1983) administration and scoring manual, and the interpretative manual.

#### 3.5.2 Language Proficiency Profile (LPP-2, Bebko & McKinnon, 1993)

The Language Proficiency Profile was selected as a measure of communication and the researcher obtained permission from Jim Bebko to use it (personal communication, 2001). Bebko et al. (2003) point out that there are limited choices in assessment tools that evaluate

children's language skills, with some assessing development in one particular language by collecting a sample of language production during a time period, while other instruments have been adapted from use with hearing children. These prevent the reliable and valid assessment of deaf children who can use both speech and sign language, thus possibly using a combination of speech and sign, as found by several studies (for example, Preisler et al., 2002; Watson et al., 2007).

The subjects of this study consisted of children with a wide range of communication skills and modalities within English and/or sign language. Bebko and McKinnon (1998) recognised that deaf children often incorporate more than one system of communication (for example, English, nonverbal or gestures) to communicate with the listener. This would produce an underestimated score if the child was tested on a measure that only identified communication skills in one system. The LPP-2 was designed for this very group in mind, as it can be administered to children who use any method of communication, being oral, sign language or a combination of both. The scores obtained from the profile can then be compared with norms for hearing children of each age. This would be particularly useful in this study, helping the researcher interpret the use of the attachment tool by deaf children of varying communication capacity. The LPP-2 can be completed by the parent, child's teacher or any other significant adult who knows the child. It requires no training on its completion. In this study, the LPP-2 was completed by the parents. The researcher clarified any questions they could not understand. Some parents expressed concerns as to whether

they had completed the LPP-2 accurately, and the researcher reassured them that they had completed it the best they could, based on their knowledge of their child's language skills. The LPP-2 is a multiple choice rating scale, which was originally developed from the Kendall Communicative Proficiency Scale (KCPS, Francis et al., 1980). It was designed to identify elements of expressive pragmatic/semantic skills "in a form that would be acceptable in their particular language modality" (Bebko & McKinnon, 1998, p.243) to hearing and deaf children. The features of language skills that are included in the assessment are: Content, Form, Use, Cohesion and Reference. The features of language skills regarding Content identify what the child talks about in terms of objects, actions, relationships, and their effects on the child's experience (disappearance, rejection, or denial). The Form sub-section includes the structure of the child's language such as starting with holophrases and going on to create complex productions such as narratives. In the Use sub-section, the skills required are the use of language in engaging in interactions, eliciting others' attention, describing events, or creating fantasy stories. Cohesion is a more sophisticated skill, which requires the participant to take into consideration the perspective of others, including their knowledge and opinions. In the Reference sub-section, the skills required are demonstrated by the child discussing events or issues that have no concrete form (Bebko et al., 2003).

The LPP-2 provides scoring instructions, with various levels of the child's performance of each skill. These range between 'past this level', 'yes', 'emerging', 'not yet', and 'unsure'.

Examples are often given to the parent, to help them understand the question. Space is provided for the assessor to comment on questions they were having difficulty with. For each level of performance on each item (past this level, and so on), there are different scores, which are added up for each subsection. Their sum gives the total LPP-2 score. Bebko and McKinnon (1998) administered the LPP-2 to 104 hearing children between two and seven years of age, and established mean scores against which deaf children's scores can be compared. The LPP-2 is attached as Appendix 3.1.

# 3.5.3 Quality of Family Life Questionnaire (Hind & Davis, 1998)

The researcher obtained written permission to use the QFLQ for her study from Sally Hind (Appendix 3.2). This questionnaire was developed to gain a better understanding of the family life where a deaf child is a member. It was also used to identify potential variables that affect quality of life. Hind and Davis (1998) found that early identification (diagnosis) of hearing loss was associated with positive outcomes for the child. Despite this, they noted that, if early identification was not followed by supportive services and appropriate intervention, it could lead to parental responses such as anxiety and grief. This questionnaire covers family and social functioning, which will provide the context for the interpretation of the attachment and communication data. Although the data collected from the questionnaire was not intended to be a core part of the analysis of the attachment measure's suitability for deaf children, it was aimed to provide useful supportive information on children's individual capability in performing a measure (attachment test)

where specific cognitive, communication and linguistic skills are required. This saved the researcher great time and expense in having to develop her own questionnaire, and the researcher liaised with one of the authors (Sally Hind) on how to administer it to parents. The researcher was fortunate to be given a blank database that had already been designed to store the data from the questionnaire once completed by the subjects.

The QFLQ covers eight areas affecting the child's life : "You and your family", "Your child's hearing", "Communication", "Hearing aids or cochlear implant", "Your child's education", "Child's independence and social life", "Family life", and "The quality of services". Throughout the questionnaire, there are sections where the parent can expand on particular questions. The questionnaire is relatively easy to complete, asking for "YES/NO" answers and a range of satisfactory/intensity answers based on a Likert Scale. Its main sections are summarised below:

*You and your family:* basic background information on marital status, occupation, siblings, familial deafness or medical problems.

*Your child's hearing:* age of diagnosis, cause, support at diagnosis, information given at time of diagnosis.

*Communication:* communication method with child, parental language, communication difficulties, child's ability to communicate with family members, parental experience of using sign language.

*Hearing aids or cochlear implant:* Age when child fitted with hearing aids, whether they can they use hearing aids, problems, assessment for cochlear implant, difficulties with cochlear implant, parental concerns and experience of cochlear implant being fitted.

*Child's education:* support from specialist teacher, support at school, information on educational provision.

*Child's independence and social life:* child's ability to socialise with family and friends, behaviour and participation in community and family life.

*Family life:* the lifestyle of family members and whether/how this may be affected by child's deafness, difficulty in accessing services, effects of child's deafness on parental issues (relationship, earnings, stress).

*Quality of services:* support provided by various professionals and professionals' knowledge of deafness, information about issues relating to deafness.

All the above areas will be analysed once the child's attachment label is obtained, to investigate possible external factors that could affect the child's ability to perform the attachment measure, and to establish associations with the attachment label assigned to the child. To avoid any bias, the researcher did not read any of the completed questionnaires if these were returned prior to administering the attachment test. Background information from the family could have implied that the child behaved in a certain way. For example, if the parent reported difficulties with the child's behaviour at home or the mother suffered from postnatal depression.

Some questions have a dichotomous answer to choose from (i.e. Yes/No) and some have a Likert rating (i.e. never, sometimes, very often, and always). For each subsection, responses are input into a database. From the database, the researcher produced frequencies and bar charts to demonstrate key relationships between parents' responses and variables about the child and services they received. There is no total score for each questionnaire.

# **3.5.4** Semi-structured interview with parents on their experiences of diagnosis and parenting a deaf child

As the questionnaire has 'forced' answers for the parents to choose from, for example 'yes', 'no', 'happy', 'fairly happy' and so on, it cannot establish the underpinning reasons for their answers (Greenstein, 2006). The researcher thus decided to also collect qualitative data through a semi-structured interview (Miles and Huberman, 1994), in order to give the

parent an opportunity to share their experiences of parenting a deaf child and to provide an holistic picture of the environment and background in which the deaf child has developed their attachment relationships (Greenstein, 2006).

The semi-structured interview was based on interview guides related to different aspects of the parent's life, and this produced an experience narrative (Thomas, 2003). This narrative provided the researcher with information on the parent's thoughts and emotions relating to a particular experience, for example the diagnosis of deafness. The researcher is aware that this approach cannot evaluate the effectiveness of services, other than how these were perceived by the interviewee themselves. This could provide a valuable insight into which factors may have mediated the child's development of attachment.

#### 3.5.4.1 Semi-structured interview guides

The researcher developed a semi-structured interview on the child's diagnosis of deafness, professional and social supports, difficulties in communication, parental bond with the child, and the parents' wishes or dreams for their child's future. This was aimed to explore sensitive issues surrounding the parents' acceptance of their child's diagnosis and any presenting difficulties in the parent-child relationship which may have affected the child's development of attachment and other domains (e.g. communication). The guides were intended to reflect Pianta and Marvin's Reaction to Diagnosis Interview (RDI) (1992), but adjusted to specific issues for deaf children and their families. A copy of the questions can

be found in Appendix 3.3. The interviews were audio recorded for hearing parents, and video-recorded for deaf parents.

# **3.5.5** Issues considered in the selection of the attachment measure

There has been no attachment measure designed specifically for use with deaf children. For this reason, the researcher reviewed attachment measures applicable to all children between the ages three to eight years, which were available at the time of the study. The measures are discussed in terms of their suitability for deaf children, and training for their administration. It was also important to consider whether they could be easily adapted for a small initial study to explore the issues for administration to a deaf population. When evaluating previous attachment measures, it is important to remember that deaf children have communication delays which may consequently affect how they perceive and engage in the attachment test. Various aspects of deaf children's development were discussed in chapter two. An attachment test should be considered applicable for the ability of any deaf child to be able to perform the attachment task to an extent where the data collected is deemed reliable for coding.

The theory of internal working models outlined in chapter one is the foundation for many attachment tests. Measures designed for preschool and older children were usually developed with children whose infant and subsequent attachment classifications were already known, by using established infant attachment classification systems, and with full

access to the native language of their parents. The reader is reminded that this might not be the case for deaf children.

#### **3.6** Attachment measures available for ages three to eight years

Since Ainsworth and colleagues developed the most significant method of eliciting information about a child's security of attachment, i.e. the Strange Situation, a number of subsequently developed attachment tests have tended to reflect its original methods and aims. One of the main features adopted is the activation of the child's attachment system by promoting or presenting a situation that will elicit attachment behaviours. To adapt the Strange Situation to preschool and older children, three major amendments were made to the classification system. The same testing procedure was applied, allowing for developmental differences with respect to the reunion and separation periods.

These attachment measures will be discussed in terms of:

Overview

Procedure of administration

Critical evaluation and applicability for the study

Reliability and validity

Correlation with other measures

Accessibility of training for administration of the measure

Potential of administration to deaf population

Potential of adaptation for initial study with deaf children

#### 3.6.1 Preschool to kindergarten assessments

There are three variations of the Strange Situation for administration to preschool to kindergarten age children. The first one is by Main and Cassidy (1988) for 6 year olds, followed by Cassidy and Marvin (1987, 1990, 1991 & 1992) and the Preschool Attachment Assessment (PAA) developed by Crittenden (1992a, 1992b, 1994). They all use the Strange Situation with variations of the coding classification, in particular which behaviours would fit into the criteria for each attachment style. As these measures are similar, the researcher will discuss them in conjunction.

#### **3.6.1.1** Overview of the measures

In 1988, Main and Cassidy put forward their attachment measure for identifying attachment classifications in six-year-olds. The classification system was developed with 33 children whose infant classification was already known from applying the Strange Situation. In order to create the classification guidelines, a further 50 children were included in a subsequent study to establish various attachment behaviours. The Cassidy-Marvin and the PAA have similar characteristics to the above measure. Although both the Cassidy-Marvin and the coding procedure takes into consideration the child's style of communication, and the coding procedure takes into consideration the child's style of communication in determining whether they have a secure attachment representation. The measures have been

designed for preschool age, which is the end of the younger range the researcher wished to include in this study (three to eight years). Considering the constraints in selecting a homogenous sample, the inclusion of only preschool children would have further compounded problems with the data collection.

#### **3.6.1.2 Procedure of administration**

For the Main-Cassidy (1988) system, classification is based on the first three or five minutes of the child's behaviour during reunion after one-hour separation from the parent. This is opposed to the structure of the Strange Situation and its intermittent episodes of separation and reunion. There are five main classifications available with this measure: "Secure" (B), "Avoidant" (A), "Ambivalent" (C), "Controlling" (D), and "Unclassified" (U).

There are also differences between the PAA and the Main-Cassidy classification. The former includes: (B) Secure, (A) Defended, (C) Coercive, (A/C) Defended/Coercive, (A/D) Anxious/Depressed, and (I/O) Insecure/Other. There are more detailed coding criteria for the PAA. This is described by Solomon and George (1999) as a measure that "inferred regulation of internal feeling states, parent-child negotiation, the responsiveness of the attachment figure, and the observer's affective response to interaction" (p.299).

# 3.6.1.3 Critical evaluation and applicability for the study

Solomon and George (1999) reviewed previous measures, and concluded that it is hard to establish the appropriate length of time required to activate the child's attachment system in such a way that it is not under or overly activated. This is particularly difficult for each age group (Slough & Greenberg, 1990). This means that one child might only need a few minutes separation (as in the Marvin-Cassidy and the PAA), whereas another child will need longer (for example, an hour, as in the Cassidy-Main measure) for their attachment system to be activated. This will affect how the child behaves and how their attachment pattern is coded. Crittenden (1992a) points out that if the child becomes too distressed, they will not engage in any strategy. In other words, if one uses one measure that has short periods of separation and then another measure with longer periods with the same child, two different attachment codings could be produced. With a sample that is already heterogeneous, this could complicate further the interpretation of codings. Besides, this measure does not allow for investigation into what the child is thinking about the situation, by using visual means of communication. The data collected from this type of measure could be unreliable for some deaf children who, for example, might not have been given access to sign language or have not developed spoken English at a level expected for a hearing child of their age.

For the coding procedure of classifying secure attachment representations, both Main & Cassidy's and Cassidy & Marvin's measures approach the quality of verbal communication

as a "distinguishing characteristic of a securely attached child" (Solomon & George, 1999, p.302). This description of verbal communication already shows that these assessments need adaptation in terms of administration and classification. The researcher, therefore, needs an attachment test which assesses the content and action of the child's expression or movement rather than their communication style, which will be significantly different to that of hearing children.

#### **3.6.1.4 Reliability and validity**

There are several studies that have identified positive correlations between the Main-Cassidy (1988) system and representational measures, for example, Slough & Greenberg (1990) and Jacobsen et al. (1994). The main difficulty in establishing validity is that this can be confounded by variables such as expected child development, family events, or change in relationships. Some studies looked at low-risk and high-risk families, and whether their attachment classification remained stable, but it was inconclusive on whether family and life circumstances caused the child's attachment classification to shift from one pattern to another. Another perspective on the stability of the child's attachment coding, is to consider the possibility that one measure used at an early age can produce a different attachment classifications in a group of French Canadian children with different socioeconomic backgrounds at age three and a half years, then again at five and half years. Events that occurred during that period included changes in quality of interaction between mother and child, marital relationship, loss and hospitalization of parent, changes in caregiving, and marital circumstances. The stability of security coding was ascertained using the Cassidy-Marvin system at three and half years, and then the Cassidy-Main system at five and half years, with 68% correlation in coding. George and Solomon (1999) critically evaluated an earlier study by Crittenden and Claussen (1994) which had found that stability was better for insecure than secure codings, and identified a gap in the criteria for what constitutes a secure pattern.

#### **3.6.1.5** Accessibility of training

Training is provided by attending courses on the Strange Situation (five days at the time of the study) where students initially watch videotapes and discuss the children's behaviours and codings. At the next stage, the students code the tapes and their codings are discussed in terms of inter-rater reliability. Following the training, some course organisers offer to establish inter-rater reliability ratings with the students. As the course involved a high level of technical information, it would require two fully qualified interpreters for the whole duration of the five days. Such high costs within the study budget were taken into consideration, although this was not the primary factor in selecting the attachment measure.

#### **3.7** Ethics issues and potential for administration to deaf population

As has been noted by some researchers, for example Aber & Baker (1990), the Strange Situation can be a stressful test for any child to go through, and is not easily acceptable for

ethical reasons. The researcher, therefore, considered whether it was ethically appropriate to administer such a test to a population that can be considered vulnerable. Deaf children are susceptible to encountering more stress in their life than normal hearing children, and the researcher wished the test to be relatively enjoyable for the deaf child. Despite this, the researcher is aware that a level of distress maybe inevitably required for the child's attachment system to be activated. The scope to adapt this type of assessment is rather limited, and the concept of "the mother will come back" needs to be translated into concrete materials, which the child could understand. To create an assessment that would be applicable for a wide range of abilities in communication, emotional, cognitive and social development, a system needs to be set in place that would allow for flexibility to match the child's developmental age. To collect information on the child's views on that particular reunion episode, rather than just observing their behaviour, would again require more flexibility, to allow for different communicative abilities. Leaving the child with a stranger, especially a child who may be what is often called 'socially disadvantaged' because of their deafness and the lack of communicative skills of those around them, could easily overstress their attachment system. This, as suggested by Crittenden (1992a) earlier in this chapter, could cause the child so much distress that they would not be able to come up with an attachment strategy at all.

If the Strange Situation is administered to deaf children, there is a risk that it may become more of a language test because, as found in previous studies with deaf children, mothers of oral deaf children resorted to 'one-sign' to tell the child they were coming back. To prevent a mismatch between subgroups of deaf children, these would ideally need to be controlled for age when diagnosed deaf, their level of communication, sign language level of parents, their parents' own attachment pattern, and any interventions they may be receiving. This would require intensive testing and vast data collection which is beyond of the scope of the study.

# **3.8 Representational attachment measures**

George and Solomon (19969) recommended representational measures as a useful alternative of finding out how the child feels about their attachment relationships. The quality of the child's representational response depends on their level of cognitive and language development. Their response can be given in a number of ways, using materials, verbal and non-verbal communication. The researcher will discuss three such representational measures: the Attachment Story Completion Task (Bretherton et al., 1990); the Stranger Anxiety Task (Kaplan, 1987); and the Manchester Child Attachment Story Test (Green et al., 2000).

#### **3.8.1** Attachment Story Completion Task (ASCT, Bretherton et al., 1990)

#### 3.8.1.1 Overview

The attachment story completion task was originally developed to distinguish a child's representation of their attachment pattern from those of other children's. Previous studies

on attachment helped the authors create a coding protocol to differentiate stories reflecting an insecure or secure pattern. The sample on which the measure was developed had already been given an attachment classification by the Strange Situation at 18 and 25 months through a Q-sort completed by their mothers. The mothers completed additional instruments on the child's behaviour, temperament and cognitive development, as well as on family relationships. The procedure of this assessment is as follows:

- a. Brief encounter of researcher with mother and child.
- b. After the mother and child have spent about ten minutes in free play, the tester returns and joins the mother and child, in additional free play.
- c. Ascertaining the child is comfortable with the tester (taking about five to ten minutes); the tester asks the mother to sit in the corner and gives her a questionnaire to complete. The tester and child set up a table with two chairs.
- d. Initial story is used as a warm-up to ensure that the child understood the procedure.This is followed by five attachment related stories, which are narrated and acted out by the researcher, using small family figures and props.

e. After describing each story, the researcher asks the child "what happens next?" In certain circumstances, further prompts are employed to clarify any ambiguities given by the child and also to try to elicit more information.

# 3.8.1.2 Critical evaluation and applicability for the study

The coding for the child's performance of the ASCT considers the whole performance of the child. This includes the story response, its process and the child's nonverbal behaviour. This means that there is less weight on the frequency of verbal output (Bretherton et al., 1990). For example, simplistic responses consisting of one word, like 'hug' (p.287) are sufficient. This may be more applicable to children who have had difficulty accessing communication development opportunities (as explained in chapter two) and may be delayed in comparison with their hearing peers. During the administration of the ASCT, the mother is allowed to sit in the same room as the child. The researcher questions whether this may affect how the child responds to the task and story vignettes. For example, the child may give a response that they know or assume their mother might want to hear or see. The child may also even feel under pressure to give or understand complex questions, and to give complex responses to impress their mother. This could affect the validity of the attachment coding, and raise ethical questions about its use. For example, if the child produces a fantasy response to the vignette of their mother dying, this might be interpreted by their mother that their child wanted them dead. In reality, this response could only symbolise the child's wish to move on and become more independent with respect to their relationship with their mother.

# **3.8.1.3 Reliability and validity**

There are no reliability studies on the ASCT (George and Solomon, 1999). A high correlation (75%) has been found on the secure-insecure ratings between the ASCT and the Cassidy-Marvin system, but not for the sub-types of insecurity. A high correlation was also found between the Adult Attachment Interview and the ASCT; i.e. between the mother's and child's (at age five years) attachment codings (Gloger-Tippelt et al., 2002). This indicates that the ASCT might prove valid for research on transgenerational patterns of attachment (see chapter one for further information), for example in predicting the child's attachment coding after having performed the AAI on the parent.

#### **3.8.1.4** Accessibility of training

At the time of the study, there was no course available on administering the ASCT.

# **3.8.1.5** Potential for administration to deaf population

This measure is applicable for use with deaf children who use more non-verbal communication and may not have the English language skills of their hearing peers. In other words, deaf children may use non-verbal methods to communicate their thoughts and reciprocal conversations with their caregiver. The content of the story responses is critical

for the classification rather than focusing on verbal skills, and this makes it more applicable for children who also use non-verbal behaviours to communicate. As this measure uses props, it could be flexible for use with deaf children, which could allow for changing the props.

#### 3.8.2 Stranger Anxiety Task (SAT; Hansburg, 1972; Klagsburn and Bowlby, 1976)

This attachment assessment involves children's responses to pictures that demonstrate various reunion and separation situations. It was originally designed for adolescents but was later modified by Klagsburn and Bowlby (1976) for use with four to seven-year-olds (George and Solomon, 1999). Kaplan (1987) modified the SAT using middle class six-year-olds whose 12-month attachment classification was already known (George and Solomon, 1999). The procedure consists of showing the child six pictorial representations of attachment related events, which increase in intensity of stress. The child is required to describe the feelings of the child in the picture and what they would do next. The child's attachment pattern is identified by their demonstration of emotional engagement and their responses to assuage feelings brought on by separation.

#### 3.8.2.1 Critical evaluation and applicability for the study

Some deaf children have delayed communication (Blamey, 2003), emotional (i.e. Gray et al., 2007) and language competence (Remine et al., 2007), which may seriously jeopardise the validity of administering a measure that relies on emotional and language competence.

This could result in many more insecure codings for deaf children, which would be inaccurate and unreliable.

#### **3.8.2.2 Reliability and validity**

Main et al. (1985) found a high correlation between secure attachment in infancy and children's mental representations at six years. In a more recent study, there was stability of classification between 14, 24 and 58 months using the SAT (Bar-Haim et al., 2000). This finding was even more promising than previously established 84% correlation of secure classification from infancy to age six (Main and Cassidy, 1988). Ziegenhain and Jacobsen (1999) pointed out that a limitation of the SAT was the use of categorical rather than continuous coding. The difference is that continuous coding enables the identification of qualitative developmental aspects like emotional openness, which are then incorporated into the classification scores.

# **3.8.2.3** Accessibility of training

No course was available at the time of study.

#### **3.8.2.4** Potential for administration to deaf population

The SAT uses photos, which only allows for 2-D demonstration of stories. This requires much more capability in terms of abstract thinking. The props would have to be changed to allow for more incorporation of 3-D for the deaf child to compensate for abstract skills, if

required. The Kaplan (1987) version classifies attachment security, depending on how the child talks about their feelings and thoughts on the separation pictures. This would require substantial modification for administration to a deaf population, in terms of props, administration and coding. George and Solomon (1999) were critical that in representational measures, a child's response in one modality (such as picture-based) could be categorised as a different attachment pattern in another modality (such as doll-based). An attachment vignette could have different meanings for children aged three or seven years. Using Piaget's theory of operational levels, a three-year-old (pre-operational), for example, may think that a story about monsters is real because they cannot distinguish between reality and fantasy. The three-year old child may thus give a different response to a seven-year-old (concrete level), who has developed the concept of fantasy. Woolgar et al. (2001) stated that studies using a 3-D approach to eliciting information from children were more effective than those using a 2-D approach (Getz et al., 1984; Mize & Ladd, 1988).

# 3.8.3 Manchester Child Attachment Story Task (MCAST, Green et al., 2000)

In this attachment measure, the researcher gives the child a vignette and the child provides a response to what happens next. The child can respond verbally or non-verbally, and use dolls and a toy house to complete the story stem. The rater codes the content of the child's story-response. The part of the response that is given through play is rated separately from the narrative response. Green et al.'s underpinning theory is that the child could act out how the parent would respond to them in the vignette, and that their internal working model would be reflected in the play. The child's response to the vignette is evaluated for its flow and how it presents the resolution, for example, a beginning, middle and end (resolution). If the child presents a chaotic theme with no clear aim for resolution, this will be rated as reflecting an insecure or disorganised attachment strategy.

# 3.8.3.1 Critical evaluation and applicability for the study

The procedure of the MCAST offers a solution to eliciting data on the deaf child's internal working model by using props that offer visual representation of vignettes. The researcher questions whether the abstract concepts underlying the vignettes will be demonstrable using dolls, or whether the core meaning of the story could be played out by the administrator using dolls and furniture instead. A child's to response by using dolls to 'visualise' what they would do in the given distressing situation, could provide insight into their attachment. As the study will include all levels of communication and linguistic ability, using props may allow the administrator to be more flexible to show the child what is happening in each vignette. For example, the administrator may use more linguistic content (in English or BSL) in her story-telling with one child, as opposed to more physical play for another who does not have sufficient linguistic skills.

#### **3.8.3.2 Reliability and validity**

The MCAST has been shown to be significantly associated with the AAI and the SAT, as well as the child behaviour ratings (Green et al., 2000b). In the original study (Green et al.,
2000a), high content validity and inter-rater reliability were established, but there has not since been further standardisation of this measure. Despite this, O'Connor and Byrne (2007) recommend this measure as being more applicable for clinical settings. These authors emphasise, however, that more research is needed on the construct validity of the MCAST.

## **3.8.3.3** Accessibility of training

Training is available and consists of a weekend course at the University of Manchester. The initial training provides an introduction to the MCAST, its structure, administration, coding and discussion on what symptoms best fit with each attachment category. There is also discussion and interactive teaching on how to code children's performance on the MCAST from videotapes. A follow-up course is available for students, with more detailed discussion on coding video tapes, students coding videotapes after the training. The student's codings are sent back to the course leader (Dr. J. Green and his colleagues) to be assessed with written comments and returned to the student. The researcher completed all the aspects of the training (certificate in Appendix 3.4) and received positive feedback on her reliability coding (Appendix 3.5). She also met colleagues from other organisations and disciplines who had been trained to use the MCAST, and who were willing to help with the study by meeting the researcher to discuss rating of videotapes based on the adapted MCAST. The researcher obtained further approval for adapting the MCAST for the sole purpose of the study and a letter can be found in Appendix 3.20.

### **3.8.3.4** Potential for administration to deaf population

As the MCAST uses 3-D with a dollhouse and observes non-verbal behaviour along with verbal output, its approach is much more viable than just using 2-D, or judging security on verbal output. The dolls, dollhouse and vignettes can be easily used to show the content and depth of the distressing situations. The MCAST coding manual was found straightforward to follow. The MCAST focuses on the child-caregiver relationship, thus only include two characters in the story stems. This increases the chances of a child with low communication skills grasping the story theme. Nonverbal and verbal behaviour are both coded according to intensity. Another strength of the MCAST is that it takes into consideration the content of what is conveyed in the child's response to a story stem, which is more important than verbal skills. The instrument can be administered to a non-clinical population.

The researcher wishes to note two concerns regarding the differences in symbolic play skills not only in deaf children as compared with hearing children, but also between signing and oral deaf children. As the MCAST uses play, it is important to briefly discuss two studies on deaf children and play. Cornelis and Hornett (1990) studied two groups of deaf children, one using sign language and one using speech, and found that signing children had a higher level of social and dramatic play skills than speaking children. Signing children "played house, made milk shakes, pretended they were riding buses, and re-enacted a barbershop complete with invisible scissors" (p.319). The oral group hardly said

anything, made a few gestures, demonstrated limited interaction, engaged in more solitary and aggressive play, and in less functional play.

As many deaf children do not have full access to language development or a rich linguistic environment, as explained in chapter two, this may affect their interactive experiences with their caregiver. Spencer and Deyo (1993) suggest that the learning and quality of symbolic play could be hindered in deaf children, due to lack of opportunities or poorer interactive and language experience and development. They add that the interactive episodes between the mother and deaf child are not necessarily beneficial to the child's development. This could be because the mother may not know prompts or strategies in which to communicate with her child; or they may be relying on speech alone, which is difficult for the child to understand. With 3-D props, there is potential for more flexibility in the style of administration, and in eliciting the child's responses using the 3-D and non-verbal behaviour.

### **3.9 Justification of the MCAST for this study**

The main aim of the study was to identify which issues had to be taken into consideration in applying an attachment measure to deaf children. The MCAST provides many features that enables flexibility and adaptation such as using 3-D props (i.e. non-verbal behaviour), as well as props to elicit the child's response to the vignette. The coding procedure looks at content and how the story is set up to resolve the distress, as presented by the researcher, and this is relatively easy to follow. The coding procedure includes both nonverbal and verbal output by the child, and identifies which behavioural or verbal features reflect each sub-coding type. The coder can refer to a detailed coding manual that provides outlines for each behaviour, and what can be coded for which rating. The coding procedure itself is another feature that could be adapted to make it more appropriate for use with deaf children. The accessibility of the course and network of contacts was crucial in choosing the MCAST for this study. A summary of the reasons are given below:

## Table 3.5 Summary of reasons for selecting the MCAST

- MCAST coding manual straightforward to follow.
- MCAST administration uses visual objects dolls and house.
- MCAST focuses on the child-caregiver relationship, thus only has two characters in the story stems. This increases the chance of a child who has low communication skills to grasp the story theme.
- Nonverbal and verbal behaviour are both coded according to intensity.
- Verbal fluency is not coded, but rather the content of what is conveyed in the child's response to story stem.
- Can be administered to a non-clinical population.
- Strong correlation with AAI.
- Easy to administer to a child.

- First part of training obtained. Second training for inter-rater reliability subsequently obtained.
- Researcher met colleagues from other organisations and disciplines who had trained in using the MCAST, who were willing to help with the study by meeting for discussions on rating videotapes of the adapted MCAST.

## 3.9.1 Materials for the administration of the MCAST

The researcher investigated children's and educational toys catalogues, and selected a basic dollhouse with an open view from all sides. This doll house was produced by Plan Toys and was 24x20x12 inches. The researcher obtained furniture for a sitting room, two bedrooms, bathroom and kitchen. There were no garden features attached, stairs or attic in the roof. Please see photos below:



Picture 1. The Mummy, daughter and son dolls

Picture 2. The dollhouse



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Picture 3. The dollhouse with furniture

The dollhouse was furnished with basic furniture that showed what each room was.

# **3.9.2** Administration of the MCAST

The researcher administered the doll house task according to the MCAST training she had received, and according to the child's preferred language. When a child was having difficulty with the measure, for whatever reason, the researcher modified the questions or vignette to match the child's individual developmental ability. The researcher would simplify the vignette and use more non-verbal behaviours to describe it. This would hopefully allow for a child with lower English language skills to understand the vignette in a visual way (such as British Sign Language - BSL) and respond accordingly. The structure of BSL requires that it is common for the signer to establish the context of the conversation, for example, by stating the noun (Rathmann et al., 2007), before initiating the conversation. In narrative telling, the BSL user can employ hands, space or eye movement to show who is talking (perspective switching) and what is happening in the story. The coding manual may need to be adapted to fully appreciate that the rules of BSL are different from English. A child who has few BSL or English skills will certainly present a challenge, as they may produce a narrative that has a mixture of two languages. It might in turn be difficult to ascertain if the child is following rules of two languages sequentially, or has an incoherent and incomplete strategy for resolution of the distressing event. A copy of the MCAST administration guide is in Appendix 3.6 and the coding manual is in Appendix 3.7, and the coding sheet is in Appendix 3.8.

#### **3.9.3** Communication and interpreter protocol

In cases where the child used sign language efficiently, no interpreter was present. Where the child had low levels of sign language and attempted to use speech to communicate, the researcher booked an interpreter. This was necessary when the researcher was not able to lip-read the child vocalising words, which the interpreter was able to hear. In cases where the child did not sign, but used speech (of any skill) to communicate, an interpreter was present. The researcher and interpreter followed the protocol written for administration of the intelligence test (K-ABC). This was revised following the initial study. The researcher was aware of difficulties that might arise through mistranslation of questions or responses. Lopez (1994) found that meaning was lost, or that the vocabulary used might have been intended differently for other languages (such as English to BSL or BSL to English). Consequently, in order to minimise mistranslation or misinterpretation and any other effects of the interpreter's presence, the researcher developed an interpreter protocol. Please find this in Appendix 4.21. The researcher also downloaded a 'code of ethics' (including complaints procedure) for interpreters to follow from the Council for the Advancement of Communication with Deaf People website<sup>2</sup> (CACDP, January 2003, Appendix 3.9.). This has been recently updated as the CACDP have changed to Signature and developed two new guidelines, one for 'best practice' (Appendix 3.10) and one for 'ethics for interpreters' (Appendix 3.11).

## 3.9.4 Room size, location and setting

The researcher tried to arrange a neutral setting such as a local community or deaf centre. If this was not possible, the next choice was the child's school, in a quiet interview room or classroom. In cases where this was difficult to arrange, the researcher visited the child's home and ensured that the parent or other family members were not present while

<sup>&</sup>lt;sup>2</sup> CACDP website was <u>www.cacdp.org.uk</u> but now changed to www.signature.org.uk.

administering the tests. The researcher was not very concerned about the size of the room, but rather about the potential distractions by people or objects. For this reason, the television was switched off, no other children or adults were present, and toys were put away. Depending on the location of the setting, the researcher tried to use two video cameras, where possible. The priority was for the video angle to be on the child performing the attachment task, with an interpreter's voice being recorded. When only the researcher and the child were present, the video angle was on both the child and the researcher. Wherever possible, the video angle was on the child, dollhouse and interpreter. The researcher anticipated that it would be difficult to record the dollhouse, the child's face and upper body, the interpreter and herself. Further discussion of this will be found in chapters four and five.

## 3.9.5 Coding system

The coder first watches one segment (vignette) of the videotape of the child performing the MCAST, to get an overall 'feel' of the data. Then, on second viewing, she watches the video and pauses every 30-60 seconds, while referring to the coding sheet for each section. A copy of the coding sheet is included in Appendix 3.8. The coder has to go through different features of behaviour aimed by the child towards the doll, the mother or any objects. The style, intensity and context of the behaviour are coded. For example, 'proximity seeking to the mother' codes the child's communication or actions with the doll to demonstrate how they relate to their mother to resolve their distress. If the child has a

clear strategy, they will gain proximity very quickly (score of nine), but if the child is not sure (ambivalent/resistant style), they may increase their distance from their mother (score one).

There are 13 behavioural items leading up to 'Effectiveness of assuagement', 'Emergence of exploratory play', 'Child's predominant affect through vignette', and 'Play content/bizarreness', which concentrate on deciding how well the distress was resolved. This then leads to the coding of the predominant strategy, the state of mind and narrative coherence (using Grice's Maxim). If identified as 'D' (disorganised), a special section codes the type of disorganised attachment. At the end of the coding of all vignettes, the researcher reviews how many of these vignettes were coded as secure, insecure or disorganised. A lot of qualitative data is collected from the videotapes and substantial focus is given to the 'mentalising' and 'coherence' of the narrative produced by the child. The MCAST is, therefore, a largely qualitative measure, which would lose a lot of understanding of the child's attachment development if codings were to just be labelled 'A' or 'B'.

## **3.10** Ethical considerations of the study

The study is quite unique in the context that there is no register of all children who have a hearing loss that can be accessed by authorised personnel. This means that the researcher had to consider factors that may have affected how the sample was recruited, because of sensitivity surrounding standards of service provision for deaf children and related organisational conflicts, tension and anxieties. The researcher will discuss issues of vulnerability, ethics and sensitivity in the application of this study.

## 3.10.1 General research issues and ethics for vulnerable children

Kipnis (2003) reviews children's vulnerability in research and identifies seven important features. Three features that are particularly relevant to this study, will be briefly discussed here, i.e. 'incapacitational', 'social' and 'medical'. The 'incapacitational' feature concerns the ability the child has to discuss whether they want to be involved in the research. With the age range of the children in this study being between three and eight years, it is unlikely that the sample would be able to maturely give their consent. Despite this, there is another question to consider, due to the nature of the sample, in relation to the child's ability to communicate effectively if they were to state they did not want to participate, for example in one of the psychometric tests. In this case, the researcher and interpreter (if present) will immediately abstain from continuing the task, if the child expresses any dissent. The 'social' aspect of Kipnis' vulnerability is particularly relevant to deaf children, as they are often discriminated against because of their disability. The researcher has a cultural and social attitude towards deafness, therefore the social aspect effect will be nonexistent/minimal in this research. Kipnis discusses 'medical' vulnerability as being driven from having a physical condition, usually when patients participate in drug trials. The researcher wants to state that, even though the children in the sample may, in the eyes of the medical profession, have a 'condition' (deafness), they will not be viewed as medically impaired in the study.

## 3.10.2 Specific ethics issues for this study

The first and most difficult obstacle that had to be overcome was that no organisations or departments would provide children's names and addresses. It is plausible that education departments, in areas where different educational policies were followed, may have worried about invasion of families' privacy and confidentiality, or worried about parents meeting a researcher who was deaf and used sign language. The researcher made it clear to the educational authorities that she was not looking at methods of education or communication (oralism or sign language). There is currently no referral policy to local deaf centres and deaf children's societies for children diagnosed deaf and registered with educational authorities. This made it difficult to know which parent was registered with which voluntary organisation. Consequently, the researcher had to distribute stamped addressed envelopes for the organisations to forward to the parents. Documentation included the initial information letter and leaflet, and the consent form. The organisations did not (or would not) provide the researcher with numbers of parents to whom they actually sent the letters. Consequently, it was not possible for the researcher to know how many nonparticipating parents actually chose to opt out of the study, rather than not having been informed about it.

As the population of deaf children is small compared to the hearing population, deaf children from each local authority could have a higher possibility of being identified from just their age, location, communication method, level of communication and non-verbal intelligence. The researcher was aware that, when the results are disseminated, there will be no reference to local educational authorities or areas of residence. Instead, these will be presented in terms of age, communication method and how they performed on the attachment measure.

The researcher was aware that involvement in the study may have been the first opportunity for a parent to meet a Deaf adult. This presents two issues. Firstly, where the researcher uses sign language, which can be regarded as a controversial method by some people, as particular local education authorities may have a preference for either speech or sign language, regardless of whether it suits the child's developmental needs. This means that if the child is having problems with their language or communication development, the parent might have questions they want to ask the researcher regarding communication and sign language. Secondly, the researcher is a Deaf adult, meaning she has a proactive Deaf identity, is a member of Deaf community, and regards deafness as 'normal', just as it is to be hearing. This positive and cultural attitude may provoke feelings in the parents regarding their child not being 'normal', or not fitting in with their hearing peers.

Although it would be of great interest to the researcher to explore in-depth parents' feelings about their children's education provision, language support, deaf identity, anxieties and fears, it would not be ethical to 'open the gate' for potentially unresolved issues that would be best dealt with by therapeutic professionals. Bulmer states that "being ethical limits the choices we can make in the pursuit for the truth" (2001, p.45). This is relevant in this case, as the researcher would probably find out more information about what could have affected the child's attachment and general development. At the same time, the researcher needs to build rapport, especially during the qualitative interview, to encourage participants to feel they can trust her, and therefore answer her questions (Dickson-Swift et al., 2006). Despite this, the researcher was not looking to be involved in an assessment of the family's needs or to provide long-term support, in a therapeutic or supportive role. For this reason, the researcher produced an information leaflet detailing the names of organisations that specifically support parents and deaf children, to signpost parents to other deaf-related organisations. For parents concerned about their child's mental health (behavioural or emotional problems), the researcher also included contacts for local child mental health services (CAMHS). A copy of this leaflet is in Appendix 3.12.

Another important consideration for the researcher was remaining cautious when explaining to parents the background of attachment development. For example, indicating that a child has an insecure attachment could evoke feelings of guilt and inadequacy in the mother. This was not the intention of the researcher, although, as Bulmer (2001) points out it is not always possible or desirable to be completely honest with the research participant. Ideally, the researcher does not want to leave the parent and their child feeling worse after the interview, but rather content about their relationship, if possible.

## 3.10.3 Sensitivity of sample

The nature of this sample presents a high risk that many parents may not have had a chance to resolve their traumatic experiences of receiving the diagnosis of their child's hearing loss and the stresses of parenting, or not being satisfied with service provision. An example may be where the parent was very distraught, because this was their first opportunity to relieve their frustration and worries about their deaf child. During the study, a parent felt certain that her child had behavioural problems, and the researcher gave her contact details for her local child mental health service. A second parent confided that she felt very lonely, and so the researcher gave her contact details for the local National Deaf Children's Society (NDCS) representative. The researcher was aware of her capacity and boundaries, and explained to those two parents that she could not provide personal support or guidance. In a few other instances, the researcher was the first Deaf adult that the parent met, and they were very interested in the researcher's own personal life as a Deaf person. The researcher answered a few superficial questions about being at university, and kept the conversation focused on the interview or topics related to the research. Again, in these situations, the researcher signposted the parents to the local Deaf centre where the parents could find out about the Deaf community and meet Deaf role models.

The researcher passed a CRB check twice (old and new procedure) prior to the study. As was discussed in chapter two, deaf children are at higher risk of sexual and physical abuse. Thus, if child revealed during the attachment test or her meetings with the researcher any indication of maltreatment or abuse, then the researcher would report this to her supervisor. The supervisor would then follow the correct child protection procedure for reporting suspected child abuse. No child protection concerns were detected during the study.

## **3.10.4 Ethics committee approval**

Approval was successfully obtained by the relevant Local Research Health Ethics Committees. The following ethics committees either approved the study or confirmed that an application was not required:

- 1. South Derbyshire LREC
- 2. North Derbyshire LREC
- 3. Leicestershire and Rutland LREC
- 4. Northampton Medical Research Ethics Committee
- 5. Nottingham City Research Ethics Committee
- 6. North Nottinghamshire LREC

Letters from the LREC's confirming application was not required can be found in Appendix 3.13.

### **3.10.5 Ethics Committee recommendations**

The only LREC that sought approval was the Northampton Medical Research Ethics Committee. In response to the researcher's application, they requested the following: that each child's GP is informed of the study; parents and child participating in the research are contacted by letter; tape recordings and transcripts are kept securely; and a procedure to ensure the researcher's safety when visiting participants' homes. In the second response to these amendments, the ethics committee asked for an explicit statement in the information leaflet for the parents and the GP's letter that the participants "may experience emotional distress" and the researcher complied with the above requests. Approval was granted by the Northampton LREC on 12<sup>th</sup> August 2002 (Appendix 3.14).

### 3.11 Research procedure

## **3.11.1 Initial stage of recruitment of sample**

The local education authorities were initially approached by phone to find out the contact person for the special needs team, following which a letter was sent out. The letter introduced the researcher, the objectives of her research, how she wanted the organisation to help her, and the selection criteria for the study. The same procedure was used when the researcher contacted local deaf centres, deaf children's societies (voluntary organisations) and early years' centres. Please find selected letters from various organisations pledging their support for the research in Appendix 3.19.

There were various difficulties in obtaining accurate figures on the number of deaf children from the voluntary and statutory organisations, as there were some discrepancies in the information available. Despite this, the researcher had to accept the figure given by the organisation on the number of deaf children registered with their service. The problem with this method was that the organisation could have selected the better functioning children, in order to give a good impression of their service.

The second consequence of not knowing to whom the letters were posted was that more than one organisation in the same area may have sent letters to the same parent. The researcher had to use different organisations from the same area, because deaf children are voluntarily registered with deaf centres and/or their local deaf children's society. For this reason, it was not possible to know who sent the information letter to each parent on the researcher's behalf.

Thirdly, because the researcher did not know beforehand who the parents with deaf children were, she did not have a chance to meet or phone them to introduce herself. This may have increased the chance of the parent replying positively to participating in the study if they knew who the researcher was.

## **3.11.2 Procedure of the first and second contact**

Parents' informed consent was sought by four documents:

- 1. An introductory letter explaining who the researcher was and where she was based (Appendix 3.15).
- A form for the parent to return, indicating their interest in participating in the study. (Appendix 3.16)
- 3. An information leaflet on the study, and what the role of the parent and child would be if they agreed to participate (Appendix 3.17).
- 4. A consent form (Appendix 3.18).

A British Sign Language video version of the information leaflet (in BSL) was sent to deaf parents. Due to the initial low number of positive responses, the information leaflet was revised during the study into a more reader-friendly format. A freepost envelope was enclosed for parents who wished to participate in the study.

## 3.11.3 Organisation of the first and second meeting with a parent and child

The researcher only organised a meeting with a parent who had sent a positive reply, indicating their wish to participate in the study. The researcher organised a first meeting at the parent's home (their choice) to introduce herself and explain her research in detail. When the parent had the opportunity to ask questions or was satisfied that they understood the nature and aims of the study, the researcher asked them to complete a consent form. If the parent felt ready, the researcher conducted the semi-structured interview. Following this, she performed the mental ability task, using the nonverbal scale of the K-ABC. The parent then completed the communication skills checklist and family life questionnaire.

Interviews with hearing parents were audio-recorded, whilst interviews with deaf parents were video-recorded. Even if hearing parents did have some sign language skills, the researcher still booked an interpreter, because the parents' level may have been limited for them to understand the researcher's signing. As the researcher is a native signer herself, she did not use an interpreter with deaf parents.

At the initial meeting with the parent, the rationale for the research was explained. The researcher also explained to the parents that the child would be filmed doing the attachment assessment and that the videotape would be securely locked away at the researcher's base (Child Psychiatry department at Greenwood Institute, University of Leicester). When the parent agreed, the parent and the researcher kept a copy each of the signed consent form. The researcher then asked if the parent was happy to continue with an interview, and to complete the K-ABC with the child. The researcher left her contact details with the parent, in case they needed to contact her and ask further questions following the initial visit. Later on, the researcher phoned the parent to arrange a second meeting to complete the attachment test, either at her workplace (Leicestershire child mental health service) or in the family home. With permission from the parent, the researcher contacted the child's teacher

to ask whether it was possible to arrange the meeting in school. This often proved difficult, as teachers were either too busy or unclear about the purpose of the study.

The second meeting was arranged for the researcher to perform the attachment task with the child. This did not prove easy, as in most cases both parents worked full-time. For this reason, the researcher arranged after-school visits at about 4.30 pm. The inevitable consequence was that the child may have been tired after school. The other option was to wait for school half-term, which again was not easy, as parents often worked full-time, were on holiday, or had the child placed at a play scheme. The other obstacle was the wide geographical area, as most counties had one deaf centre, which was usually based in the city centre and a long way for most parents.

#### **3.11.4** Communication considerations for parents

Although all children in the study met the selection criteria, some of them might have additional or specific needs. This is particularly relevant for parents who do not have English as their first or preferred language. Some deaf parents might have English as their supposed first language because they have not been able to fully access this language through education, their actual 'preferred' language might be British Sign Language. This means that they feel more comfortable and are more fluent in sign language than in English. As an interview about personal experiences could be sensitive, the researcher asked how parents wished to communicate. If a parent preferred to communicate in speech, an interpreter was used, while if they wished to communicate in sign language, there was no need to use an interpreter. This is because the researcher is a native signer and therefore does not need the services of an interpreter when communicating with a sign language user. As one of the measures used in the study was a questionnaire written in English, the researcher gave the option to all five deaf parents that she would either help them complete the questionnaire, or sign the questions for the parent to sign their answer back and the researcher to then write down. Only one of the five deaf parents in the study required the researcher's help in completing the questionnaire.

## 3.11.5 Transcription of audio-tapes and video-tapes

An interpreter was used to transcribe the interviews from the audiotapes, where the parent used speech to communicate. The interpreter was instructed to adopt a 'denaturalism' approach to transcribing, where only the words are recorded, excluding background noise, pauses or utterances (Oliver, et al., 2005). Where the child used speech and the interpreter was present during the attachment assessment, the interpreter translated the interview. If only the researcher and child were present, where both parties used sign language, then the researcher transcribed the videotape. Where the parent was deaf and used sign language, this required no interpreter, so the researcher transcribed these interviews. After the researcher had transcribed the videotapes, where sign language was used, an interpreter was asked to check the transcriptions and to provide an English translation of the British Sign Language. The researcher is aware that translation of BSL is complex. In a qualitative study

on the translation of BSL, it was concluded as that "BSL is a visual language with no written form, translation into English is often viewed as having little more than a practical, rather than epistemological significance." (Temple & Young, 2004, p.165). For the purpose of the study, the researcher recorded the meaning of what was signed with any accompanying non-verbal behaviours. In a paper on the transcription of child sign language, it was pointed out that children could use different ways to sign the same thing, even using other signs merging with the sign from the previous sentence and body language, which could all be transcribed using a system called 'Dynamic Space transcription' (Morgan, 2003). There is also another system, 'glossing' which is simpler, but still collects detailed data on how the signs are produced (Sutton-Spence & Woll, 1999). Although the researcher was aware of these approaches to transcription, she opted to only record the meaning from the actual signs and not how these were signed.

#### **3.12 Data Analysis**

The study involved an analysis in the following stages:

- 1. Statistical analysis of quantitative data
- 2. Analysis of qualitative data
- 3. Analysis of both qualitative and quantitative data

## 3.12.1 Statistical analysis of quantitative data

Substantial data was collected from the K-ABC, language profile and quality of family life questionnaire. This allowed the identification of variables that could be associated with the security attachment category. The number of cases involved in the study required the researcher to dichotomise many items from the questionnaires, including overall scores of the language profile and K-ABC subtests. Consequently, this allowed for comparisons using the chi square. Those variables found to be significantly associated with the primary attachment label were then subjected to a Fisher's exact test to further ascertain the significance of their correlations. To explore any associations with the secondary variables (which were all significantly associated with the primary variable, secure attachment), the researcher then performed chi square tests between the secondary variables. The purpose was to identify, if possible, any confounding factors. An example would be two variables that were significantly associated with the attachment category, while one of them was also significantly associated with some of the secondary variables. As most of the key variables were also significantly correlated with at least two others, this prompted the researcher to perform a binary logistic regression. This was to calculate whether the variables had predictive value with regard to the attachment security. On attempting the regression analysis, it was found there was insufficient data to perform the regression, so with advice from the statistician, the researcher did not proceed further. The researcher used information from Pallant (2007) and ongoing advice from a statistician to complete the above statistical analysis.

#### 3.12.2 Analysis of qualitative data

Qualitative data differs from its quantitative counterpart and data generated from semistructured interviews is not designed for comparison with factors and variables (Thomas, 2003). Instead, the strength of qualitative data is to provide rich information from the participants. The interviews were transcribed and the researcher adopted a data reduction approach (Miles and Huberman, 1994) to find themes in the evidence, which were then subjected to thematic analysis. Thematic analysis allows for a bridge (Boyatzis, 1998) to be made between the qualitative and quantitative data, where the researcher creates a code of the qualitative data to interpret the data into identifiable themes. The emerged themes then provide potential explanations for why the quantitative data may be of significance in the research, providing additional strength and understanding to the findings. Thematic analysis consists of concurrent manifest and latent analysis. This means the exploration both of what was said (manifest) and what the reasons are for what was said (latent). Briefly, the steps of thematic analysis include: sensing what the themes are, following consistent criteria for each theme, creating a code, and interpretation of the information (Boyatzis, 1998). One of the main difficulties of thematic analysis is the balance of objectivity and subjectivity. This is particularly relevant if the researcher is knowledgeable about the research topic and might project their own meanings onto the data, for example if they follow a particular theory or have assumptions for the reasons behind the interviewee's comments. The researcher therefore approached the thematic analysis with a 'data-driven' approach (Wisdom et al., 2006), allowing the data to shape what themes are identified, rather than using prior theory to decide or capture the themes. The data coded from the thematic analysis were used to complement the findings from the quantitative data arising from the questionnaires and performance tests, as well as to support the attachment categories. For example, if the mother said in her interview that her child was 'always crying', this may support the coding of the child's attachment pattern as an ambivalent attachment style.

#### **3.12.3 Integration of the two data sets (mixed methods approach)**

Creswell (2003) explained that mixed methods, specifically a sequential explanatory strategy, allows the researcher to find support for the quantitative results using data from qualitative analysis. This approach is also useful for research where little is understood about the theory behind it (Plano Clark et al., 2008), for example what precursors are required for secure attachment in deaf children. The support from the qualitative data has an interpretative quality that aims to highlight the reasons why those quantitative variables may be significant. The researcher included this method of analysis to give strength to the variables from the quantitative data that were significantly associated with the primary label. For example, a quantitative variable such as 'communication between parent and child' (with option of 'poor' or 'good') was significantly associated with insecure attachment, and in the interviews the same parent said 'I cannot understand my child's speech'. The integration of these two sets of data increases the validity (Green, 2005) when

both sets of data demonstrate an association with attachment security. The researcher did this by identifying comments from the qualitative data that were specifically related to the topic under which the quantitative variables would be associated. For example, if a mother spoke of how she found it hard to communicate with her child, then it would support the quantitative findings where the 'communication has an effect on family life' variable was significantly associated with secure attachment.

# **Chapter Four**

# The initial study

### **4.1 Introduction**

The aim of this chapter is to discuss how the researcher conducted the initial study. In the first part, descriptive data of the observations of the four initial cases will be presented with discussion. In the second part, the researcher will present how the researcher adapted the current instrument and the new assessment. Thirdly, the researcher details how the adapted coding procedure could be applied for use with deaf children.

Due to the complex nature of this chapter, there are several documents that provide justification and complement the new measure. The reader will find overviews of these documents in the chapter and refer to the linked documents in the Appendices for further detail.

## 4.2 Considering the initial sample

Initially the researcher aimed to obtain equal groups of deaf children with deaf parents and deaf children with hearing parents. In reality this was difficult to achieve at this stage, as only one out of ten deaf children have deaf parents. Consequently there were fewer children of deaf parents in the sample (please refer to chapter two for further explanation). The

researcher also wished to select subjects who would typically represent the general population of deaf children. The subjects selected differed with regard to non-verbal intelligence scores, communication skills, parental experience (of diagnosis and support) and education received. This was an ideal initial sample, as it included children with sign language or speech, and with or without low cognitive and linguistic skills. One child whom the researcher had met and seemed suitable to be part of the study, was subsequently placed into foster care, and was therefore excluded from the initial study, due to their change of primary caregiver.

## 4.3 The seven main research questions addressed by the initial study:

- Administration how was the unedited Manchester Child Attachment Story Task (MCAST) administered?
- 2. Data collection how was the MCAST transcribed, accounting for the deaf child's communication?
- 3. Coding procedure how were videos with transcripts coded?
- 4. Why the MCAST is/is not suitable?
- 5. Coding procedure/codes
- 6. Which items should be omitted, added or modified?
- 7. Should a different version of the MCAST be created?

### 4.4 The role of the interpreter in the administration of the MCAST

The training stated that only interviewer and child should be present in the room during the administration of the MCAST. The administration manual only has instructions for the interviewer and child. It was concluded that it was necessary to have a BSL interpreter present, as well as the researcher and subject. This is because, for those subjects who did not use sign language or who could not lipread or understand the researcher's voice, an interpreter had to be present. While this could potentially interfere with the administration of the assessment, it was necessary as without the interpreter, the assessment could not occur.

A protocol was set up for each interview. The interpreter would be present and introduced accordingly. The interpreter was encouraged to familiarise themselves with the child (for example, "what are you drawing?", "I like your pink dress"). This was so that the child, who may not have met the interpreter before, would know that the second adult was friendly and approachable. This was also necessary because one interpreter may have been used when meeting the parent for the first time and administering the K-ABC, while a different interpreter may have been present in the administration of the MCAST. The researcher was aware of the consistency required when administering the MCAST, by using the same materials, room, techniques and interpreters. In reality, it is not possible to guarantee that the same interpreter would be available because there is a national shortage of British Sign Language interpreters in England (Valentine & Skelton, 2007b). The initial

study took longer than anticipated to complete, because the researcher could only find one interpreter available to work late, for after school appointments.

## 4.5 Administration of the MCAST

Using the dollhouse in the MCAST, as originally recommended by Green et al. (2000a), was not as easy as initially perceived. During training, the students were shown videos of children performing the MCAST by producing running narratives simultaneously as they played with the dolls; responding to all the probes on emotions; and expressing their thoughts on each distressing event.

When conducting the initial study with the unedited MCAST, the procedure proved a lot more difficult than had been demonstrated on the training videos. It was debatable whether it was due to the deafness factor, as even initial cases two and three, who had good speech and use of their hearing, demonstrated erratic communication skills in terms of turn-taking, interaction and conversation. As discussed in chapter one, hearing children with normal speech can also be affected in their attachment by communication development.

The issue that a deaf child has an additional 'disability' could complicate whether the test is suitable, because it is extremely difficult to pinpoint whether the difficulties in administrating the test are due to the deafness or the test itself. As the two children who had good hearing did not always look at the researcher (through the interpreter) whilst the

researcher was talking, it was hard to know if they always understood what was being said. In some cases where prompts were asked, "how is the child doll feeling now?", when no response was forthcoming, the question was repeated, which should not have been necessary if the child had understood in the first place. The child could have chosen not to respond to the prompt, which could be interpreted as avoidance. This would have been coded negatively.

The dollhouse is a visual and hands-on test, which is ideal for deaf children, as they can use their eyesight, which compensates greatly for their hearing loss. For a deaf child, they will rely more heavily on visual cues (for example, Harris & Chasin, 2005) which means they will use their eyesight for lipreading, eye contact, reading face expressions, body language, observing and picking up cues in their environment. Even children who have had cochlear implants for years will still rely on speech-reading (lip-reading) visually (Rouger et al., 2008). It was thought that the dollhouse would help the child visualise the stories more concretely and create a response by using the dolls, with either a non-verbal or verbal narrative. This is because a deaf child may not have access to as wide a vocabulary as hearing children, who learn a lot through incidental hearing and everyday situations. The deaf child may tend to visualise objects or situations in pictorial format, whereas a hearing child would be more likely to use words. The researcher also had to adapt how the vignette was described to the child and wrote a guideline for administering the vignettes with less detail, if required. The need for this may arise when administering in BSL English. This can be found in Appendix 4.1.

## 4.6 Initial sample details

## Box 4.1 Initial 1 – Boy age 7

This deaf child's main means of communication was British Sign Language. He could understand the researcher, as they had met and had a conversation before the test. On the K-ABC, this child scored the highest (age equivalent of over 12 years old) out of all the four initial cases on a sub-test called "Hand movements". In this test, the researcher produces a sequence of three, four and five hand movements, which the child has to then copy from memory. In the other sub-tests, the child scored very low or did not even score at all. The scores obtained an estimated average age equivalent of three to four years. On the LPP, a questionnaire to identify the language skills of deaf children who use speech, sign or both for communication, Initial 1 scored the lowest of the four children.

## Box 4.2 Initial 2 - Boy age 7

This child's speech and receptive skills were very good. With the child having no knowledge of sign language and/or ability to lip-read the researcher, an interpreter had to be present for administration of the attachment assessment. On the K-ABC, this boy scored in the top 79% national percentile rank and had an average age of eight to nine

years on his sub-tests. On the LPP, he scored the full maximum score of 112 possible for the questionnaire.

# Box 4.3 Initial 3 – Boy age 7

With the child having no knowledge of sign language or ability to lip-read the researcher, an interpreter was required to be present. From talking to the parent, the researcher learnt that this child had been informally diagnosed as "one year behind his peers", with possible learning disability. He was not, however, receiving special support at school to compensate for not "hearing everything". His mother reported that he did not receive one-to-one support in a classroom of 20-25 hearing pupils. He only had one friend. This child was administered the K-ABC with easier questions to start with, in case he had delayed cognitive development. It turned out that he could perform the sub-tests and obtain scores relatively appropriate for his chronological age, with an average percentile rank and average age of seven years for his subtests. For the LPP, the child scored highly, with 108 out of the maximum 112.

# Box 4.4 Initial 4 - Girl age 7

The girl scored just below the average percentile but had scores of matched age equivalents for her sub tests. Her mother completed the LPP questionnaire, with a high score of 99 out of the maximum 112. With the child having no knowledge of sign language or ability to lip-read the researcher, an interpreter had to be present.

### 4.7 Administration of the MCAST assessment

In this section, the researcher will first discuss what preliminary adaptations had to be incorporated during the administration of the MCAST in the initial study. Although, the MCAST was supposed to be unedited in the initial stage, some modifications were inevitable in its application to a deaf population with communication needs different from the group that it had originally been developed for. The second section will discuss in detail the observations of the children in performing the MCAST. The completed original MCAST coding sheet for one of the vignettes for each of the four children and selected transcript can be found in Appendices 4.2-4.5. The manual of the original MCAST, detailing the administration and coding, can be found in Appendices 3.6 and 3.7.

### 4.7.1 Preliminary adaptations of the MCAST during the Initial study

It was considered necessary to change the method of administration to help the child engage with the vignettes. It was also found that it was difficult for the child to sustain joint attention in looking between the researcher and the dollhouse props. It was difficult to ascertain at the time if the child was not interested in the vignettes, so the researcher often had to elaborate on their content. This included minor additions such as "it is the weekend, and it's a lovely sunny day" along with the main theme of the vignette. These additions were an attempt to provoke emotions or memories of a similar event, when the child may
have been playing outside or watching a programme on television. Another adaptation was to prompt the child and to repeat quickly some sections of the vignette, when the child did not respond or did not understand what was required of them to perform the task. This was to ensure the child had not missed what the researcher said and that they understood (if possible) what the researcher wanted from them, for example a response to the vignette.

With regards to the mode of communication before the initial study, the researcher wrote an interpreter protocol for the administration of the MCAST with a third person, namely the BSL interpreter. This was so that the researcher and interpreter knew when to intervene and when not to. For example, if the child used speech, then the interpreter would do a voiceover<sup>3</sup> of what the researcher said. This also applied to instances when the researcher could not lipread what the child said in speech, so the interpreter would sign what they said to the researcher. A copy of the interpreter protocol can be found in Appendix 4.21.

The vignettes in the training material were translated into British Sign Language by the researcher. If the child did not sign, the interpreter would translate the researcher's sign output into English to match the child's communication level. If the child used BSL, they

 $<sup>^{3}</sup>$  Voiceover= when the interpreter translates what the deaf person says from sign language into speech.

would understand the researcher's sign output. In both cases, the researcher used exaggerated facial expressions to reflect how a hearing person would modify the tone of their voice in telling the vignette, which again would be translated by the interpreter using her voice. For example, the researcher signing "painful" with her head nodding slightly would indicate "slightly painful" when translated into English but with frowns, mouth shape of "ooh" and rocking back and forth would be translated into "very painful".

#### 4.7.2 Coding the initial interviews using the unmodified MCAST manual

The four children were coded following the MCAST coding manual, and two main questions arose regarding the suitability of the MCAST. Firstly, when coding the test administered to a deaf child with good speech and hearing, it was difficult to ascertain whether the child had not heard all of the researcher's vignettes or prompts. This was an important issue, because if the child was ignoring the questions, even if they could hear without needing to look at the interpreter, this would reflect negatively on their scoring. Secondly, in the MCAST coding manual, there is a scoring sub-section on coherence of narrative using Grice's maxim. This sub-section may not be suitable for coding a deaf child, as it measures the style of communication rather than the content. There is the possibility that communication styles are related to attachment security in deaf children, and further research is required to explore this.

# 4.7.3 Coding of the MCAST

# Box 4.5 Coding of Initial 1

MCAST	The ability of this child to produce narrative and to communicate about					
suitable?	characters and emotions was not at optimal level for performing the					
	MCAST.					
Administration	The interview could not follow the procedure of the MCAST, and the					
of MCAST	researcher found that she had to repeat, clarify, interrupt and remind the					
	child during the interview.					
Coding of data	The MCAST coding manual requests detailed data for a valid rating of					
	security to be produced. Based on this, coding of the data using the					
	MCAST manual resulted in one of the vignettes being uncodeable.					
	Despite this, there was relatively sufficient data for a basic coding of					
	Disorganised on the other three vignettes.					
Observation	The researcher had met the child previously for completion of the K-					
	ABC, and found him able to engage socially. Despite this, the child					
	could not employ sufficient skills to produce a narrative, hence could not					
	successfully complete the assessment. His responses were minimal,					
	consisting of mainly non-verbal behaviours (for example, shrugging to					
	indicate "I don't know"). The researcher had to offer examples of					
	'responses' in the emotional prompt (at the end). When the initial					

videotape was viewed by other professionals with minimal experience of
deaf children, they concluded that the child could not understand the
researcher. In the 'Lost in shopping' vignette, the child became
distressed (his eyes watered and blushed), froze and quickly signed
"mummy bus home". The responses mainly constructed of holophrases,
which were short even for BSL <sup>4</sup> . Despite having Deaf parents with
whom to learn BSL, this child could not produce an elaborate narrative
in the attachment assessment. The child's low score on the language
profile further supported the conclusion that the unmodified MCAST
was not suitable.

# Box 4.6 Coding of Initial 2

MCAST suitable?	Inconclusive, as child was restless and unsettled during the task. He
	did not fully engage in the assessment, and it was difficult to confirm

<sup>&</sup>lt;sup>4</sup> BSL= British Sign Language. In British Sign Language, grammar markers such as "the", "it", "and", "or", are incorporated within spatial referencing, directional verbs and roleshift, so a 'sentence' in BSL can seem shorter than an English sentence. (Sutton-Spence & Woll, 1999).

	whether chaotic disorganised responses were due to the child's ability				
	or his internal representation of attachment.				
Administration of	The child got bored before the test had finished, and thus made it				
MCAST	difficult to engage his interest in the task.				
Coding of data	However, on coding the vignettes, it was found that all those with				
	complete data indicated a Disorganised attachment strategy, with use				
	of multiple strategies, leading to no final assuagement.				
Overview	This child scored highly on the IQ and communication				
	questionnaires. His style of communication made it questionable that				
	he could perform the MCAST, particularly due to inconsistent turn-				
	taking and emphasis on fantasy themes. During the test, the child was				
	very fidgety and got out of his chair several times. In the MCAST				
	manual, the researcher does not ask the child to come back to their				
	chair if they get up and walk around the room. The researcher,				
	however, chose to tell the child to come back. This was because it				
	was not clear if the child could hear the interpreter without eye				
	contact.				

# Box 4.7 Coding of Initial 3

MCAST suitable?	It was difficult to maintain eye contact and joint attention with this

	child. He apparently lacked social referencing to acknowledge the
	researcher's presence while he focused on the dollhouse toys, playing
	with them rather than producing a narrative. The MCAST was not
	suitable for this child.
Administration of	This child was very fidgety and it was unclear whether he was
MCAST	'selectively' hearing or avoiding the questions. The researcher also
	suspected a problem with the child's attention span or ability in joint
	attention.
Coding of data	On coding, it was found that this child's predominant attachment
	strategy was Ambivalent/Resistant with Episodic Disorganisation of
	scores two to three.
Overview	During the test, in interacting with the researcher, the child did not
	exhibit good conversational skills or engage in social referencing. It
	was as if he was playing with the dollhouse all by himself. The
	narratives produced by the child were not consistent nor in time with
	the movements of the dolls. This child left his chair and, as it was not
	clear if he could hear the interpreter (similar to Initial 2) without eye
	contact, the researcher asked him to return to his chair. This was
	because, without eye contact or face-to-face communication, it was
	hard to know if the child could hear the interpreter. Importantly, there

was an absence of emotional content or recognition in this child's
responses. It was unclear whether this was due to lack of emotional
comprehension or the child's attachment strategy.

# Box 4.8 Coding of Initial 4

MCAST suitable?	Yes, this child could engage in the tasks and produce narratives with					
	confidence, and listen to the vignettes and prompts.					
Administration of	The child engaged in smooth turn-taking, social referencing and					
MCAST	elaborate story responses, and gave consistent explanation of					
	emotional events, with clear goals for assuagement.					
Coding of data	This child provided the researcher with a 'control' against which to					
	compare the other initial children. The predominant strategy					
	classified for her vignettes was Secure attachment (B:1.3)					
Overview	This child did not score as well as Child 2 and 3 on the K-ABC or the					
	communication questionnaire, but performed the MCAST in such a					
	way that the researcher had no doubt the data was valid and reliable.					
	The flow of communication was smooth and consistent, and it was					
	easy to administer the test because interaction and social referencing					
	were present at all times. She responded to all vignettes and prompts					
	with elaborate answers.					

#### 4.7.4 Summarised responses to vignettes for the four children

This is an outline of key points regarding each child's responses to the vignettes. A detailed discussion of the responses is presented in Appendix 4.6. Of the five vignettes, only the third one is not intended for coding as it is an 'achievement' vignette designed to give the child a break in the middle of the assessment. Please refer to the administration manual of the MCAST (Appendix 3.6) for the content of the five vignettes and Appendix 4.1 for guidelines on how to administer the vignettes in BSL. The summarised responses are presented in Table 4.1:

Initial 1 to	1	2	3	4
4				
Coding	Disorganised	Disorganised	Ambivalent	Secure
1 <sup>st</sup>	Child brushes	Immediate	Did not engage	Elaborate
vignette:	teeth, sleeps on	response "I'm	with researcher	response, social
Nightmare	top of TV.	never scared".	– said "go to	referencing and
	Mother sits in	Bizarre/violent	bed" and child	eye contact
	chair.	content.	"happy".	present
Coding	Disorganised	Disorganised	Ambivalent	Secure
2 <sup>nd</sup>	Mostly non-	Hitting mother on	Says "mummy	Smooth
vignette:	verbal. Content	head and mother	comes running	response
Hurt Knee	not clear.	hitting child on	out to bring	reflecting
	Mismatch of	leg. The threat of	child inside".	secure style.
	emotions.	"or else", forcing		
		mother to give		
		chocolate.		
Coding	N/A	N/A	N\A	N/A

Table 4.1 Key features of children's' responses to vignettes (next page)

3 <sup>rd</sup>	N/A	Negative theme	Nature of	Child involves
vignette:		with mother	response: happy.	friends and
Achieve		criticising child.		being 'happy'.
Coding	Undecided	Ambivalent/Disor	Ambivalent	Secure
		ganised		
4 <sup>th</sup>	Extensive	Unable to finish	Child seeks	Child
vignette:	prompting	response.	mother, but	introduced
Tummy	required.	Incoherent. Some	mother says	mother into
ache	Content of	goal (visit doctor)	"can't do nowt	story and
	response not	but lost the aim	about that". No	discussed
	clear.	for assuagement.	affect present	"waiting for
			and researcher	medicine to
			ignored.	work" (realistic)
Coding	Episodic D	Disorganised	Ambivalent	Secure
5 <sup>th</sup>	Understood	Gives basic	Child did not	Elaborate
Vignette:	vignette. "Shoe	response with no	engage with	response with
Lost while	finish bus".	emotional warmth	vignette and	clear
shopping		or relief at finding	ignored	assuagement.
		mother.	researcher.	

# **4.8** Overall observations of the initial study

The researcher found it difficult to maintain a consistent administration of the assessment with each child. It was found that the child who used BSL required examples to help him understand the concept of the vignettes and what emotions he might want to offer in answer to the prompts. The researcher realised, as widely recognised in non-literate cultures, that examples should be frequently used when asking questions (Sutton-Spence, personal communication, 2009). Ideally, the MCAST requires a narrative; otherwise it is difficult to elicit the child's response to the vignettes. This then presents a risk of guessing during coding, judging by his/her movements with the dolls. The movements could signify a

significant event such as banging the mother doll on the table or dropping the child doll as a sign of aggressive behaviour directed towards the mother. Strictly following the MCAST manual, the child would be coded as expressing some conflict and anger towards the mother doll, or trying to avoid the distress situation by "dropping" the child doll. Unless the child provides a commentary whilst they play out their responses with the dolls and dollhouse, the coder cannot interpret for certain what the child is trying to express.

When studying BSL users, Morgan and Woll (2003) identified that deaf children of ages four to six focused on one rather than several characters. This may explain why some of the children found it difficult to produce a narrative. Crucially, Scott et al. (1999) suggested the communication feature called "line of regard" is a necessary skill for the child to develop joint attention. This skill enables the child to look in the line of the speaker and what they are looking at. These researchers also reported that joint attention is one of the building blocks that the child requires to develop a theory of mind. Hence, from this perspective, in future research it may be necessary to confirm whether a child has some minimum level of theory of mind prior to using a narrative assessment.

The children who had an interpreter present during the test adapted readily, with smooth triadic communication. The researcher communicated in BSL and the interpreter translated into speech. When the child responded with speech, the researcher would look at both the child and interpreter to observe their non-verbal behaviour. The sessions were videotaped,

which meant that the researcher could playback the assessment to view any missed information.

In the MCAST manual, the interviewer is not supposed to tell the child to come back, or to wait for the child to return to their seat. This behaviour, according to the MCAST manual, is coded negatively. When the child had left their seat, the researcher waited until the child either came back to his/her seat or looked at her before continuing with the test. This difficulty in dividing attention between the dollhouse and the researcher or interpreter could be related to factors other than simply not maintaining attention. It could be, for example, because the child does not have the skills to engage in joint attention when communicating with another person. It has been found by several studies that deaf parents are more skilled in engaging the child's attention, teaching them to refer to objects, and look back at the mother's (or speaker's) face to sustain the communication (Waxman & Spencer, 1997) refer to chapter two for detailed discussion). It has also been found that hearing parents could benefit from learning these communication techniques to teach their deaf child. In the context of attachment theory, this could be mediated by the mother's style of caregiving, i.e. whether they are sensitive enough to teach their child techniques in dividing their attention between the object being discussed and the person(s) with whom they are communicating. The understanding of these mechanisms will be important in future research.

# 4.9 Summarised observations of initial study

The researcher has summarised the key points from the above findings, to highlight both the contrasts and similarities amongst the children. These indicate the diversity of needs and capabilities of each child.

Contrasting features for only one child	Common features for more than one child		
Only one child completed all four vignettes	The male children all found the task		
up to coding standard.	difficult.		
Female child engaged in dollhouse	Several times it was not clear whether the		
assessment without much difficulty or	children had understood the interpreter		
prompting.	when not looking at her. This was relevant		
The BSL-user child found it difficult to sign	when the child had not responded to a		
whilst holding the dolls. Relied heavily on	question, so it was uncertain whether he was		
non-verbal behaviour.	purposely ignoring the researcher.		
One child did not emotionally engage with	No narrative accompanied actions of dolls,		
the task, with no emotional features in his	therefore not clear what doll was doing or		
responses.	their emotional state.		
Method of administration to four children	Category had to be 'forced', based on two or		
similar, but questioning, storytelling and	three of the four administered vignettes, for		
prompting was different for each child.	two children.		

# Table 4.2 Summary of comparative and contrastive points

The emerging observation themes were subsequently taken into consideration in the adaptation of the MCAST.

### **4.10** Considerations of adapting the MCAST

Following the initial study, the researcher decided to take two steps, first to adapt the MCAST for use with a deaf population called the MCAST-DC (Deaf children), and second, to create a new assessment, called the Deaf Child Attachment Story Task (DCAST). The researcher's key recommendations in adapting the original MCAST and creating a new instrument are presented below. It is acknowledged that it may not be possible to apply all these recommendations to the adaption of the MCAST due to the nature of the props. In contrast, it may be more feasible to incorporate these suggestions in the new assessment.

Table 4.3 Required characteristics	of the Deaf Child A	Attachment Story 7	fask (DCAST)
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	-			
Deaf	Language: For use with deaf children who use either speech or sign			
population and	language to communicate.			
language	Practical: An assessment that has props which are culturally and			
	linguistically sensitive to deaf children. This includes acknowledgement			
	of the props of deafness in everyday life (for example flashing lights for			
	doorbell). The props should allow for the deaf child to divide their			
	attention between the props and the speaker (administrator or			

	interpreter). There should be no auditory information (for example				
	music). The assessment and props need to allow for both verbal and				
	nonverbal language to be expressed and coded. If the child uses sign				
	language, the props must be able to be put down and picked up again				
	without difficulty. If required, it should allow for administration with an				
	interpreter.				
Communication	<b>Communication:</b> The assessment has to be suitable for administration to				
and cognitive	a child with cognitive or communication development either matching or				
needs of the	above their chronological age. Practical: Choice of different				
child	administration path/systems that allows for flexibility so the				
	administrator can choose which system to employ to meet the child's				
	skills. This would allow the researcher to describe a more detailed				
	vignette to a child with higher comprehension skills, as opposed to a				
	simpler vignette for a child of lower comprehension skills.				
Narrative skills	Skills: Ability of the child to produce a narrative may affect their				
of the child	performance. Therefore, there is a need for some props that could				
	visually help the child to produce a response, if they are not able to				
	produce a narrative. The purpose is to offer the child some examples,				
	which they can choose to elaborate on.				
	Practical: Sufficient visual data in props to elicit engagement from child,				
	whilst not too disorienting or distracting. Props to be accessible to both				

	sexes.		
Administrating	Administration with an interpreter: Assessment that can be		
the assessment	administrated via an interpreter. This is for two applications: a deaf		
with an	administrator who may not understand speech, and a hearing or deaf		
interpreter	administrator whose first language is not BSL or does not have high		
	standard of BSL (minimum NVQ Level 4).		
	<b>Practical:</b> A protocol outlining required qualifications of the interpreter,		
	guidance for their role in the assessment. A separate section will		
	illustrate where the interpreter may need to acquaint themselves with the		
	child, so that the child feels comfortable. The reason for this is some		
children may have never met an interpreter before. The administration			
	have to monitor closely that the interaction between interpreter and child		
	is kept to a minimum.		

# 4.11 What adaptations were made to the MCAST

Before the researcher considers how the new assessment was created, the adaptations for the original MCAST into the MCAST-DC (deaf children) will be highlighted here. The main adaptations were:

A communication procedure for administrating the MCAST-DC to deaf children. (Please find this in Appendix 4.15). The communication procedure is briefly described in section 4.15 of this chapter.

The original coding procedure was slightly modified to better fit the requirements highlighted in table 4.3. Please find a discussion of the coding procedure in section 4.16 of this chapter and a copy of the coding procedure in Appendix 4.17.

A protocol for administrating the MCAST with an interpreter present (Appendix 4.21.). Please note that the interpreter protocol is the same for both the MCAST and DCAST (new instrument), and is briefly described in section 4.17 of this chapter.

#### 4.12 Choices for DCAST

The researcher had to consider how best to meet the aims outlined in table 4.9. The following are considerations that the researcher investigated:

**Dolls only, no dollhouse (use same stories):** This option would still require a distinguished level of abstract thinking and quite a lot of communication by the researcher and child, with no help to produce a response to the story stems.

**Storyboard:** This is a viable option, although it may limit the child's responses if several pictorial responses are 'offered' for the child to choose from. It was observed, however, that some children found it hard to construct a response to the story stem. Some flexibility allowing for individual children's additions to the pictorial responses may therefore help

elicit a response. This method is concrete and the child would be able to see what was happening in the story stem, instead of having to listen carefully. The child would also be constantly reminded of the distressing event, whilst they chose or constructed their verbal/pictorial response.

**Cartoon Video:** This would be time consuming and expensive. How would the child be helped in their response? Would they watch five clips of possible actions the child could take to assuage their attachment distress? This would become tiring and confusing for the child to watch. Watching the cartoon demonstrating the story stem still requires a certain amount of abstract thinking, because once stopped, there is nothing to remind the child what the story was about or what happened previously. Even if the responses offered were of a pictorial form, it could become confusing by using two different mediums.

**Computer Game:** Nowadays, children are used to complicated and advanced graphics in computer games. For a computer game to be suited to children aged four to eight years, it would have to be simple and thus rather inflexible because, once the game is programmed, the researcher would not be able to modify it to suit different children's levels of communication and cognitive development. If there were to be such programmes for different communication and cognitive needs, it would also prove hard to produce several coding manuals for each one of them.

After reviewing the options available, the researcher decided that, within the scope of the study, the storyboard method would be most suitable. This is because, for the reasons outlined above, it offers the most flexibility and also offers children of both lower and higher levels of communication a process to build a picture of their attachment representation.

#### 4.13 How the Deaf attachment story task (DCAST) was created

This section consists of three parts. First, the researcher will discuss how the storyboard was created, secondly, how this new method is to be administrated and thirdly, how the coding procedure for the new method was assimilated with the original procedure. The original dollhouse task was kept to allow for deaf children who have high levels of cognitive and communication development with an oral means of communication to be administered (please refer to sections 4.19 and 4.20 in this chapter) for an explanation of how a decision is made on which test to administer). The DCAST was developed for use with deaf children who sign or speak, of high and low levels of cognitive and communication competence.

#### **4.13.1 Development of the DCAST**

On choosing the storyboard option to modify the MCAST into a DCAST, the following should be incorporated:

- Colourful and entertaining
- Use animal characters to allow for dual gender to be the main character
- Indestructible by excited children (almost!)
- Attention-engaging
- Deaf-ability aware (child not hearing their mother calling them)
- Culturally Deaf aware (physical touch and communication)
- To be used with sign language using and oral children
- Flexible in terms of administration for different communication levels in sign or oral method
- Flexible for different levels of cognitive development
- Easy to set up and train others to use
- Give the child several choices for a possible response to the vignette.

The researcher appointed a graphics designer, who was a deaf person, to develop the storyboard. By looking at the stories originally included in the MCAST, and different possible responses from the reliability training videos and the children, the researcher constructed concepts that would hopefully reflect the attachment cycle, such as the child reaching out for the mother, getting comfort, anger from the mother, and so on. The researcher had to limit the possible responses, so that they would not become too complex and confusing for the child.

#### 4.13.2 Deciding the Character and Theme

The researcher decided not to use any characters or themes already established in the wider media (cartoons or books), as the child might produce responses regarding the attachment distress based on the character's presented persona. Secondly, the researcher decided against the character being a boy or girl, because this would require two different sets of storyboards and might be too realistic or uninteresting for the wide age range of four to eight years. This also allows the child some distance from the reality of the vignettes, hence a chance to separate themselves from the issues dealt in the vignettes. For a child who may be susceptible to feeling vulnerable or have difficulty in dealing with distressing situations, this may subtly help them produce responses to the vignettes. A deaf child who does not have fluent language as a tool may not have the opportunity to deal with or communicate about distressing events.

The researcher also wanted the character to be an animal, to allow for a balance of playful and colourful pictures, which dealt with relatively serious storylines (nightmare or sore knee). When choosing the kind of creature for the character, the researcher and graphic designer decided that the characters would be teddy bears. This was because they can be made to look and behave 'human-like', adopt facial expressions, and draw their hands to look as if they are signing. The artist then came up with different styles and faces for the characters of child and mother. As the storyboard was to be used with deaf children who both sign and/or speak, the researcher wanted to ensure that all the character's actions were visual, and not reliant on aural input. For example, hearing the mother say, "Go to bed!" whilst in her own bedroom, when the child calls out, "Mum!" from their own bed. This has implications for the coding procedure, which is described in the next section. Where possible, the researcher requested the child to sign "M" for "Mum" and bubble-speak the word "MUM!" allowing the child to either shout or sign, or both. The procedure of the storyboard was to consist of two main pictures describing the vignette, showing a 'before' and 'after' sequence. For the last vignette of the "lost in shopping" vignette, the researcher needed three main pictures, to emphasise the crucial events leading up to the most distressing vignette.

To allow for a child who cannot create a response-story abstractly, the researcher created response pictures which allowed the child to choose what style or pattern of behaviour the teddy would follow. The researcher chose key points/themes for a response that would allow for main sub-coding data to be collected. At the same time, there has to be an appropriate number of response-pictures, without this becoming too confusing or too limiting for the child.

As the total of the pictures came to 52, the researcher decided to drop the breakfast vignette that was used in the original MCAST. This included an 'achievement' vignette, where the child draws a lovely picture at school and brings it home for the mother to praise them as a

'relief' from the distressing events in the story. The researcher decided to keep this achievement vignette by creating a pictorial version. The achievement vignette is not coded, and is intended for use in-between the first two and last two vignettes of the DCAST. On commencing the administration of the DCAST, if the researcher was doubtful whether the child could understand what to do, she would present the achievement vignette first. If the child was performing with ease, this would be kept as it was originally intended, i.e. between the main vignettes.

Regarding the prompts, if the child had low empathy or emotional-understanding skills, the researcher created a 'choice' picture of the child-teddy and mother-teddy showing Happy, Sad and Angry expressions. The child in the attachment test can then point at the facial emotion they desire, if they cannot think of their own. It was found by Hosie et al. (1998) that hearing and deaf children had similar skills in matching emotions to faces in photographs, so this should not be beyond the realm of deaf children's skills. The pictures that were developed are presented below.

#### 4.13.3 DCAST - Vignette storyboard

These two pictures illustrate the vignette of the nightmare. The researcher explains what happens in the pictures of all the vignettes, so that the child is clear what the actions might mean.



## Figure 4.1 Nightmare vignette

The main pictures illustrating the Nightmare vignette show the teddy asleep, but with a ghost in a bubble above his head. It is hoped that it will become clear to the child that, although the teddy is asleep, he is thinking about something 'scary'. The second picture depicts that the thought or dream has gone, and the teddy is now awake and crying or distressed. The teddy character has a little teddy in bed with him that also has a sad and scared look on its face. The following pictures are the response options for the child to either choose from or elaborate on. (Please find a full size representation of the whole nightmare vignette in Appendix 4.7).



#### **Figure 4.2 Responses to nightmare vignette**

The four pictures above show examples of what the teddy might do. These include sign language being used to call mum, and two options of attracting the mother's attention. This is because a deaf mother might not hear the child call out to her, so it was necessary to include the option of the child going to the mother as well as calling the mother to come.



## Figure 4.3 Responses to nightmare continued

These pictures show how the mother might react to the child. The child is able to choose as many pictures as he or she likes, to construct a sequence of actions.

# Figure 4.4 Bike accident vignette

These pictures illustrate the contrast in the child's emotions, from being happy to explicitly upset. The researcher decided to add the 'dizzy stars' and 'bloody knee' to ensure the child recognised that the teddy had hurt himself. The bike is behind the child, and hopefully it is clear it is not the right way up.



**Figure 4.5 Responses to bike vignette** 

These pictures show different possible consequences. The second picture shows the teddy engaging in 'self-care'. The last two pictures of the teddy on the bike have different contexts, i.e. the teddy with a slightly happy face expression and a plaster on his knee; or with a neutral expression, but with knee still bleeding. (Please find a full size representation of the whole bike vignette in Appendix 4.8).



# 4.6. Responses to bike vignette continued

The pictures above show different types of care from the mother. The teddy shows a sad and happy face in response to the different caregiving responses by the mother.

# Figure 4.7 Tummy ache vignette



These two pictures show the teddy going from happy and relatively relaxed to being constricted with pain. The teddy's hands on his tummy illustrate where the pain is. (Please find full size of the whole tummy ache vignette in Appendix 4.9).



Figure 4.8 Responses to tummy ache

These pictures show the teddy informing the mother of his tummy ache, and three responses the mother might give.

# Figure 4.9 Responses to tummy ache continued



These show the teddy calling/signing for his mother, not doing anything, and self-care.



# Figure 4.10 Lost while shopping vignette

The first picture shows a crowded shopping centre. The second picture shows the child looking through a toyshop window and the mother looking in a different direction. The third picture illustrates the child by himself, as he realises with a scared and shocked expression that he is lost. (Please find a full size representation of the whole lost while shopping vignette in Appendix 4.10).

# Figure 4.11 Responses to lost while shopping vignette



These four pictures show different actions that the teddy might take.



# Figure 4.12 Responses to lost while shopping continued

These four pictures show different responses from the mother. Two responses show warmth and concern, the other two show the mother scolding the child or being indifferent.







This picture was designed as a break in the middle of the administration of the DCAST. This is similar to the achievement vignette in the MCAST. (Please find a full size representation of the achievement vignette in Appendix 4.11).

# Figure 4.14. Emotion Pictures: Teddy and Mother



The face expressions of mum and teddy are shown on two separate pages so not to confuse the child when they are deciding which emotion to choose. (Please find full size versions in Appendix 4.12).



#### Figure 4.15 Holiday 'closure' picture

This vignette was created for the child to play with in order to provide the child closure from doing the attachment vignettes. In this play, the child gets to choose which characters they would like with them on holiday. (Please find full size in appendix 4.13).

#### **4.14** The administration procedure for the DCAST

The procedure was designed to reflect the original MCAST. However, following the findings from the initial study, flexibility was crucial, as a rigid procedure is extremely difficult to follow when working with deaf children of different backgrounds and developmental abilities. There are two or three main pictorial descriptions of the vignettes as used in the original MCAST. After the child has understood what happens in the main pictures, he will either tell or choose from the response pictures what happens next. After that, the researcher will ask the child how the teddy and mum are feeling, and if possible what they are thinking about. The researcher has two communication and administration guidelines to follow to elicit the child's involvement in the DCAST, depending on their communication style. Refer to Appendix 4.15 for the communication procedure and

Appendix 4.14 for the administration procedure. After the administration of the vignettes, the researcher will give the 'Holiday' pictures to the child towards closure.

### 4.15 The communication procedure (i) and (ii)

The researcher developed the administration procedure and included relatively explicit instructions for what the researcher can say to the child. However, with a child of lower communication competence, it may be necessary to administer the assessment in a slightly different way, and the researcher has outlined several suggestions how to do this in the communication procedure. There is a copy of this in Appendix 4.15. It was also found that it might be beneficial to have an interpreter present even when the child uses sign language, especially if he learnt sign language late and may attempt to speak some words rather than sign. The researcher has written an explanation in the communication procedure where this may be necessary (refer to section six of the communication procedure, Appendix 4.15).

### 4.16 The coding procedure

The researcher developed an additional coding procedure to complement the original MCAST coding of the child's performance. The researcher omitted some sub-codings from the original MCAST, including Grice's maxim. A full discussion of the codings that were omitted or added can be found under 'Discussion of the adaptation to the MCAST coding procedure' in Appendix 4.16. For further understanding of different types of responses to distressing events, the researcher viewed the reliability tapes from the MCAST, and

previous studies of coding children with different patterns of attachment behaviour, including disorganised. In the light of previous attachment research on hearing children with regard to narratives, communication and story stems, these were applied by the researcher in constructing the new coding procedure.

There is a new modified coding sheet for the MCAST-DC and DCAST for the coder to follow. The steps for coding are similar to those described earlier, i.e.:

- 1. Use the original MCAST coding manual, following what is required on the MCAST-DC (Appendix 4.19) or DCAST coding sheet (Appendix 4.18).
- 2. Read the new communication procedure to become aware of any special deafrelated communication styles (Appendix 4.15).
- 3. Read and follow the new coding procedure for the MCAST-DC and DCAST (Appendix 4.17).

The new coding sheets were adopted from the original MCAST ones, but with an addition of a non-verbal table which can be used to record non-verbal data if required. This is relevant if a child produces limited communication and relies heavily on non-verbal actions to express their thoughts. The researcher added a 'critical analysis' list of questions at the start of the coding procedure when considering which of the child's vignettes should be coded. Firstly, how much the child could understand and whether there is supporting evidence for the assigned attachment category. Please look at section one of the coding procedure for the MCAST-DC and DCAST in Appendix 4.17. In the coding procedure, the researcher has included a description of the different attachment categories and a table with examples of what sequences of pictures could fit each attachment category. For example, if the child chose sequence B, C, D (each picture has a letter assigned to it), it could fit the secure category. The coding of the pictures the child chooses should be conducted in combination with available verbal and non-verbal behaviours. The researcher has included the pictures with letters assigned in Appendix 4.20. Please refer to the coding procedure, section three for the tables in Appendix 4.17.

#### **4.17** The interpreter protocol

As this test was to be administered to deaf children who may or may not communicate in BSL, the researcher developed a protocol for interpreters to follow. There is a copy of this in Appendix 4.21. In the initial study, three out of the four children needed an interpreter, without any difficulties encountered in their use. All three adapted well to the third person (interpreter) being present. In cases where they became excited about learning signs or started talking to the interpreter about issues outside the task, the interpreter did not respond, or asked them to look at or listen to the researcher.

This was crucial to minimise confounding factors on the validity of the data and child's performance of the attachment assessment. The standard interpreter role would be to act 'invisibly' as a translator for the deaf person. In addition, it is also important to have a

rapport with the child to make them comfortable, and consequently become relaxed in communicating with the researcher via the interpreter. As explained in the interpreter protocol, the interpreter and child *can* interact, as long as this is kept to a minimum, does not involve unethical topics such as personal questions about the child's home life, and does not undermining the researcher. Inappropriate questions would include, "Are you happy at home?" or "You do not like the researcher, don't you?" As the interpreter protocol states, a fully qualified interpreter should be employed for the research, who follows the guidelines of their governing body (for example, Member of the Register of BSL/English Interpreters<sup>5</sup>- MRSLI). As it is not always possible to employ an interpreter of this standard, adherence to the protocol is important. Please find a copy of the original ethics guidelines from Council for Advancement of Communication with Deaf People (CACDP) in Appendix 3.9 and the updated version for Best Practice (Appendix 3.10) and Ethics guidelines (Appendix 3.11).

#### 4.18 Recording the child's performance of the assessment

As the MCAST and MCAST-DC are conducted with deaf children, it is important to ensure that all parties involved in the assessment are recorded using visual media, and preferably

<sup>&</sup>lt;sup>5</sup> http://www.signature.org.uk/page.php?content=22

from more than one angle. A description of how the assessment should be recorded is included in the administration procedure, Appendix 4.14.

### 4.19 Deciding which instrument to administer

When deciding which instrument to administer, a range of implementation and communication procedures should be considered (Table 4.4). The researcher can then choose to either administer the MCAST-DC or the DCAST, accompanied by the appropriate communication procedure for (i) higher or (ii) lower communication competence. This is presented in Table 4.4:

Language and communication	Instrument to use	Communication procedure
competence of child		to follow
a) Oral		
High communication competence	MCAST or	communication procedure (i)
	DCAST	
b) Oral		communication procedure (ii)
Low communication competence	DCAST	
c) Sign	MCAST or	communication procedure (i)
High communication competence	DCAST	

Table 4.4 Which instrument and communication procedure to employ
d) Sign	DCAST	communication	procedure
Low communication competence		(ii)	

Further details of how to decide which child fits into the above four categories a-d is detailed in the "The Child Description" section of the administration procedure, located in Appendix 4.14.

# 4.20 Overview of choosing the instrument

As indicated by the above table, the child should have high communication competence for the MCAST-DC or DCAST with communication procedure (i) to be administered. Once the assessment started, the researcher monitored closely the child's understanding and engagement. If it appeared that the child was struggling to follow the MCAST-DC, then the DCAST would be employed, while still following communication procedure (i). If the child found the DCAST procedure difficult to understand, the researcher would then follow communication procedure (ii). These three pathways are outlined in Diagram 4.1:







The above diagram illustrates the pathways that the researcher should follow in assessing a child's attachment. Firstly, what was the child's level of communication and nonverbal

competence? Secondly, if the child was found to be highly skilled in communication and non-verbal intelligence, were the location and the child's characteristics suitable for the administration of the DCAST? For example, it may be that the researcher met the child in a noisy classroom or after school when the child was tired. The dollhouse requires the child's complete attention, and if they are tired or restless, they may find it hard to follow; whereas the DCAST is easier and visual, thus requiring less concentration, both visually and aurally. As the MCAST-DC and DCAST were adapted with flexibility in mind, the researcher can start with the MCAST and 'drop' it in exchange for the DCAST. As was found in the initial study, the researcher had expected two of the participants to be able to perform the original dollhouse procedure, but they found it difficult to do so. The pathways end with the coding the child's attachment style.

#### 4.21 Summary

The initial study was designed in such a way that from the beginning, the researcher could identify areas that needed adapting for application of the instrument to deaf children. On analysis of the data from the administration of the MCAST, it was clear that there was much needed improvement in the assessment procedure to enable deaf children to present their response to the vignettes. The results indicated for a new attachment instrument to be developed: the researcher had to factor in the differences in cognitive, cultural and linguistic characteristics of every deaf child. It was an exciting step towards learning more about attachment development in deaf children. The researcher also found support for the codings assigned to each child in the quantitative and qualitative data, which is discussed in the following two chapters.

# **Chapter Five**

# Attachment codings and their association with child and family-related variables

#### 5.1 Introduction

The main aim of this chapter is to present quantitative data from the four main tests used in the study. Prior to this analysis, it would aid clarity to briefly describe the findings from administering the new pictorial method of the attachment assessment and adapted version of the MCAST, whose development was described in chapter four. In the rest of the chapter, the researcher discusses the analysis of the psychometric tests and questionnaires. These tests consisted of the psychometric measure, Kaufman Assessment Battery for children (K-ABC); Language Proficiency Profile (LPP); Quality of Family Life questionnaire (QoFL); and the MCAST and DCAST Attachment tests. The data are presented descriptively for the K-ABC and LPP to illustrate the characteristics of the sample in relation to non-verbal intelligence and language skills. In the second part, the QoFL and attachment tests, which both consist of categorical data, will be presented in frequencies to provide the context of the sample. Finally, in accordance with the sample size, the researcher identified key selected variables, which were reclassified as dichotomous ones, following which their relationship with attachment codings was investigated.

**Note:** Age has been calculated by dividing one by 12, to obtain one decimal point per month.

#### **5.1.** Follow up from initial study

The main outcome of the pictorial method was the process of engaging the child in the task of listening to the vignette and producing a response. This was not as tedious or complicated as with the dollhouse. The researcher quickly learnt to wait until the child was comfortable with the pictures, and the response choices, before she offered more choices. As one child was overwhelmed by the number of response pictures to choose from, the researcher did not code this vignette. In the subsequent vignettes, the researcher was careful to only put down one or two pictures at a time, in order to ensure that the child comprehended the actions of each picture before opting for their choice. In some cases, a child would only need to see the main vignette pictures to produce a response. Even in those cases, however, the researcher occasionally had to present the emotion pictures of the mother, to help establish the level of assuagement. There was one case where the original MCAST was clearly successful, and that was for a child who was coded with a disorganised attachment. It was found that the pictorial version was more appropriate than the dollhouse in engaging younger participants. In contrast, the older participants were still able to provide abstract features in addition to what was happening in the pictures. Therefore, it may be possible for the pictorial method to be administered flexibly to complement different levels of communication. The researcher has included four codings with a section of their transcript for the coded vignette for four participants. These will reflect the heterogeneity of the participants and indeed how the MCAST-DC and DCAST were utilised in their flexibility to meet the individual needs of the participants:

Appendix Number	Key characteristics	MCAST-DC or DCAST
5.1.	BSL user	DCAST
5.2.	Oral child	MCAST-DC
5.3.	Cochlear implant with BSL	MCAST-DC then DCAST
5.4.	BSL user with Deaf parents	DCAST

Table 5.1 Summary of characteristics for selected codings in appendix

The researcher has included a general overview of the discussion for selected cases in Appendix 5.5. This includes points regarding administration of the new DCAST and the modified MCAST-DC.

#### 5.2 K-ABC scores

The K-ABC was mostly administered in the child's home, often after school. This made it more likely for the child to be too tired to attempt each of the five subtests, and resulted in a number of cases with no percentile (global) scores. This is because the Kaufman manual states that, if more than one subtest is not completed, a percentile score cannot be processed. For this reason, the researcher then calculated the age equivalent for the scores obtained for each of the individual five subtests, to give a more accurate picture of the non-verbal intelligence of the sample. The actual percentile scores obtained (where possible) can be found in Appendix 5.6. The age equivalent scores can be found in Table 5.2:

Subtest	Mean	Std. Dev.	Minimum –	Number of
	age		Maximum age	sample did
				not complete
Age of child when	6.21	1.74	3.17 – 9.00	0
performed K-ABC				
Hand movement	8.35	3.05	2.50 - 12.50	1
Triangles	7.68	3.01	3.25 - 12.00	4
Matrix	7.63	3.12	3.00 - 12.50	5
Spatial memory	7.93	2.10	4.75 - 12.00	6
Photo series	7.39	1.98	4.00 - 11.00	7

 Table 5.2 Age of child at K-ABC with age equivalent scores

The data from the non-verbal intelligence scale of the K-ABC show that there was a range of skill levels within the sample. The table shows that the age of the sample at the time of administration of the K-ABC was between three years and two months and nine years. The mean within this age range was six years and two months, with a standard deviation of one year and nine months. It is immediately apparent that there was a wider range of age equivalent non-verbal skills than the chronological age, with a much larger deviation from the mean for each subtest. This indicates that the range of non-verbal skills may not have been related to the child's chronological age. The reader is reminded that none of these children had been diagnosed with learning disabilities at the time of the study.

In the K-ABC interpretive manual, it is stated that deaf children have been found to excel in the triangles subtest but usually perform worse on the hand movements, matrix and photo series subtests. The authors of the K-ABC (Kaufman & Kaufman, 1983) suggested that deaf children's skills are higher in the subtests where simultaneous parallel processing is needed, rather than simultaneous but sequential processing. This suggests that the sample may have had more difficulties in performing the original dollhouse attachment task, as they would have been required to perform sequential and simultaneous processing of the data. The pictorial method of the attachment task might, therefore, be more suitable.

# 5.3 LPP scores

This test was completed by the parents based on their child's communication ability in five different areas. The researcher is aware that in a study by Bebko et al. (2003), teacher LPP ratings were found to be more reliable than parent ratings. It was, however, not possible to contact the teachers directly at the start of the study, because the LEA would not disclose school information. The LPP is also cross-lingual, and thus measures communication and language skills in all methods, whether the child uses sign language or speech or both. The researcher is aware that some of the children who use sign language may have hearing parents who learnt sign language late, and their level of skill in sign may not match or

facilitate their child's language improvement. Such discrepancies may have thus affected

LPP ratings by parents.

Subtest	Number	Mean age	Std. Dev.	Minimum -
	tested			Maximum
Chronological age at	18	6.33	1.75	3.08 - 9
completion				
Overall LPP age	18	3.50	2.31	1-7
equivalent				
Form	18	3.89	2.45	1 - 6
Content	18	3.94	2.10	1 - 6
Reference	17	3.41	2.24	1 - 6
Cohesion	18	3.28	2.14	1 - 6
Use	18	3.94	2.15	1 - 6

 Table 5.3 LPP age equivalent scores (in years)

The table above shows a striking difference between children's chronological age and LPP subtest age equivalent scores. This reflects Bebko et al.'s (2003) findings that chronological age cannot be used as a predictor of language level for deaf children, and instead that exposure to language in which they communicate or understand, was correlated to language development. The authors contrasted the scores against average scores for hearing children aged between two to six years previously obtained by Bebko and McKinnon (1998). In Bebko and McKinnon (1998), hearing children started to achieve ceiling scores by the age of four. In this study, the cases who obtained scores lower than the average for hearing children aged two years, were assigned an age of one year. Deaf children's scores do not appear to stabilise, even at seven years (Bebko et al., 2003). Again, the ages obtained above

reflect this, and the standard deviation shows that the sample consisted of children with age equivalent scores of less than three and over five years of age. This indicates a wide range of linguistic skills in the sample. It, therefore, presented a challenge in administering the same attachment test, and a degree of flexibility had to be adopted in the method of assessment, if the child were to perform the tasks to allow for accurate attachment coding. The list of scores obtained by each child against the average for hearing children of the same age is presented in Appendix 5.6.

#### 5.4. Frequencies of the Quality of Family Life Questionnaire (QoFL) items

The questionnaire has eight sections. The first table presents the demographic variables with corroborated data from the interview transcripts (qualitative data is presented in detail in the next chapter). The questionnaire consists of 79 specific questions for multiple choice or written comments. Some sections were not relevant to most children. For example, the section on cochlear implants was only fully completed by two out of 18 parents. One parent did not complete the QoFL and LPP. The researcher completed the missing data for this case where possible, from observations and the parental interview. In this section, the key variables are presented, even if not all were used in the subsequent analysis, in order to provide the reader with a comprehensive view of the children.

	Ν	%		Ν	%
Chronological age			Education setting		
3 years	2	11.1	Nursery for Deaf	2	11.1
4 years	2	11.1	Nursery- some support	1	5.6
5 years	3	16.7	Partially hearing Unit	6	33.3
			(PHU)		
6 years	3	16.7	Local Primary	9	50
			School		
Level of hearing imp	airment		Siblings (inc.step-siblings)		
Moderate	3	16.7	None	4	22.2
Severe	6	33.3	1	8	44.4
Profound	7	38.9	2	3	16.7
Profound with	2	11.1	3	1	5.6
cochlear implant					
Method of communic	ation		4	1	5.6
Communication	10	55.6	6	1	5.6
Oral					
Communication	8	44.4	Parental employment		
Sign					
Local Education Aut	hority		Mother Housewife,	5	27.8
			F-Employed		
Derbyshire	3	16.7	M-Employed,	12	66.7
			F-Employed		
Leicestershire	4	22.2	M-Student,	1	5.6
			Father-Employed		
Northamptonshire	7	38.9	Family members deaf?		
Nottinghamshire	4	22.2	No	11	60.9
Parental marital stat	us		Both Parents	1	5.6
Married/cohabiting	18	100	Parents/Gparents/Uncle	3	16.7
Single	0	0	Uncle	1	5.6
Additional			Father	1	5.6
disability					
No	18	100	Mother	1	5.6

# Table 5.4 Demographics of the variables

Yes	0	0	
-----	---	---	--

The different categories of hearing levels were evenly distributed amongst the sample. Children came from a variety of counties and educational establishments. A high proportion of the sample had one sibling, while none had any additional disabilities. Nearly two thirds of the families consisted of both parents in employment. Six out of 18 children (33.3%) had one or two deaf parents, which is a much higher rate than the average ten percent rate in the general population.

	Ν	%		Ν	%
Neonatal care?			How child communicates with you		
No	12	70.6	English	9	50.00
Yes>2 days	5	29.4	BSL/SSE	3	16.7
Parent knew deaf before professional?			BSL	3	16.7
Yes	12	66.7	BSL/SSE/Pictures Pointing	3	16.7
No	6	33.3	Concern about child's communication	on?	
Age when thought child was deaf?			None	10	55.6
0 to or equal 6 months	5	50	Little	3	16.7
6 to or equal 12 months	3	25.0	Some	4	22.2
24 months	2	16.7	A lot	1	5.6
48 months	1	8.3	Who communicates best with deaf child?		
Age when diagnosed by professional			Mother & father	5	27.8
0 to or equal 6 months	5	31.2	Mother	4	22.2
6 m to 2 years	5	31.2	Father	1	5.6
24m to 41 months	3	18.8	Sibling	1	5.6
		0			
50 m to 61months	3	18.8	All family	6	33.3
		0			
Know why deaf?			Mother and Teacher of Deaf	1	5.6
Yes definite cause	2	11.1	How does the family communicate with the child?		e child?
Yes probable cause	8	44.4	All oral	9	50.0
No	8	44.4	All sign	9	50.0

Table 5.5 Diagnosis of hearing loss and communication methods

If child not deaf at birth, how old became deaf?			Does anyone act as interpreter in the family?			
6 months	1	33.3	No	10	55.6	
9 months	1	33.3	Mother	6	33.3	
12 months	1	33.3	Sibling	1	5.6	
Level of satisfaction with support received	by serv	vices	Father	1	5.6	
Very happy	4	22.2	Does the external family have	pro	blems	in
			understanding the child?			
Quite happy	5	27.8	Very often	2	11.1	
Quite unhappy	7	38.9	Quite often	2	11.1	
Very unhappy	2	11.1	Sometimes	11	61.1	
Level of satisfaction with information	receiv	ved by	Almost never	3	16.7	
services						
Very happy	3	22.2	Does the external family find it diff	ïcult	to expl	ain
			meanings to the child?			
Quite happy	5	27.8	Very often	1	5.6	
Quite unhappy	7	38.9	Quite often	3	16.7	
Very unhappy	1	5.6	Sometimes	10	61.1	
Neutral	1	5.6	Almost never	3	16.7	
Which communication method do you use v	vith ch	ild?	How old was the child when you started to sign?			
English	9	50.0	0-6m	6	54.5	
BSL	2	11.1	24-36m	3	27.3	
Speech/sign	2	11.1	56-61m	2	18.2	
BSL/SSE/pictures/pointing	4	22.2	How did you learn to sign?			
English & SSE	1	5.6	Deaf, signed already	5	45.5	
Your main language			Teacher of Deaf/Mentor	1	9.1	
English	13	72.2	Evening/school class	5	45.5	
BSL	5	27.8	Were classes useful for signing?			
How good is your child at understanding			Yes, definitely	2	33.3	
you?						
Excellent	9	50.0	Yes, mostly	1	16.7	
Very good	5	27.8	Some	1	16.7	
Good	4	22.2	A little	2	33.3	

The above table shows that five out of the 17 children spent more than two days in neonatal care. A professional diagnosis was received by the time the child was two years old for two thirds (10 out of 17). For 50% of parents, the cause of their child's deafness was unknown,

and well over one third of parents were not happy with the information and support at the time of diagnosis.

Over two thirds of parents had English as their main language, but 50% used sign language when communicating with their deaf child. Only a few parents reported having significant concerns, which is reflected by all of them stating that their child could understand them well. Two thirds of the parents reported that their child communicated best with either or both of them, while half acted as an interpreter for the child. Many children had some difficulties in communicating with external family members. All deaf parents in the study were native BSL users, but hearing parents who used BSL had to attend evening classes.

In the section of the questionnaire titled "Use of hearing aids and cochlear implants", the age of the sample when first fitted with aids varied, but most parents were happy with the audiology services received. Only two out of the 18 children in the study had cochlear implants, both of whom had adjusted well, and their parents were happy with the services from the implant team. The data from this section can be found in Table 5.6, located in Appendix 5.7.

The data from the 'Education' section of the questionnaire can be found in Table 5.7, located in Appendix 5.7 and is described as follows. A Teacher of the Deaf (ToD) visited

eight of the children within a month of their diagnosis, while some had to wait up to 18 months. The general response on help received from the ToD was positive.

Half of the children attended a mainstream school and the remaining children went to a school with a specialist unit. Most parents were happy with the support their child received from their school and related services, although half of the parents had concerns about their child's education, Of the 18 children in the study, 14 had a special education needs statement (SEN), and only three parents were not happy with their child's statement.

Data collected on 'The Child' section of the questionnaire can be found in Table 5.8, located in appendix 5.7. From the data, the responses on the 'outgoing' and 'confident' items had similar distribution. Most parents reported that their child was rarely or never withdrawn, and an even higher proportion reported that the child was often very active. Sleeping and waking was a problem for only a few parents, while none reported problems with sleepwalking. Nearly half of the parents stated that their children had some problems with nightmares. In relation to behaviour items, 70.6% of the children had varying levels of oppositional difficulties, which included 60% having temper tantrums and 64.7% getting easily upset. There were lower frequencies of aggressive behaviour (35.3%). The child's behaviour was found to be a problem for the family in over half of the cases.

Nearly all children visited friends' homes, over half played in the neighbourhood, and half only had hearing friends. Most of the children could make friends easily, were able to play games and read by themselves. Over two thirds were able to tell their parents when their aids were not working, and a similar proportion of parents reported that their child's life was affected by their deafness. A high proportion of children felt happy being with their friends (88.2%) and family (82.3%). This positive trend extended to 82.3% being happy with how they communicated, and nearly 95% being happy with their independence. All parents responded that their child was happy with school work (100%), and three quarters (76.5%) were happy with sports (76.5%).

	Ν	%		N	%
Did anyone in the family h	ave problems i	n accepting	Has having a deaf child	affected	
the child's deafness?			relationships?		
No	16	88.9	No effect	11	64.7
Father	1	5.6	Very small effect	1	5.9
Grandparents	1	5.6	Small effect	2	11.8
Are the family supportive?			Quite big effect	2	11.8
A lot	10	55.6	Very big effect	1	5.9
Quite a lot	6	33.3	Has having a deaf child		
			affected your health (inc.		
			stress)?		
Not at all	2	11.1	No effect	10	58.8
Has the child's communicat	ion affected fam	ily life?	Limited	1	5.9
No effect	7	38.9	A lot	3	17.6
Limited	3	16.7	Substantial	3	17.6
Some	3	16.7	Has having a deaf child aff	ected the	parents'
			employment opportunities?		
A lot	2	11.1	No effect	12	70.6
Substantial	3	16.7	Very small effect	3	17.6
Has the child's general beha	iviour affected f	amily life?	Small effect	1	5.9

## Table 5.9 The family

No effect	7	38.9	Very big effect	1	5.9
Limited	2	11.1	Has having a deaf child affected	d income	e/earnings?
Some	3	16.7	No effect	13.7	76.5
A lot	3	16.7	Limited	2	11.8
Substantial	3	16.7	Some	2	11.8
Has the child's independe	nce affecte	ed family life?	How much has your family be	en affec	cted by time
			spent with deaf child?		
No effect	10	55.6	No effect	8	47.1
Limited	2	11.1	Limited	2	11.8
Some	4	22.2	Some	2	11.8
A lot	2	11.1	A lot	3	17.6
Has the child's education	affected fa	ımily life?	Substantial	2	11.8
No effect	6	33.3	Has having a deaf child preven	nted you	from going
			out and doing things?		
Limited	1	5.6	Most of time	1	5.9
Some	2	11.1	Little of time	3	17.6
A lot	3	16.7	No	13	76.5
Substantial	6	33.3	Have any of your friends stop	ped con	stacting you
			because of your deaf child?		
Who in the family has be	en most aj	ffected by having a	No	16	94.1
deaf child?					
Mother & father	3	16.7	A few	1	5.9
All family	1	5.6	Has any of the following happ	pened in	the last 12
			months to the family?		
None	9	50	New pet	2	11.8
Mother	5	27.8	Moved house	3	17.6
Would you consider movir	ng for bette	er:	Death of relative	3	17.6
School	3	1 7 4			
	5	17.6	New pet/ moved house/death	1	5.9
Audiological services	1	5.9	New pet/ moved house/death No life events	1 8	5.9 47.1
Audiological services School and audiologic	$\frac{1}{2}$	5.9 11.8	New pet/ moved house/death No life events Has any of the following ha	1 8 uppened	5.9 47.1 <i>in last 12</i>
Audiological services School and audiologic services	1 cal 2	17.6           5.9           11.8	New pet/ moved house/death No life events Has any of the following ha months to child?	1 8 uppened	5.9 47.1 <i>in last 12</i>
Audiological services School and audiologic services Neither	1 cal 2 11	17.6           5.9           11.8           64.7	New pet/ moved house/death No life events Has any of the following ha months to child? Moved school/new friend	1 8 uppened 6	5.9 47.1 <i>in last 12</i> 35.3
Audiological services School and audiologic services Neither Family ever turned down	1 cal 2 11 n a job to	17.6 5.9 11.8 64.7 keep child in the	New pet/ moved house/death No life events Has any of the following ha months to child? Moved school/new friend Made new friend	1 8 uppened 6 2	5.9 47.1 <i>in last 12</i> 35.3 11.8
Audiological services School and audiologic services Neither Family ever turned down same:	$     \frac{1}{2} $ cal 2 $     11 $ n a job to	17.6 5.9 11.8 64.7 b keep child in the	New pet/ moved house/death No life events Has any of the following ha months to child? Moved school/new friend Made new friend	1 8 uppened 6 2	5.9 47.1 <i>in last 12</i> 35.3 11.8
Audiological services School and audiologic services Neither Family ever turned down same: School	1 cal 2 11 n a job to 1	17.6 5.9 11.8 64.7 64.7 b keep child in the 5.9	New pet/ moved house/death No life events Has any of the following ha months to child? Moved school/new friend Made new friend Friend moved away	$ \frac{1}{8} $ uppened $ \frac{6}{2} $ 2	5.9 47.1 <i>in last 12</i> 35.3 11.8 11.8
Audiological services School and audiologic services Neither Family ever turned down same: School No	1           1           cal         2           11           n a job to           1           16	17.6 5.9 11.8 64.7 keep child in the 5.9 94.1	New pet/ moved house/death No life events Has any of the following has months to child? Moved school/new friend Made new friend Friend moved away Birth of sibling	$ \frac{1}{8} $ uppened $ \frac{6}{2} $ $ \frac{2}{1} $	5.9 47.1 <i>in last 12</i> 35.3 11.8 11.8 5.9
Audiological services School and audiologic services Neither Family ever turned down same: School No Has having a deay	$\frac{1}{1}$ cal 2 $\frac{11}{1 a \ job \ tc}$ $\frac{1}{16}$ $f \ child$	17.6 5.9 11.8 64.7 b keep child in the 5.9 94.1 affected family	New pet/ moved house/death No life events Has any of the following ha months to child? Moved school/new friend Made new friend Friend moved away Birth of sibling New school/friend	1 8 appened 6 2 2 1 1 1	5.9 47.1 <i>in last 12</i> 35.3 11.8 11.8 5.9 5.9 5.9
Audiological services School and audiologic services Neither Family ever turned down same: School No Has having a deay activities/outings?	1 cal 2 11 <i>n a job to</i> 1 16 <i>f child</i>	17.6         5.9         11.8         64.7         o keep child in the         5.9         94.1         affected family	New pet/ moved house/death No life events Has any of the following ha months to child? Moved school/new friend Made new friend Friend moved away Birth of sibling New school/friend	1 8 0ppened 6 2 2 1 1 1	5.9 47.1 <i>in last 12</i> 35.3 11.8 11.8 5.9 5.9 5.9
Audiological services School and audiologic services Neither Family ever turned down same: School No Has having a deay activities/outings? No effect	1           1           11           1 a job to           1           16           f child           9	17.6 5.9 11.8 64.7 b keep child in the 5.9 94.1 affected family 52.9	New pet/ moved house/death No life events Has any of the following has months to child? Moved school/new friend Made new friend Friend moved away Birth of sibling New school/friend No life events	1 8 9ppened 6 2 2 1 1 1 5	5.9 47.1 <i>in last 12</i> 35.3 11.8 11.8 5.9 5.9 5.9 29.4
Audiological services School and audiologic services Neither Family ever turned down same: School No Has having a deay activities/outings? No effect Limited	$\begin{array}{r} 3 \\ \hline 1 \\ cal 2 \\ \hline 11 \\ a job to \\ \hline 1 \\ \hline 16 \\ f child \\ \hline 9 \\ \hline 5 \\ \end{array}$	17.6 5.9 11.8 64.7 b keep child in the 5.9 94.1 affected family 52.9 29.4	New pet/ moved house/death No life events <i>Has any of the following hat</i> <i>months to child?</i> Moved school/new friend Made new friend Friend moved away Birth of sibling New school/friend No life events <i>Have any of the following events</i>	1 8 10000000000000000000000000000000000	5.9 47.1 <i>in last 12</i> 35.3 11.8 11.8 5.9 5.9 29.4 pened to the
Audiological services School and audiologic services Neither Family ever turned down same: School No Has having a deay activities/outings? No effect Limited	$ \begin{array}{c}             1 \\             1 \\         $	17.6 5.9 11.8 64.7 b keep child in the 5.9 94.1 affected family 52.9 29.4	New pet/ moved house/death         No life events         Has any of the following har months to child?         Moved school/new friend         Made new friend         Friend moved away         Birth of sibling         New school/friend         No life events         Have any of the following even parent(s)?	1 8 9ppened 6 2 2 1 1 1 5 nts happ	5.9 47.1 <i>in last 12</i> 35.3 11.8 11.8 5.9 5.9 29.4 pened to the

Substantial		2	1	1.8	Changed job	3	17.6
Has having a	deaf	child	affected	seeing	Became unemployed	1	5.9
friends/relations?							
No effect		13	7	6.5	Divorced and changed job	1	5.9
Limited		1	4	5.9	No life event	11	64.7
Some		1	4	5.9			
A lot		1	4	5.9			
Substantial		1	4	5.9			

Most of the external family members were able to come to terms with the child's deafness and be supportive to the parents. Two thirds of the parents indicated that the child's general behaviour and communication had an effect on their family life, with education having an even greater effect. A high proportion of parents considered education and audiological services to be important enough to move for.

Most parents did not consider that the child's deafness had an effect on family outings, seeing friends, relationships, employment and earnings, or going out and being active. Just over half reported that the time spent with the deaf child had an effect on their family. At least half of the sample reported significant life events during the previous 12 months.

From Table 5.10 (located in appendix 5.7), it is clear to see that nearly all parents were happy with the professionals' knowledge of deafness, and most were happy with the support they were receiving at the time of the study. A high proportion of parents were happy with GPs, ENT doctors and ToD. For those who had contact with speech therapists,

social workers and educational psychologists, lower overall satisfaction ratings were reported.

Parents reported that they had received adequate information (over 50%) on the following; communication methods, benefits, hearing aids and cochlear implants. In contrast, many had not received enough information on language development (62.5%), signing classes (53.8%), cause of deafness (57.2%) and deaf culture (57.2%).

# **5.3.** Attachment codings

The researcher administered either the dollhouse or pictorial method or both in order to identify the children's attachment patterns. To facilitate the analysis in identifying variables that might be associated with different attachment categories, the detailed attachment labels were simplified and grouped into broad categories (Table 5.11).

Attachment	Ν	%	Simplified grouping of	Ν	%
coding			attachment		
Secure 1.1	4	22.2	Secure	9	50
Secure 1.3	2	11.1			
Secure 1.4	3	16.7			
Avoidant 2.1	3	16.7	Avoidant	3	16.7
Ambivalent 3.2	2	11.1	Ambivalent	2	11.1
Disorganised	2	11.1	Disorganised	3	16.7
4.1					

Table	5.11	Attachment	codings
-------	------	------------	---------

Disorganised	1	5.6			
4.2					
Not possible to	1	5.6	Uncodeable	1	5.6
code					

The children's mean chronological age during the attachment test was 6.69, median 6.63, a standard deviation of 1.85, minimum 3.58 and maximum 9.25 years.

The table above shows that half the children had secure attachment, 16.7% avoidant, and 11.1% had an ambivalent coding. This indicates a large and significant difference relative to the anticipated proportions according to Ainsworth (1978), where two thirds of the general child population are expected to have secure attachment (one-sample chi-square test: comparing the sample distribution against a user-specified distribution: chi-square=9.2, p=0.0024). The proportion of children categorised as disorganised is quite high. In the context of the deaf child population having high incidence rates (40% to 60%) of mental health difficulties (Hindley 2000), the findings of this study may also reflect a significant association between disorganised attachment, mental health and cognitive difficulties (Green & Goldwyn, 2002). However, the fact that codings for avoidant and disorganised categories were higher than those expected for hearing children of hearing parents mirrors findings in Koester & Meadow-Orlans' (2004) study. An attachment category could not be identified for one of the children in the administration of the attachment task. It cannot be ascertained at this stage whether this child had some form of

disorganised attachment, or whether the materials were not suitable for their intelligence or communication level.

# **5.3.1 Recoding of variables for further statistical analysis**

Due to the relatively small sample size, the researcher recoded and dichotomised several variables in order to avoid having sparsely populated categories. Firstly, the K-ABC data was categorised according to whether the child had obtained a score that was similar/over or under their chronological age for each of the subtests. The same method was used in categorising the LPP total and subtest scores against the average obtained for hearing children.

Responses from Likert scale measures were dichotomised into two opposing codes. For example, where answers consisted of 'very happy, happy, fairly happy, not happy' the first two options were grouped together, and so were the last two. This process was used for all the items in the family life questionnaire. Finally, the attachment codings were also grouped into two broad categories, secure and insecure, as demonstrated below:

**Table 5.12 Revised Attachment Coding** 

Type of attachment	Number of cases for each category (out of 18)	Percentage			
Secure	9	50%			
Insecure	9	50%			

This resulted in an even distribution of the broad attachment codings. All codings of avoidant, ambivalent, disorganised or uncodeable were grouped into the insecure category. The different types of secure codings were similarly grouped into one secure category. One case that had been coded as 'uncodeable' was re-classified as 'disorganised' because his response consisted of strategies that were incompatible and chaotic, which reflected a disorganised pattern. This was therefore included in the insecure category.

# 5.3.2 Association between attachment codings and other variables

As most variables were categorical, their relationships with the primary variable (attachment) were examined with the chi square test. As cell counts less than five were present in most tests, the Fisher's exact test was used to identify whether a significant association was present between the two variables. Once the variables that had a significant association with the primary variable were identified, the Phi value was calculated to examine how significant the association was with attachment. The Phi coefficient represents the correlation between two binary variables<sup>6</sup>.

### Table 5.13 Variables associated with the secure attachment category

<sup>&</sup>lt;sup>6</sup> http://www.childrensmercy.org/stats/definitions/phi.htm

Name of variable	Number of	Percentage of	Phi	P value
	secure	secure codings	value	(Fisher's
	codings	allocated to each		Exact Test)
		answer		
Family life affected by	9	No (78.8%)	.798	0.002
child's communication				
Is your child easily upset?	9	No (78.8%)	.798	0.002
Is your child always	9	Always (78.8%)	.798	0.002
outgoing				
Is your child always	9	Always (66.7%)	0.707	0.009
confident				
Did you receive enough	9	Enough (75%)	.707	0.009
information on sign classes				
Are the child's friends only	9	Both (78.2%)	.671	0.015
hearing, or both deaf and				
hearing				
Parents main language:	9	Sign (55.6%)	.620	.029
English or Sign				
LPP Cohesion scores:	9	Above average	.570	0.050
Under or over average score		score for hearing		
for hearing children		children (66.7%)		
Family affected by child's	9	No (66.7%)	.570	0.050
general behaviour				
Does your child use hearing	8	Sometimes/never	.570	0.050
aid now		(66.7%)		

There is an increased chance for Type 2 error due to the number of participants underrepresenting the general deaf child population. As the researcher had to perform several statistical tests to identify the associations between the primary and secondary variables, the Type 1 error rate is higher than the nominal 5%, but as this is exploratory research we have not adjusted for this increased risk. The Phi value shows the strength of the significant relationship found by the Fisher's exact test. The closer the figure is to one (either negative or positive) and the further away from zero, the stronger the underpinning correlation.

The table above presents the ten variables that were found to have a significant relationship with the secure attachment category. The first three variables all had the same phi value, indicating that they had equal strength in association with the primary attachment variable, and these were:

- i. parents reported whether their child's communication had had an effect on family life
- ii. whether the child was easily upset
- iii. whether the child was usually outgoing.

The researcher has demonstrated the first variable in figure 5.1, which can be found in Appendix 5.8. This pie chart shows that the answer 'No-family life not affected by child's communication' obtained 78.8% of the secure codings. Whereas the answer 'Yes – family life is not affected by child's communication' obtained only 21.2 % of the secure codings. The weakest correlation was found for three variables which all had the same phi values, and these were:

- i. LPP cohesion score (child's score for this subtest as compared to being over or under average obtained for hearing children)
- ii. family life affected by child's behaviour

iii. the extent of the child using hearing aids.

In the next table, the researcher has chosen to present the same data but in a different way, to demonstrate the proportion of secure coding assigned to particular responses for the ten variables that all were found to be significantly associated with attachment.

Name of variable	Percent of secure	Percent of secure
	classifications obtained	classifications obtained
	for this answer:	for this answer:
Family life affected by child's communication	Yes: 18.2%	No: 100%
Is your child easily upset?	Yes: 18.2%	No: 100%
Is your child always outgoing?	Always: 100%	Sometimes: 18.2%
Is your child always confident?	Always: 100%	Often: 25%
Did you receive enough information on sign classes?	Enough: 70%	Not enough: 0%
Are the child's friends only hearing or both deaf and	Both: 87.5%	Hearing only:
hearing?		20%
Parents main language: English or Sign	Sign language: 100%	Speech/English: 30.8%

Table 5.14 Variables associated with attachment: secure classifications

LPP Cohesion scores: Under	Under average: 33.3%	Over average:
or over average score for		
hearing children		66.7%
Family affected by child's	Yes: 27.3%	No: 85.7%
general behaviour		
Does your child use hearing	All day/ C.I: 27.3%	Sometimes/Never:
aid now?		
		85.7%

In this format, it is clear that all the parents who reported that their child was 'always confident' and 'not easily upset' had a secure classification. Those who reported affirmatively that their family life had been affected by their child's communication and the child becoming easily upset, received a very low number of secure classifications. Those three variables have the same distribution of secure or insecure codings. The distribution of the "Family life is not affected by child's communication" is presented in Figure 5.2 which can be found in Appendix 5.8. From this diagram, it is clear that if the family viewed the child's communication as not having an effect on their family life, all their answers were for children who were assigned a secure coding. This is significantly different for those who reported "Yes" to the variable 'Family life is affected by child's communication'. This is demonstrated in Figure 5.3, which can be found in Appendix 5.8.

In contrast, for those who reported that they felt their child's communication *did* have an effect on their family life, the probability of the child having a secure coding was less than 20%.

Looking at the other variables, there are still significant differences between the number of secure ratings received for children being 'always confident' and 'often confident'. This has been presented as a pie chart in Figure 5.4, which can be found in Appendix 5.8. The chart shows that all of the answers for 'Always' were from parents of children who were categorised as secure. In contrast, there is a remarkable difference for the percentage of secure codings for the answer "Sometimes". This is demonstrated in figure 5.5 which can be found in Appendix 5.8.

It can be seen from Figure 5.5 that even though there were some children who were 'sometimes' confident, the probability of them having an insecure attachment category was significantly higher, at 75% insecure, as opposed to 25% being secure.

No parents who reported not receiving enough information on sign classes had ratings of secure attachment. Having friends who are both deaf and hearing may have a positive effect on the child's attachment style. Parents' perception that their child's behaviour had an effect on family life was in contrast associated with a secure coding.

Further analysis investigated whether these ten significant variables were also associated with each other, and therefore may have acted as confounders. Chi square tests were performed on each of the ten variables against each of the other of the nine variables. The significant associations of these tests are presented below. As certain variables were found to operate in similar patterns (e.g. child not easily upset, confident and outgoing), some of these associations are presented in Appendix 5.9. The importance or potential explanation of certain associations is briefly acknowledged in this section, with more detailed and critical elaboration in the Discussion chapter.

# 5.3.3 Variables significantly associated with 'Family life affected by child's

# communication'

The table below shows what proportion of the 'No, the child's communication does not have effect on family life' item was associated with particular answers on the other variables. The researcher has chosen to present this column of data, because all the 'No' responses resulted in 100% secure classification, as opposed to only 18.7% of the 'Yes' responses with secure ratings. This is presented in Table 5.15 on the next page:

Table 5.15 Phi and P-Values for 'Does your child's communication have an effect on

family	life'	with	9	variables
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Name of variable – linked	No, the child's	Phi	P value
with secure attachment	communication does not	value	(Fisher's
	have effect on family life		Exact Test)
	(100% of 'No' obtained		
	secure coding)		
Parents' main language: Sign	71.4%	0.777	0.002
Language			
Your child is not easily upset	86%	0.766	0.002
Your child is always outgoing	86%	0.766	0.002
LPP Cohesion score is over	86%	0.766	0.002
average			
Family life is not affected by	86%	0.766	0.002
child's general behaviour			
Child is always confident	72%	0.645	0.013
You received enough	100%	0.564	0.038
information on sign classes			

The item where parents reported whether their child's communication had had an effect on family life was found to have a significant association with eight of the other nine variables. The variable with the strongest association was the parents' main language being sign language, but this item did not have the highest number of assigned secure coding. Interestingly, all the parents who reported that they had received enough information on sign language felt that their child's communication did not have an effect on family life. However, this variable had a lower phi value assigned for the strength of the correlation. Other significant relationships were found for the child always being outgoing, confident, high language profile score, and family life not being affected by the child's general behaviour. It appears that the variable 'does the child's communication have effect on family life?' is a potentially important factor in the child developing secure attachment. This is because it had strong correlations with nearly all the variables which were found to also have significant relationships with the attachment category assigned to the child.

#### 5.3.4 Associated variables for 'Child easily upset' variable

Name of variables (phrased how	Child is <i>not</i> easily upset	Phi	P Value
they associated with secure	('No' obtained 100% secure	value	(Fisher's
attachment)	coding)		Exact Test)
Your child is always outgoing	100%	1.00	p<.001
Your child is always confident	86%	.886	p<.001
LPP Cohesion is above average	86%	.766	0.002
Family life is not affected by	86%	.766	0.002
child's general behaviour			
Your child sometimes or never	86%	.766	0.002
uses aids			
Family life is not affected by	86%	.766	0.002
child's communication			
Parents' main language is sign	57%	.523	0.047
language			
You received enough information	100%	.522	0.038
on sign classes			

Table 5.16 Phi and H	P-values for '	Child easi	ily upset'	with 9	variables
			•/		

The strongest correlation for the variable 'your child is not easily upset' was with the variable 'your child is always outgoing', with a 100% correlation, and a phi value of one. The second strongest correlation was with 'your child is always confident', with 86% correlation and phi value of .886. The following four variables: language profile score, family life not affected by child's general behaviour, child sometimes or never uses aids,

and family life not affected by child's communication, all had the same rating of 86%, with the same phi value of .766. In summary, the variable 'your child is not easily upset' is potentially a major factor in the child developing secure attachment, as it was significantly correlated with eight of the nine variables associated with secure attachment.

#### 5.3.5 Associated variables for 'Friends are both deaf and hearing' variable

This variable only had two significant correlations, which suggests that its mediating effects are possibly much weaker than previous factors. These included parents having sign as their main language and parents who received enough information on sign classes. This might indicate that parents who have information on sign language might be more willing to let their child mix with other deaf children rather than only allowing them to have hearing friends. Please find the data in Table 5.17, located in Appendix 5.9.

#### 5.3.6 Associated variables for 'Parents main language' variable'

Parents who mainly used sign language were significantly more likely to report that their 'family life' had not been affected by their child's communication, and that the child had both deaf and hearing friends. This might mean that, if the parents' main language is sign, they are more likely to have a positive attitude towards the child's communication, and with the child's social need to have both deaf and hearing friends. Please find the data demonstrating the above in Table 5.18, located in Appendix 5.9.

5.3.7 Associated variables for 'LPP Cohesion score is above average'

Name of variable (phrased as	LPP cohesion score is	Phi	P value (Fisher's
associated with secure attachment)	above average	value	Exact Test)
	(66.7% secure rating)		
Family life is not affected by child's	85.7%	.766	.002
communication			
Your child is not easily upset	85.7%	.766	.002
Your child is always outgoing	85.7	.766	.002
Family life is not affected by child's	85.7%	.766	.002
general behaviour.			
Your child is always confident	71.4%	.645	.013
Parents' main language is sign	57.1%	.523	.047
language			
Your child sometimes or never uses	71.4%	.532	.049
aids			

Table 5.19 Phi and P-values for LPP Cohesion with 9 variables

An above average score on the child's language profile in the cohesion subtest was significantly associated with seven of the nine variables. The strongest associations were with:

- whether the family reported that the child's communication had affected family life
- the child being easily upset
- always outgoing, and confident
- family life not being affected by child's behaviour
- parents use sign language
- the child sometimes or never using aids.

The underpinning mechanisms may be that, if the child has a good capacity to communicate, the family have a more positive attitude, and this could have an effect on the child's development. When communication is clear and less frustrating, there is possibly less chance for situations that may upset the child.

#### 5.3.8 Associated variables for 'Family life is affected by the child's general behaviour'

	Table	5.20	Phi a	and	P-val	ues fo	or '	impact	of	child's	be	haviour'	with	9	variables
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Name of variable (phrased as	Family life is not	Phi	P value (Fisher's
associated with secure	affected by child's	value	Exact Test)
attachment)	general behaviour		
Family not affected by child's	85.7%	.766	.002
communication			
Child is not easily upset	85.7%	.766	.002
Child is always outgoing	85.7%	.766	.002
Child is always confident	71.4%	.645	.013

The child's general behaviour being reported not having effect on family life was significantly associated with:

- family life not being affected by child's communication
- child is not being easily upset
- always outgoing and confident.

## 5.3.9 Associated variables for 'child uses aids now?' variable

The variable 'child uses aids sometimes or never' has a clear significant association with the first three variables: 'not easily upset', 'always outgoing' and 'always confident'. An interesting pattern in these series of tests is that the occasional or infrequent use of hearing aids was associated with positive aspects of the child's functioning. Please find the data demonstrating the above in Table 5.21, located in Appendix 5.9.

# **5.4 Summary of associated variables**

Table :	5.22	Summary (	of number	of s	significant	associations	for	each	variable

Name of variable (phrased as associated with secure	Significant relationships			
attachment)				
Your child is always outgoing	8/9			
Your child is not easily upset	8/9			
Family life is not affected by child's communication	8/9			
Your child is always confident	7/9			
LPP Cohesion is above average	7/9			
Parents' main language is sign language	7/9			
Your child sometimes or never uses aids.	7/9			
Family life is not affected by child's general behaviour.	4/9			
You received enough information on sign classes	4/9			
Friends are both deaf and hearing	2/9			

The table above lists the number of significant associations within the group of variables that were significantly correlated with secure attachment. Child characteristics such as being outgoing, not easily upset and their perception that communication was not having an effect on family life were found to have multiple significant associations. Multiple factors are, therefore, likely to be important in shaping the child's security of attachment. Due to the small size of the sample, the researcher was unable to perform binary logistic regression. Further research would be valuable in understanding the underpinning mechanisms in the association between deafness-related variables and attachment. Qualitative research can also help enhance our understanding of these complex relationships and interactions. For this reason, semi-structured interviews with parents were included in the design of this study, and the findings are presented in the next chapter.
### **Chapter Six**

## Qualitative analysis of interviews with parents

#### **6.1 Introduction**

In this chapter the researcher presents a thematic analysis of the qualitative data. The objective of integrating both quantitative and qualitative methods is to identify the key themes that would enhance our understanding of why the quantitative variables were found to have a significant association with the primary attachment label. The rationale is to illuminate the emotional, cultural and social features of the individual experiences from the parental interviews that potentially led to the quantitative variables being significant in the development of the child's attachment pattern. The inclusion of the parents' experiences as narrated in the interviews allows for the research data to be formulated from two angles, the researcher's perspective and the real world of the participants. This real world perspective can be entered by using the qualitative data to provide a picture of the context in which the child developed their attachment and the researcher can then discuss possible causes for the variables that were found to have a significant association with secure attachment.

Interpretation of the transcripts will be at a manifest level, rather than at a latent level, as the latter is not within the scope of the study. The aim of the researcher is to identify features in direct experiences as narrated by the parents, and not the reasons behind how the parents constructed those experiences or what their previous life experiences may have been. The field of deaf children and attachment is vastly under-researched, thus the researcher has included both deductive and inductive coding in the thematic analysis. This drew on established theories of attachment and deaf child development that were reviewed in chapters one and two to support the deductive coding, while the common features in the parents' interviews formed the inductive coding of the themes.

The study primarily explored factors related to secure and insecure attachment in deaf children. Thus, the first step in the analysis was to identify common trends in the interviews amongst all hearing and deaf parents of deaf children regardless of their child's attachment category. In the second part of the chapter, the researcher will present a summary of the findings from the thematic analysis and integrate those findings with the results from the quantitative analysis. This process is called a sequential explanatory strategy (Creswell, 2003), where the qualitative analysis is conducted to interpret findings from the quantitative analysis of a study, through which quantitative data is given more weight in the consideration (acceptance or rejection) of the hypotheses.

#### 6.2 The Codes

The table below lists:

- The code labels: topic under analysis, i.e. response to diagnosis;
- Description of theme: what does the topic consists of, i.e. how did the parents respond;

• Sub theme: types of parental responses to the diagnosis, i.e. extremely emotional or relatively emotional.

Four main themes, as shown in the table, were identified that provided sufficient data for thematic analysis and discussion relating to the literature reviewed in chapters one and two.

Code	Description of theme	Sub themes
label		
1) Immediate	How did the parents respond to	a) Strong emotional
response to	the delivery of the diagnosis?	response
diagnosis		b) Relatively emotional to
		accepting response
2) Support after	What kind of support did the	a) Positive support from
diagnosis	parents receive, and did they	either professionals or
	find it helpful?	families/friends
		b) Low level of satisfaction
		with support, or no
		support received
3) Child's education	Are the parents happy with the	a) Positive experience of
	child's education placement?	school placement
		b) Difficulties or behavioural

 Table 6.1. Codes for thematic analysis

		problems in school
4) Family life	Do the parents feel there are	a) Overall positive effects on
affected by child	any situations in their family	relationships/situations
	relationships/life that are being	b) Differing views/effect on
	affected by the deaf child?	members of the family

#### 6.3. Theme One: Immediate response to diagnosis

A key finding across many of the parents' interviews was that the diagnosis of their child's hearing loss was neither straightforward nor fully understood by the parents themselves. The confusion parents experienced could thus make it harder for them to resolve the trauma, as suggested by Van Ijzendoorn et al. (1999), and this can be compounded by conflicting advice from different professionals (Dalzell et al., 2007).

#### 6.3.1 1a – Strong emotional response

A significant feature of the immediate response to diagnosis was that of strong emotional response. Analysis is presented here from parents who, despite their reports that they had some indication that their child had hearing loss from an early age, still report a strong emotional response upon official diagnosis:

...we knew he was deaf from about nine months....he was two and a half by the time they did know that he did have a problem with his hearing and I actually felt very guilty about it, because

they didn't tell us why it was, it fell out of the blue and I felt that I had failed him as a mother.... (Child 1, category: insecure)

It is common for parents to go through grieving when they receive a diagnosis (Beazley & Moore, 1995), and different emotions and stages have been identified. This mother reported feeling guilty, and her emotion is labelled as one of the stages of Grief theory (Worden, 2002). It is crucial for parents to resolve their grief, so that they can move on and focus on bringing up their child (Gilbride, 1993). It is interesting to note that the mother knew her child was deaf from nine months, so for the formal diagnosis to "fall out of the blue" indicated an ambivalence in the mother's feelings towards the diagnosis.

The mother of Child 7 also suspected a hearing loss earlier, with a delayed diagnosis, but she formulates possible reasons as to why she expressed shock upon confirmation of the diagnosis:

I think when he was about just under a year old we realised that he wasn't responding to us ...he got to three years of age...we demanded that they did a full audiology and they found out that it was more than 110 decibels; he had lost all of that hearing. They told us he was too young to bother about...we were quite angry really...I was very disappointed because we had been told by the gene specialist at the hospital that we wouldn't have a deaf child.... (Child 7, category: insecure)

This particular report presents several complex issues. Firstly, the mother had to wait for two years for a full diagnosis of her child's deafness, only to find out that he was profoundly deaf (over 110 decibel hearing loss). This family had to wait for a long time for a diagnosis and, as they were not receiving any support or information in the meanwhile, it is possible that this may have affected how the mother was feeling. The attitude of the audiologist did not help, with the comment "too young to bother about", which upset the mother considerably ("we were quite angry"). The interesting, possibly key, comment is that the mother visited a genetics specialist to find out if she would or might have a deaf child. Had the specialist informed the mother of the possibility that she would or might have a deaf child, she may not have chosen to have children. Consequently, the mother was "very disappointed" that the specialist was incorrect in his prognosis. This could inevitably have brought about quite strong feelings towards the child. In the interview, the mother was exhibiting signs of emotional distress, so the researcher did not enquire further.

A similar experience of early suspected hearing loss and delayed confirmation is reflected in the following quote by a Deaf mother who came from three generations of Deaf families:

...well when she was a baby I thought that she might be hearing, because she responded to noise when she was in her cot. She'd had her newborn hearing test when she was two days old and the woman then had said that (child) had given a strange response...I just thought, oh, blow it. Later on I wondered what it was...I come from a deaf family and she'd be third generation, so I'd expect her to be deaf...she was about four months old....hearing response test... when they'd done...the doctor said he was 'sorry'. I thought what do you mean 'sorry'? Oh, right, you mean she's deaf! ... it was an extraordinary response, it really shocked me, like he couldn't actually say it, he pitied her. That had a real impact on me. She was just a baby. Then the doctor went off and came back saying how beautiful she was, waffling away, he pitied her...it was weird driving home, I realised that I was starting to see her differently and I thought to myself, no, forget all that, she's deaf and she's fine as a deaf girl, let's just get on with life. (Child 17, Deaf mother from BSL to English transcript, category: secure)

The above quote is lengthy but gives an insight into the experience of a Deaf mother receiving the diagnosis and how she adjusted to the news. It clearly demonstrates how parents can perceive professionals as providing a lower quality and level of support in the way they deliver the diagnosis, which can affect how the parents come to terms with the diagnosis (Hintermair, 2006). The first incident is when the child at a few days old had a 'strange' response and it was not explained to the mother what this meant ("I wondered what it was"). The mother had to wait for four months before the next hearing test. She thought her child might be hearing, but had some expectation that she would be deaf, and unfortunately, the way the professional gave the diagnosis by using the negative word 'sorry', rather than 'deaf', made the mother feel like there was something wrong with her baby. This is clear from the mother's comment, "I was starting to see her differently", and she had to remind herself that her baby was "fine as a deaf girl". It is well established that parents are hurt if the professional looks at their child as something that needs repairing (Green, 2001), which is what happened in this case. One can imagine that if a hearing

mother with no knowledge of deafness was to receive those two interventions from the professionals as experienced by the deaf mother above, it would be highly likely to have a much more negative impact on how she viewed her deaf child, through the lens of the medical model, such as a child with a disability (Lane, 2005). It cannot be underestimated what effect the audiologist has on the parent when they give the diagnosis of the child's deafness. This was again demonstrated by another deaf (BSL user) mother's explanation of her diagnostic experience:

When six weeks old, the audiologist said the word 'fail' – he shouldn't use that word. Then he said sorry, no response to test. (Child 18, category: secure)

It was perceived by the mother that the audiologist was again implying that there was something wrong or negative with her baby, by using the word 'fail'. The mother felt strongly (emphasising that he "shouldn't use that word"), and the researcher can only wonder if the audiologist had used the word 'deaf' instead, maybe it would have been more appropriate. This is especially if the mother feels she is part of Deaf culture and has a Deaf identity which she regards as normal (Munoz-Baell & Ruiz, 2000). If this had been a case of race and the audiologist had informed a black mother that her baby had 'failed' by being a black baby and not white, this would be condemned or be considered racist. Comparing this then with the social model view of Deaf people as a cultural and linguistic minority (Lane, 2005), one would expect the same respect for members of the Deaf community. It is unfortunate that the medical training and attitudes of audiologists lead them to consider deafness as requiring treatment (Lane, 2005) and therefore considered socially acceptable to describe it in negative terms.

#### 6.3.2 1b - Relatively emotional to accepting response

Not all parents report displaying a strong emotion to the initial diagnosis: some parents demonstrate a more subdued emotional response or simply accept the diagnosis. This is particularly prevalent if the parent had the opportunity to discuss the diagnosis and how to proceed in terms of acceptance, finding support and trying to learn about deafness, all within a very short time. This was clear from some parents:

...He was born with a bilateral cleft palate...when they said, I think your child is profoundly deaf, I thought, ok, fine, we will just have to deal with it, I will have to learn to sign and we will cope...I wasn't that sort of devastated. To me, to have your head, your feet, arms, everything else, is far more important... (Child 6, category: secure)

As the mother of the above child had already had quite an eventful time with her child having a medical condition, the diagnosis of deafness did not seem such a crucial matter. The comparison of "head, your feet, arms, everything else" clearly demonstrates how the mother positioned the deafness in contrast to other disabilities as a minor concern to her. This could have enabled the mother to adjust to the diagnosis, as it was something that was not considered serious. Barnett et al. (2006) found that mothers of children diagnosed with physical disfigurements were more able to resolve the diagnosis than mothers of children who had been diagnosed as having more serious neurological disorders. The mother clearly stated what her next plan of action was ("learn to sign"), and this indicates her confidence and resilience in wanting to cope with the diagnosis in a positive way.

The above quote was from a hearing parent, who was able to adjust relatively positively to the diagnosis. The following quote reflects this, but from a deaf mother who had expected her child to be hearing rather than deaf:

I noticed deaf about two weeks old...I told no one...Even if no hearing test, realise deaf...surprised....no deaf family...husband hearing, no deaf his family...then six weeks confirm deaf...hard to believe he was deaf..then I thought oh well, I'm deaf...so I want buy baby gym but know what look for suitable deaf baby. Music doesn't work..so look for pictures look at..it worked well. (Child 18, BSL to English transcript, deaf mother, hearing father, category: secure)

The mother had noticed that her baby was deaf, but chose not to confide in anybody. She had not expected a deaf baby, but quickly came to the conclusion that it was not a matter of much importance, because she was deaf herself and felt confident she knew what to do. This is demonstrated by her thinking about what toys and equipment would be best suited for her deaf baby. The following quote is from a deaf mother who also adjusted positively, but had expected a diagnosis of deafness all along:

Well, me think more like deaf because my family deaf, his family deaf, think more-like, but will be shock if hearing...They said, I'm sorry to say that she severely deaf. You upset? I said no, I happy. (Child 16, deaf parents, BSL transcript, category: secure)

First, the deaf mother explained how she expected her child to be deaf, and interestingly used the sign for 'shock' in response if her child was diagnosed hearing. Clearly, when she received the diagnosis that her child was deaf, she was happy and this was despite the audiologist using the word 'sorry'. The deaf mother here seems quite resilient and sufficiently confident in her Deaf identity not to allow the audiologist's medical attitude affect her, as it affected the deaf parent of Child 17 (quote in previous subtheme).

The following quote is from a hearing mother who again was able to adjust to the diagnosis without feeling too traumatised, but she talked in terms of the mother-child relationship in dealing with the diagnosis:

I would say that immediately I knew I was upset, but there was a feeling that she needed more love and more attention from me, so I would say that the relationship deepened. (Child 3, category: insecure)

This mother was the only parent in the research to discuss her perspective of the child's emotional needs from her. It shows that the mother knew instinctively that she might have to adapt to her child's changing needs, which mirrors a sensitive parenting style, and this

has been found to be associated with secure attachment (Ainsworth et al., 1978. This may suggest a secure attachment strategy in the child, but this child was classified as insecure.

This theme seems to have quite strong opposing experiences for those who had strong reactions and relatively emotional responses to the diagnosis. It seems that more knowledge of deafness and confidence in the mother to deal with the diagnosis has potential for giving her support in coming to terms with the diagnosis. This has been documented by several studies, where giving parents more information about the diagnosis or about deafness helped their grief resolution process and assisted them in understanding more about the disability (e.g. Mathos & Broussard, 2005; Howe, 2006; see chapter two for more detailed discussion). The next theme refers to what support parents received after the diagnosis, as they came to terms with their child's deafness, and the process of adjusting as a family.

#### 6.4 Theme Two: Support and coping after the diagnosis

The second key theme to emerge from in-depth analysis was the support and coping mechanisms that parents utilised following a diagnosis for their child. Through analysis, the researcher explored what parents report as the levels of support they receive in terms of professional or social support and the ways in which they attempt to come to terms with diagnosis.

#### 6.4.1 2a – Positive support and coping

Some parents report to have received significant support, either from health visitors or from support groups. The aim of this analysis is not to compare different services, but rather to establish what the parents felt was valuable in terms of helping them to adjust to having a deaf child:

(audiologist) "Your child is deaf". That is it. They do the test...then they say that...My health visitor realised that it was going to be very, very likely that (child) was deaf and she was waiting for me when I got home...she gave me everything, the forms for disability allowance, where to go, what to do, societies. I am part of a small group...there's six of us..we've all had very, very different experiences... we can support each other, because if we don't' support each other, we feel that nobody else will. (Child 4, category: insecure)

This is an example of how the mother felt that she was not given sensitive support from the audiologist, but she was given support and information by her health visitor, which then prompted her to join a small group of other mothers who also had deaf children. These group members appeared to appreciate its solidarity and unity, in supporting each other. This can be of immense help to a mother, in stopping her feeling lonely.

#### 6.4.2 2b - Low level of support and difficulty in adjusting

One area that relates to the support and coping with diagnosis is the reported levels of support by parents. Some parents report that they felt that they received a low level of

support and thus report a difficulty in adjusting. Some parents revealed low satisfaction with services, whereas others focused on their emotions of feeling unsupported:

...I haven't been stressed out with the fact that (child) is deaf, I've been stressed out with fighting the system to get support, with things like speech therapy and statements and communication support worker, than just actually looking after (child)...we were told not to sign with (child).. Mum, I think pushed me into learning to sign, just in case. She offered to babysit, so me and G could go to classes together, and then about after sort of two years of signing with (child), I think I blamed her for him not speaking...I know a deaf boy who is more deaf than (child) who can speak better than (child). (Child 5, category: insecure)

The mother is talking about the consequence of having a deaf child in the current society, and how she found it difficult to get the right support. There are different professional views on what and how deaf children should communicate, and she perceives that she has been given inconsistent advice; consequently she and her child have not been receiving the right support. The mother is not happy with her child using sign language, even though her child may be happy and signing fluently, because he does not use speech. It is most important that the child and mother can communicate for their parent-child relationship to nurture the child's security (for example, Bowlby, 1973; Crittenden, 1996; Grossman, 1999). The last comment the mother made in comparing her child to another deaf child illustrates misinformation, because the same level of hearing loss can affect children differently (Roberts and

Hindley, 1999), just as each hearing person has different characteristics and levels of functioning.

The following quote is another example of dissatisfaction with services, but this time, the mother sounded like she needed more in terms of emotional support, which had not been available:

We were given the support of a hearing teacher for the deaf, who came round once a week to help (child) to learn to speak...she would say "Do you like the ball C? What a lovely ball"...he (child) looked at me as if "god she's thick"...I was really quite disappointed with that...(child) will never be able to communicate verbally to such an efficient standard that would be of value to him, making sense, having relationships, getting jobs.....I needed someone, I don't know exactly what I needed....but I felt that I was very lonely and I was left to feel alone and isolated, and at the time my mother and grandmother died, so not only was I isolated in having a deaf child, but I was isolated in my family and there was nobody that I could ask for help or advice, why is this kid screaming, why doesn't he understand me, what am I doing wrong, I must be a bad mother. Nobody helped me with that. (Child 7, category: insecure)

This response was given when the interviewer asked what support the mother received after the diagnosis. Even though the mother received support from a teacher of the deaf, she found it unhelpful. Hintermair (2006) established that access to support can determine how the parent copes with the diagnosis. The initial dissatisfaction with the teacher may also have contributed to the mother forming a

negative picture of her child and herself, which may have mirrored an insecure pattern (George & Solomon, 1996). Secondly, grief from the diagnosis may not have been resolved, as Gilbride (1993) suggested that grieving parents will not adapt positively to their child and become less encouraging. In addition, the mother's own mother and grandmother passed away, which compounded her trauma and grief. The mother stated that she did not know what support she needed, and wanted to know why her child was 'screaming'. This may reflect her difficulty in adapting her parenting skills and responding sensitively to the child's emotional signals (Ainsworth, 1973). This adaptation should usually be expected when sensitive mothers receive a diagnosis of disability (Van Ijzendoorn et al., 1992).

This theme highlights again the extremes of experiences – from a mother finding new friends and becoming part of a new social community and, at the other end of the spectrum, a mother being completely isolated and becoming emotionally disadvantaged through lack of support. Mothers should not have to fight for services, although, unfortunately, there is still a marked lack of consistency in services for parents of deaf children (Robinshaw & Evans, 2001). The next theme highlights the important issue that parents of deaf children have to consider in this process, i.e. the challenge of finding an appropriate educational placement.

#### 6.5 Theme Three: Child's education

The educational provision for deaf children varies considerably across local Educational Authorities, from excellent to non-existent. Not surprisingly, parents varied in their satisfaction with their child's educational placement. In addition, deaf parents were concerned with the overall level of quality of education for deaf children.

#### 6.5.1 3a – Positive experience of school placement and/or educational provision

Some parents commented on how well their children were performing in school and what kind of support they were receiving, either from a specialist or a generic teacher:

...And I think the school did a good job. And she began to mix with other children; in fact, they were actually beginning to sign themselves. There was total acceptance....(by the child's second primary school)...the school itself caters for hearing-impaired children, so we decided to put her there, by which time her cochlear was beginning to get a lot better. She had a learning support system, they had a full-time teacher for the deaf, and she gets quite a lot of support. She is completely integrated with the other children. She loves school. (Child 8, category: secure)

It is clear that both schools the above child attended were able to adapt their input and meet the child's needs. It is very positive and enlightening that the school taught children to sign and parents felt that their deaf child had 'total acceptance'. The second school also provided tailored support, to enable the child to fit in. The support and integration with other hearing and deaf children will contribute towards building the child's confidence (Jones, 1996). This has in turn, been found to contribute to secure attachment (Jacobsen et al., 1994).

The following quote from a mother of a deaf child, who did not use sign language, reflects positive support:

...She has a statement for school, and she did have speech problems to begin with. Her language skills are not as good as they should be. So she has an LSA (learning support assistant) in class and the teacher of the deaf comes every week to see her. She is holding her own at the moment...when she moves on to senior school I have concerns as to how she will cope then. Fortunately for us, we have another friend whose daughter is already at senior school and she is sort of paving the way for us all in a way, we are following in her footsteps. (Child 11, category: secure)

The above shows that the child was receiving adequate support and the mother was satisfied, while remaining aware that the child's needs may change when she moves to senior school. As the mother had an acquaintance at the secondary school, this gave her some reassurance in what would follow the child's primary education. This highlights the importance of preparing parents and children before an educational placement, particularly during significant transitions in the child's life.

#### 6.5.2 3b – Different expectations or issues in education

An interesting difference between deaf and hearing parents was that some deaf parents were already considering boarding school for their deaf child, as if this was the norm:

The problem will be there always, it'll always be a question of whether she'll get the support to reach her full potential. Someone might think she's just average, but I think she's got the potential...I might want her to go to ... (oral grammar boarding school) because I know it's a good school. (Child 17, category: secure)

The mother's personal experience as a deaf child in education provides her with the knowledge that it is difficult for deaf children to get the right support. This knowledge gives the mother an advantage in that she knows she may have to fight to get the right educational placement for her child. This is an advantage deaf mothers have over hearing mothers, who may not know what to expect with having a deaf child (Stein et al., 1999). The worry of having to fight for the right education may add more stress than is necessary (Asberg et al., 2008). This is reflected in another deaf mother's comments:

...I don't want (child) go deaf school because the children there, they use BSL broken English. I want my child use SSE that why she go PHU and for age 11-18 go ... (oral grammar boarding school)...the other hearing mothers think I am cruel. (Child 16, category: secure)

This comment is interesting because, even though the mother is a BSL and SSE user herself, she regards the importance of English crucial in choosing her child's school placement. She chooses a PHU over sending her child to a deaf school that uses BSL. The mother seems to regard BSL not as a language in its own right, but rather as a version of 'broken English' with signs. This could be because the deaf school in question has children who have not had access to BSL from an early age, or who were transferred after not succeeding in an oral school (Musselman et al., 1996). This would result in many deaf children in the deaf school having 'broken BSL' because they are attempting to learn BSL late in their school life, rather than because of the quality of education per se. As many deaf people have been to boarding schools that specially cater for deaf children, it is part of deaf culture to have probably attended a boarding school, therefore not considering such a placement as "cruel".

The following quote is from a mother who was unsure as to which school placement to pursue, as she had been receiving conflicting advice from a teacher of the deaf and the generic teacher at her child's school:

My issue with the school at the moment is that the teacher of the deaf who comes to see her, feels that she is doing so badly compared to her peers, that she feels that (child) would be better off in Northampton in a deaf unit, and the school feel that she is just going in leaps and bounds, and is getting better and better all the time. So, as a parent, I don't know where I am. I have a very experienced teacher telling me she is doing very badly, and the school saying she is doing very well. (Child 4, category: insecure) The mother above sounds like she is facing a difficult dilemma and that she should be receiving an external opinion possibly from an educational psychologist. It is also clear that the mother does not have consistent information on her child's abilities and needs, and thus how these should be met. This is because an experienced Teacher of the Deaf has been telling her that her child has been doing 'so badly', which is quite frightening feedback, in contrast with the generic teacher, who has been describing the child as progressing 'in leaps and bounds'. As it has been reported that mothers of deaf children might experience more stress (Asberg et al., 2008), such confusion regarding educational placements might be an extra burden and this stress might further impair the mother-child relationship (Jarvis & Creasy, 1991). This could inevitably interfere with how the mother comes to terms with her child's deafness, consequently affecting the development of attachment (Barnett et al., 2006).

The quality of a child's education is a concern for most parents. When a child has needs that are different to those of 'normal' children, it will be a particular relief for the parents if the current school is able to meet the child's needs. When the educational placement is suited to the child, this will increase their confidence and their language ability, which can in turn enhance their attachment development (Jacobsen et al., 1994; Jacobsen & Hoffman, 1997). The latter would otherwise be affected if their communication skills continue to be poor (Koester, 1994).

The child's education is just one aspect that the parents have to consider, others being the child's part in their family, which could be affected in a positive or negative way, and the quality of information, and support the family receives. To repeat the statement by Stokoe (2002), "What family, society and specialists think and do, have more effect on the child's cognitive development than not hearing." (p.7). The following theme is broad, as it covers any significant comments the parents made about situations within the family, which demonstrates the significance of the home environment for the child's attachment development.

#### 6.6 Theme Four: Family life affected by the child's deafness

This broad theme demonstrates that parents report a variety of issues that they feel have affected their family life because of the child's deafness. There were narratives where differences of opinion occurred within the family, and which may have affected the child's attachment indirectly through parenting attitudes, skills and interaction.

#### 6.6.1 4a – General positive effects on relationships/situations

There are instances within the data corpus whereby parents report a general positive effect on the relationships and the family. Here parents provide descriptions of incidents where the family enjoyed an outing, which had a positive effect on siblings and family members in terms of adjustment and acceptance of the child's deafness as part of everyday life: We've had a lot of appointments at Great Ormond Street and what we used to do...it was like a day out. Although the appointments only took an hour, we'd go boating on Regents Park or we'd go to the zoo at Battersea. To her it was a treat. (Child 8, category: secure)

The family of this child have tried to minimise the medical aspects of travelling down to London from Leicester for the child's hearing/cochlear treatment by reframing it as a family outing. This is an example of the parents accepting the child's deafness by normalising it as part of everyday life, rather than it being something of a chore or a sad event. In another case, the child had adapted to communicating with her family quite easily, and during this process her family had reciprocated:

At first it was a shock, but because she is so good at lip reading, they (family) have sort of grown used to it now. She is not treated much differently from before, except that obviously we have to put her hearing aids in for her, make sure she keeps them in. (Child 10, category: insecure)

The child's deafness had not had much of an effect on the family, as she could hear very well and communicate without much difficulty. There were no negative comments by family members about her being deaf, which could be largely due to the fact that the child had limited hearing loss and little adaption was required on the family's part. This may mean that the family have not required as much outside support from professionals as a family with a child with a higher degree of deafness.

The following comment shows how a family had experienced the support the deaf child was receiving from the Teacher of the Deaf, with visits involving the whole family rather than being sole events for the deaf child:

When the teacher for the deaf used to come, they would play together, so although (child) was learning, it was a family thing...We are all sort of resigned to it and everything we have to do, and it's just part and parcel of family life now...She can be a madam when she wants to be. (Child 11, category: secure)

There is total acceptance in this family's attitude, throughout visits by the teacher of the deaf, siblings' involvement in 'play', and the child's deafness being part of everyday life. The final comment to the child being a 'madam' is significant as the parent recognises that the child has her own character, just as a hearing child can be naughty, cheeky, and so on, and this is not attributed to any deaf-related issues.

#### 6.6.2 4b – Differing views/effect on family members

Through analysis, a range of different perspectives or feelings relating to the child's deafness emerged. Some views particularly relate to the degree of conflict within the family environment. The first quote is a representative example:

....particularly my husband who just thought it was normal, and why should I feel all these depressing thoughts, didn't see that at all, just thought I was crazy, just called me a typical hearing person. (Child 7, category: insecure)

The above quote refers to the child's deaf father regarding a deaf child as 'normal'. From this comment, there appears a difference in the parents' views of deafness, one from the medical and one from the cultural model. Essentially, the father views his deaf child as a 'fully functioning member of the Deaf community' (Munoz-Baell & Ruiz, 2000), whereas the mother views the child's deafness in the context of the medical model. The father perceives the mother's reaction to be a 'typical hearing person', meaning that she does not regard the deaf child as normal. The mother could have been suffering from postnatal depression, as she mentioned 'depressing thoughts', which have been found as a possible consequence of not resolving the trauma of diagnosis (Mathos & Broussard, 2005). An alternative interpretation of the differing views is that the father may have been hurt by the mother's reaction to their child's deafness, and took it personally because he was deaf himself.

The following quote also reflects differing views between the parents, with a father who is often absent from the family home:

No, he's not here very often. He's away quite a bit. It's got a lot easier recently, because (child) has started to say a lot more. She has worked out that she has to listen very hard to

the words she can hear in order to have a conversation and make her needs met. She is definitely, she is trying to listen very hard now and she is using new words all the time; but school are very, very worried because she can only hear certain letters, they feel that if you give her a command she will only hear bits of the sentence, so she is guessing the rest. (Child 4, category: insecure)

The above comment was in response to the interviewer asking how the child's diagnosis of deafness had affected the father. At the start of the mother's response, it was clear that she had to do most of the adjusting, as the father was frequently absent. The focus had gradually shifted onto the child being able to communicate, rather than the father's emotional response to the diagnosis, before the mother started discussing the child's problems at school. The father's emotional presence in the child's life appeared to be sparse.

Sometimes it's frustrating, because I can't read a book to him, because I can't sign very well and things like that, but on the whole I think we can communicate. You have to change a sentence three or four times until you sign it in a way that he understands, because he has got limited vocabulary. (Child 5, category: insecure)

There is clearly an effect on the mother with regards to communication, as she acknowledges her frustration and that she cannot sign very well, but still states that it is her child who has the 'limited' vocabulary, rather than her. Many studies have found that communication is key in advancing the child's attachment pattern to develop beyond infancy. For example, free flowing communication (Main et al., 1985) and shared discourse (Thompson, 2000) help the child to understand their world, and to link this with their actions and consequences. An interesting point to consider is that the mother does not think that it is her who needs to learn more sign language in order to increase her skills and vocabulary. It could be said that the mother is not sensitive (Ainsworth et al., 1978) enough to her child's cues to realise that her own skills in sign language need to be improved or how a different style of communication might improve the quality of interaction between both her and her child. Instead, the mother locates all the problems with interaction in her child.

Even to the point where it can take an hour to get her teeth brushed and by that time we're all falling out. "Cancel the picnic, let's not go"...clothes, shoes, toothbrush, hair, her hair bobble, 'that's not right', 'this isn't right'. It's almost obsessive behaviour...really part of me thinks, no, she should come to the shop. She can bloody well learn to behave, but then I think, no, because if she's there maybe she can't stand all the noise and I start feeling sorry for her again. So my decisions are based on, not pity but based on her disability. I let her disability rule my rational thinking...well, say she wasn't deaf, she'd be coming shopping, no messing. And if she wanted to cry and scream around the supermarket, then she could get on with it....I know that I'm different with her than I am with the other two children. (Child 12, category: insecure)

In the interview with this child's mother, she spent a lot of time describing the child's behavioural problems and the child's history of sexual abuse by her biological father, who she still visited. It was not clear if the child had received any type of support in working

through her trauma. Taking into account the evidence on the higher risk of deaf children developing mental health problems (Hindley, 2000), this child has an added risk of psychopathology, and this has been found to be associated with disorganised attachment (Green & Goldwyn, 2002). During the interview, the mother confided to the researcher that she was depressed, and started crying. As indicated by the quote above, the mother makes a direct connection between the child's behaviour, her own behaviour, and the child's 'disability'. The mother admits that she treats her deaf child's siblings differently, but still believes that her child has difficulties in going to the shop because of her deafness. Howe (2006) claims that parents need to have an understanding of what the child's disabilities entail and how the parent-child dyad has been affected. The implications for this child's attachment development are substantial, for all the reasons outlined above.

#### 6.7 Integration of quantitative and qualitative data

The quantitative variables were collected in response to dichotomous questions. During the analysis of the qualitative data, the researcher selected quotes which reflected the quantitative variables, and these are presented in Table 6.1:

Quantitative variable	Parents of secure child	Parents of insecure child
associated with primary		
attachment label (secure		
coding)		
8/		
Child characteristics	She can go out and play with	She's very independent, but I do worry
Child - outgoing	local children, and is a very	about how she'll get on and how she'll fit
Child - confident	determined fighter (Child 8)	in (Child 3)
Child - easily upset	Someone might think she's just	She seems very confident (Child 9)
Friends are deaf and	average, but I think she's got	
hearing	potential; I think she's bright and	
	will need encouraging to fulfil	
	her potential (Child 17)	
Behaviour		He's got behavioural problems at school
Child's behaviour is a		(Child 1)
problem for the family		Her behaviour got extremely bad about
		six weeks ago, so I made an appointment
		for her to have another hearing test
		done her behaviour now is still
		absolutely draining (Child 12)
		I think I found it really disappointing that
		I couldn't have any sort of support from
		other parentsthat could say "your kid
		isn't abnormal, he isn't strange" (Child 7)

Table 6.1 Integrated quantitative and qualitative analysis of secure vs. insecure attachment statements

Commissed in the second	T desided to two and more ant	Chatald wate size and the destantial wa
Communication	I decided to try and work out	She told us to sign and the doctor told us
Family life affected by	how to communicate with my	not to, and so I think maybe if we hadn't
communication	child because he was becoming	signed, maybe he would be talking (Child
Parents use sign language	frustrated (Child 6)	5)
Language skills above		Some concepts he finds difficult to
average		understand my dad died in January he
		still says "where's granddad?" (Child 13)
	He communicates OK with	She gets very, very cross and will hide
	daddy, but if he wants to know	under the table. If I give her instructions
	more information he asks me	or ask her something that she doesn't
	(Child 18)	quite understand, to save face she will
	Yes, good bond, no problem	walk off, and either get under the table or
	with communication; feels	put herself in her bedroom (Child 4)
	normal, if she was hearing or	
	deaf, still communicates.	
	(Child15)	
Often/sometimes wears	She is very good with hearing	The only time you do notice is when she
aids	aids (Child 11)	has not got her hearing aid in (Child 10)

## **6.7.1 Child characteristics**

No distinct pattern was established between the secure and insecure patterns regarding the child's confidence, outgoing and being easily upset variables. Despite this, parents of secure children seem to use more positive words to describe them. It is interesting that the parent

of Child 3 states that her child is independent, but in the same sentence stresses that she also worries about her.

#### 6.7.2 Behaviour

None of the secure parents made any comment regarding their child's behaviour. Regardless of whether the child has been formally diagnosed to have a mental health disorder, the parent's perception of the child's behaviour as problematic is very important. The parent of Child 1 simply stated that her child had behavioural problems, without explaining why she thought so. Even though the quote by the parent of Child 7 does not directly state that her child has behavioural problems, the mother uses the words 'abnormal' and 'strange', which implies that is how she perceives her child.

#### 6.7.3 Communication

There is quite a distinct difference in the essence of the comments made by some of the parents of secure and insecure children regarding communication issues. These comments seem to reflect positive (for secure) and negative (for insecure) experiences. The parent of Child 6 had recognised that her child needed some other form of communication, as his original one (speech) was making him frustrated, and took it upon herself to solve the problem. The father of Child 18 could not communicate as fluently as the mother, but had developed a system of accessing information via her. The deaf mother of Child 15 clearly felt she had no communication problem whatsoever with her child. Among insecure

children, there is a vein of resentment from the mother of Child 5, who suspects that she should not have learnt sign language, and this could indirectly influence how she interacts with her child. This is particularly relevant if she really wants her child to speak rather than sign. The parent of Child 13 suggests that her child has difficulty in understanding abstract concepts, and uses a death in the family as an example. The parent's explanation of what Child 4 does when she cannot understand her is not positive and quite extreme in that she has to 'save face' by hiding. It is not clear whether this behaviour led to the development of this child's attachment strategy or was a product of it.

#### 6.7.4 Use hearing aids

In the quantitative analysis, the amount of time the child spent wearing aids was associated with the primary attachment label. It is not, however, clear from the qualitative data how much time or attention was given to the child's aids by the parents and the child themselves. There is no apparent difference in the secure and insecure quotes above.

#### 6.8 Summary of integrated quantitative and qualitative analysis

There is an indication of some qualitative data supporting the findings of the quantitative analysis, particularly in relation to the behavioural and communication aspects. Most parents of secure children gave quite brief answers, in contrast to parents of insecure children, so there was limited data to contrast the response styles to the interview questions, and to therefore approach a deeper understanding of how parents perceived their children's communication and behaviour.

# Chapter Seven Discussion

#### 7.1 Introduction

In this chapter the researcher will discuss the findings from the research, in the context of the previous evidence. Following an overview of the findings, methodological issues relevant to the hypothesis and the research design will be discussed in detail. Finally, there will be a brief reflexive exploration, and implications for practice, services and future research will be outlined.

#### **7.2 Revisiting the research questions**

The first of the four research questions asked if the MCAST could be administered in its original format to deaf children. From the first study (discussed in chapter four), the sample consisted of four linguistically diverse deaf children and established that it needed modification for application to deaf children. This was concluded on the basis of the difficulty that some of the children had in answering the vignette stems and the prompts on the emotions of the mother and child. The dollhouse procedure relied a lot on abstract thinking, even though it used 3-D props (dolls and dollhouse). Even if the child had understood what the researcher has said, as soon as she had stopped describing the vignette, and handed it over to the child to complete with a response, the children could not construct a response. In the original MCAST, the verbal and non-verbal behaviour of the child is incorporated into the coding, which caused difficulty in the accuracy of the administration

and coding of the MCAST. This was because the sample in the initial study had some difficulty dividing their attention between the interpreter, props and researcher, which inevitably made them move a lot more and require more repetitions, prompts and interruptions. For instance, the researcher had to make more effort to maintain the child's line of regard and eye contact when they were getting 'distracted' and not listening to the interpreter or researcher. However, for one of the sample, the child was able to produce 'ideal' responses to the vignettes which showed that within this diverse sample, that some deaf children may be able to do the MCAST. As deaf children have different needs to hearing children, the researcher developed the first adaptation to the MCAST, by creating the MCAST-DC which is discussed below.

In response to the first part of the second research question, the researcher created a supplementary version, the MCAST-DC (Deaf Children), which could be used with deaf children who have the necessary skills to perform the MCAST (as demonstrated by one of the four sample). In the MCAST-DC, the researcher created an interpreter protocol, modified the existing administration and coding procedures and developed a new communication procedure. For the MCAST-DC, the researcher found it necessary to omit some of the codings to produce a more accurate assessment of deaf children's attachment strategies, such as the Grice's maxim and more highly competent subcodings such as 'child mentalising of mother'. The interpreter protocol was a crucial addition as it outlines how to work with an interpreter and what their qualifications are. This should be read and followed

by clinicians and future researchers to ensure high quality assessments are conducted, otherwise the data collected from the child could be inaccurate. In the communication protocol, the researcher included a section on administering the MCAST-DC to explain how to administer the assessment to deaf children and what communication skills to consider that may be specific to deaf children, such as tapping on the shoulder to gain the child's attention.

The second part of the second research question asked if new props were required in place of the dollhouse. It was established that some of the initial study cases found it difficult to produce a narrative or answer questions about the mother's state of mind, the researcher created a pictorial version of the MCAST, called the DCAST. In the DCAST, the child is shown culturally sensitive pictures, depicting the main vignettes, and the child has choices from which to select a response. Obtaining information about the mother's and child's states of mind is one of the key questions in attachment assessments, so the researcher also developed pictures of the mother and child with different emotions. The researcher also created administration, coding and communication protocols to guide the administrator in administrating the DCAST. These included how to present the child with the pictures depicting the main vignettes and giving them the option of either describing their responses with or without the response pictures to choose from. In the coding procedures, the researcher developed a nonverbal coding table for the coder to utilise if the child had
minimal verbal or communication skills to record as much non-verbal data in order to enable them to produce an accurate coding.

In the main study with 18 children, it was found that most of the children who engaged in the new DCAST enjoyed the assessment and were interested in what was happening in the pictures. The content of the pictures was clear and the theme was understood. The flexibility of this method allowed for the researcher to describe the pictures to the child, or vice versa. This applied to children of all communication modalities and of varying cognitive and linguistic skills. From the main study, the researcher input the codings into a database and conducted statistical and qualitative tests against the quantitative and qualitative data.

In answering the third research question, the sample from the main study limited the statistical analysis to chi squares and fisher's exact tests. Despite this, the results found ten variables with highly significant correlations to the attachment category assigned to each child. This provided relative validity to the DCAST (which had been administered to most of the main study group). The ten variables related to developmental domains previously found in attachment research to be linked to development of secure attachment (as discussed in chapter one and two). These domains included emotional development (outgoing, confidence, upset), communication issues (child's communication skills, parents' main language), family attitudes (family's life affected by child's communication),

child behaviour problems (family's life affected by child's behaviour), social skills (friends both deaf and hearing).

Support for the validity of the new DCAST instrument was not wholly conclusive from the qualitative data produced rich thematic analysis. This could have been due to the questions in the semi-structured interview not being centred on the significant variables; it proved difficult to find support for these variables from the themes. The themes had provided valuable insights in the difficulties some parents experienced in getting support and understanding what their child's deafness required from them. In contrast, the quantitative analysis had not identified significant associations with levels of satisfaction in the parents regarding the services they received with the attachment labels assigned to the child. In the integrative analysis of both the quantitative and qualitative analysis, there was some indication of the wording that gave indication of parents who had secure as opposed to insecure children. The researcher has suggested alternative research methods for future research (section 7.6 this chapter) to ensure the qualitative data collection methods are attuned more to support findings from quantitative data.

# 7.3 Overview of methodological issues

The researcher will discuss technical aspects of the study in the context of the clinical setting and existing research.

# 7.3.1 Adapting the DCAST for future use in a clinical settings

As there was a limited published evidence base (Koester & Meadow-Orlans, 2004) in deafness and attachment, the aim of this research was to adapt the MCAST for use with a deaf population. This has implications for its future application in clinical settings, as the findings would help enhance practitioners' understanding of deaf children's internal working model of attachment. The new DCAST instrument could fulfil such a role. One of the strengths of the DCAST was its flexibility, although there were questions during its administration as to whether the instrument was too unstructured in its current format. This is because codings rely on the content and style of the children's responses, but these may have been affected if the child did not 'hear' or understand what was requested of them. Therefore, two potential weaknesses of the instrument, if used by clinicians who are unaware of the characteristics of deaf children, may be: (i) the clinician is unaware of the fact that s/he needs to confirm if the child understood the clinician or an interpreter during the assessment; and (ii) they may not even have the knowledge of how to do so. At this stage of the research, the administration of the instrument did not rely on a detailed procedure, but was rather based on a limited number of prompts or words to describe the main vignettes for certain cognitive or linguistic abilities. Despite this, the communication procedure that was developed provided valuable insight into the ways deaf children or adults communicate and into 'norms' of behaviour in the deaf community. These should be taken into consideration when coding the child's security of attachment

# 7.3.2 Interpreter role

In addition to the instrument, it was necessary to create an interpreter protocol, outlining the role of the interpreter, and a communication procedure that took into consideration cultural issues in deaf children. The interpreter protocol was partly developed to inform the clinician how to work with an interpreter and what to expect in terms of their code of ethics and practice. In the protocol, the researcher also recommended a minimum qualification for the standard of interpreter to employ, in order to try to maintain a consistently high level of translation. The quality of the translation was important for ensuring valid and reliable data were collected during the interpreted assessment.

## 7.3.3 Development of the DCAST

The MCAST had been chosen for the study due to its relatively straightforward administration and coding procedure. Following the initial study, the DCAST was developed using the vignettes from the MCAST. However, the original assessment had originally been designed for use with hearing children, so already there could have been an issue of cross-cultural application. Firstly, Grice's maxim had to be omitted, as it was difficult to get sufficient data for this part of the coding procedure. Secondly, the vignettes had been developed for hearing children who live in mainstream society. It would have been useful to find out what deaf children considered as normal everyday situations where they may need their mother to come to their aid for assuagement. This was relevant in the case of the 'lost while shopping' vignette, where a colleague who had been trained in the MCAST suggested that this vignette was more distressing for a deaf child because of the communication barrier. This could be relevant, especially if the child did not have intelligible speech, but it is hard to establish whether a securely attached child would be confident enough to overcome this anyway and approach a policeman or security guard for help.

## 7.3.4 Construct validity

There are three issues in this. The researcher could not develop some sort of rigid system that could be chosen by the interviewer to administer the DCAST, for example, based on the child's language and non-verbal intelligence score. This was because in the study, the scores collected in the language profile and K-ABC were not reliable in predicting whether the child could perform the attachment assessment. Although the flexibility meant that the instrument could be adapted to meet the individual child's needs, the construct validity was not strong. The original MCAST had achieved inter-rater agreement of 94% (Green et al., 2000a) for secure and insecure ratings. The researcher was fortunate to meet with other colleagues who knew the MCAST, but no inter-rater reliability testing on the completion of the MCAST by the deaf children or the new DCAST was possible. The researcher had checked previous codings when returning to the research from maternity leave. However, it is understood this did not amount to a formal re-rater reliability test of the new DCAST measure. The researcher discusses this further in section 7.6.2 for future research. The reliability and validity of the measure would be strengthened also with comparison of

ratings using other attachment measures. The problem persists that no attachment measures have been validated for use with deaf children. The researcher had omitted or adapted some of the coding system for the MCAST to try to tailor it to application for deaf children, but the fact stands that it was originally developed on hearing children. In a study measuring language in deaf children, Burman et al. (2007) explained that measures developed for hearing children cannot be used with deaf children because of the differences in language.

Although the researcher had completed reliability tapes following her training in the MCAST procedure and coding, she did not receive further reliability training on more complex cases. These cases could have been children with disabilities or different socio-economic status, which may have given her more information on which aspects could be regarded as part of the child's attachment strategy, as well as which aspects might mean the child was unsuitable to be administered the assessment.

# 7.3.5 Findings for the study in comparison with previous attachment studies

The study did not compare the deaf children with hearing children of hearing or deaf parents, so it could not identify any significant differences in the use of the MCAST-DC or DCAST between hearing and deaf children. It would have been useful to investigate how hearing children responded to the DCAST and what style or method they would use for their responses: for example, would they choose from the pictures or would they verbally narrate a response? The researcher had used her knowledge of how hearing children respond to the original MCAST in order to create the response-pictures for the DCAST. However, there is limited evidence in development of attachment in deaf children (Koester & Meadow-Orlans, 2004), so it should not be presumed that we know what constitutes a 'secure' internal working model of attachment for deaf children. This means that we do not know for certain what constitutes a 'secure' or 'insecure' style of response. Ultimately, we do not know what is important to deaf children to help them feel secure or enable them to develop a secure attachment.

Previous studies on deaf children and attachment have focussed on an age range of 18 months to 60 months (Greenberg & Marvin, 1979; Meadow et al., 1984; Lederberg & Mobley, 1990; Hadadian, 1995; Leigh et al., 2004; Koester & Meadow-Orlans, 2004). The age range was extended in this study, up to nine years, where the child will have passed the theoretical benchmark of three years, an age when children are supposed to have achieved the fourth phrase of attachment, the 'goal-corrected partnership' (Ainsworth, 1973). This means that the child knows how to achieve proximity to their mother if required and what their mother thinks. The researcher wonders if a deaf child has delayed communication development that does not match their chronological age, how this would affect their achievement of the fourth phrase. The new instrument, DCAST, was designed to collect data to identify whether the child had a strategy for assuagement of their distress, but it could not measure the quality of the strategy. For example, the child was able to choose what pictures would constitute their response, such as 'go get mum, mum hug, then bed',

which may be coded as 'secure'. The question is whether this child should be coded as being more or less secure than a deaf child who was able to say in sign language or speech, "I felt very sad so I went to see mum. She woke up and she asked me why I was sad. She was sad too and told me that she would keep me safe from monsters. I felt better so I went back to bed". This second response would clearly show the child understood their mother's state of mind. The researcher has focussed on coding the child's security of attachment based on the content of their responses, not the communicative quality of their responses. As deaf children often do not have developmental skills that match their chronological age (Percy-Smith et al., 2008), what becomes more important for secure attachment? Jacobsen and Hoffman (1997) for example, found that secure attachment was associated with academic achievement. This postulates the question: which is more important for contributing to secure attachment in deaf children, their cognitive or communication skills?

Some of the studies mentioned above (i.e. Lederberg & Mobley, 1990) did not identify significant differences between deaf and hearing children's attachments at 18 months. Is this still applicable when the child is four to five years old? If the quality of interaction between mother and child is not comparable to that of hearing child-mother dyads at five years, does this affect the child's development of attachment? Lederberg and Prezbindowski (2000) explained that a child who is more communicatively competent will have more occurrences of interactions with their mother than a child with lower language skills. For example, even though Lederberg & Mobley (1990) found no differences in

secure attachment between deaf and hearing children, but they did identify that the quality of interaction was of lower quality in the group of deaf children.

From these issues, it becomes apparent that it is necessary to learn more about the workings of attachment in deaf children. It raises questions such as: what *is* 'secure' attachment for them? What does 'secure' attachment in a deaf child look like? If their communication ability does not match their chronological age, are they able to understand their mother's perspective and hence build an understanding of their relationship and how their own behaviours affect the relationship? For example, Naber et al. (2008) found that secure attachment promoted higher development of symbolic play in children with autism, so in deaf children their communication skills could be advanced by secure attachment. It was found that higher communication competence in deaf children was significantly related to having secure attachment (Meadow et al., 1984) in children of up to 40 months. How does one measure security of attachment and what level of communicative competence is required in preschool or older children?

# 7.3.6 Ethnicity and cross-cultural issues

Lane (2005) argues a case for the 'Deaf-World' as an ethnic group as well as having cultural status. The original attachment measure was developed for hearing children, and the researcher attempted to modify it by developing a new method that may be more appropriate for use with deaf children who belong to the Deaf-world. Due to lack of evidence-base, however, she could not provide validity for what narratives or non-verbal behaviours would be expected of deaf children from this community.

Whether deaf people consider themselves as an ethnic minority as suggested by Lane (2005), or as a cultural group, it does not alter how they are viewed by mainstream society (Munoz-Baell et al., 2008). It is this view (medical model and speech-oriented) that, in its desire to normalise deaf children, could put the child's development of secure attachment in jeopardy. This presents a conundrum and potential conflict of interest: if the attachment assessments developed for use with hearing children are administered by people who espouse the medical model, this may set the deaf child up to fail, as the child may not have the same developmental or cultural norms as hearing children. Such differences have been found between American and Japanese children in their security of attachment and what their mothers viewed as part of their attachment behaviour (Rothbaum et al., 2007). These authors identified that mothers valued different kinds of behaviours in the Japanese and American cultures: "The finding that Japanese mothers, as compared to U.S. mothers, more often selected "sensitivity to cues" as a desirable characteristic of young children may reflect their belief that this characteristic is a precursor to later accommodation" (p.480). There may well be differences in maternal caregiving behaviour to reflect expectations or norms within deaf culture and Koester & Meadow-Orlans (2004) had suggested that deaf mothers regarded independence in their children more prominently than hearing mothers of deaf children. Despite this, it was concluded that the MCAST was appropriate for application to a diverse ethnic (hearing) group (Futh et al., 2008), so with proper construct validity testing, the MCAST could be tailored for administration to deaf children.

# 7.4 Overview of methodological limitations

As with any research, a number of methodological aspects could have been improved on or performed differently. The first obstacle was achieving a sufficient number of participants who were representative of the deaf child population, as the researcher could not contact the parents directly. Secondly, funding for interpreters was limited which meant that the researcher could not undertake training for some measures such as the Adult Attachment Interview. As families came from a wide geographical area, there was inconsistency in the location where the attachment tests and parental interviews were performed, and this may have compounded external effects on the child's performance. There were also problems in trying to maintain the same high quality level among BSL interpreters. This was beyond the researcher's control and could have impacted on the quality of the data. A proportion of data collected by the Quality of Family Life Questionnaire was not relevant to the key question of establishing associations with attachment strategies. For this reason, the researcher identified the main variables that were found to have common themes, and decoded them for the quantitative analysis. The qualitative analysis demonstrated the heterogeneous family characteristics, which was a challenge in categorising them in distinct groups. The researcher, however, was able to identify themes that emerged from the analysis. The heterogeneous quality of the sample could have limited the coherence of variables in testing the hypothesis. In particular, the differences in level of support from professionals and social networks may have confounded some findings, but equally could mean that the findings are even more applicable to real life situations.

In the following sections, the researcher discusses in detail each area highlighted above. These will be followed by a discussion of implications for future research.

# 7.4.1 Sampling framework: the children

The procedure of contacting the sample was approved by six local Research Ethics Committees, as well as by local hearing impaired teams and deaf centres around Leicestershire. As each education authority had its own policy on the preferred communication method for deaf children, the sample may have been biased to reflect such communication policies. Because of the high attrition rate, the researcher had to expand the initial target population (Leicestershire) to include Nottinghamshire, Derbyshire and Northamptonshire. The total number of letters sent to each education authority, local branches of deaf children's societies and deaf centres was 250. Of those, only 31 families responded and 18 eventually agreed to participate in the research. It was not possible to establish whether the Local Authorities had actually sent out most or all of the letters, due to confidentiality arrangements. From contacts with Local Authorities, it is plausible to conclude that a substantial proportion of the 250 letters may not have been received by families. This non-randomised approach to sampling could thus have affected the representativeness of the sample. Consequently, the proportion of attachment coding in the security and insecurity categories, may not accurately reflect what would be expected from the general deaf child population.

The age of the sample was not mirrored in each child's capability to perform tasks or to engage in conversation regarding the story stems. This reflects previous research findings discussed in chapter two, for example, a study by Moeller (2000) that found language development was associated with the length of time of intervention (such as parental support and language intervention), rather than the child's age. Other factors that mediate development in deaf children include parental language (Brennan, 2003), maternal use of language (Lederberg, 2003) and the impact of hearing loss on the child (Roberts & Hindley, 1999); these are a few of the multiple factors that contribute to the developmental heterogeneity among deaf children of the same chronological age. This was taken into consideration in the selection of children in the initial study. Consequently, the subjects performed differently and, even though three out of four children used speech to communicate, their understanding of the tasks required different strategies and phrasing of the story stems by the researcher. The initial subject who used sign language presented a unique challenge because, instead of signing his response to the researcher, he used the doll without any accompanying commentary. This provided the researcher with great appreciation of why such a measure needed to be flexible for deaf children of varying backgrounds, language and mental abilities, rather than based on their chronological age. Each child was able to perform and contribute to the assessment in their own way, those who elaborated more on their responses may have prompted for easier coding. However, the researcher tried to code their responses according to the content, rather than how they were narrated.

Due to the researcher's first language being BSL, it was inevitable that some of the subjects who also used BSL were easier to engage with, whereas others found it harder to develop a rapport with the researcher prior to starting the attachment measure. This was not necessarily related to the validity of the attachment measure, but may have reflected the subject and the researcher sharing a common medium, which gave the child a sense of belonging or identification (Jones, 1996). Whilst observing herself in one of the videos conducting an assessment with one of the deaf children who had deaf parents, the researcher noticed the conversation flowed smoothly in sign language between herself and the child. This could have affected the child's performance during the attachment assessment, potentially by enabling the child to feel comfortable without the presence of the third person (interpreter). In contrast, children who did not use sign language could have felt a bit uncomfortable with the researcher, as she did not use speech. In one case, a deaf child whose hearing parents used sign language chose (happily) to not speak or sign at all during the attachment task, when it was known she had full ability to sign and speak. It could not be ascertained whether this child was feeling overwhelmed by the task. The differences in the child and researcher's first language could have affected the child's performance on the attachment assessment, especially if there was an interpreter present. This is because the natural flow of conversation would have been slowed down by the time it had been processed by the third person. Therefore, it might be ideal to recruit a researcher who has experience in communicating with deaf children, is knowledgeable in how they communicate, and who also can speak fluently to administer the attachment assessment to oral deaf children. Then another researcher who is a native BSL-user can administer the attachment assessment to children who use BSL. When the attachment tapes are coded, both researchers could verify each other's codings of both modalities (using an interpreter to translate the language content).

During the observation of a video recorded attachment assessment of a deaf child who used BSL, one of the regular BSL interpreters pointed out that, for some signs, the child used different BSL signs from the researcher. The researcher recognised that the child used a different sign for 'mummy', and this may have confused him during the attachment assessment, as there are BSL variations for certain words (Sutton-Spence & Woll, 1999). Suggestions for future research regarding this will be detailed below.

#### 7.4.2 Sampling frameworks: the parents

There may have been some 'self-selection' (Bornehag et al., 2006) of some parents agreeing to participate in the research, due to higher socioeconomic status, wishing to get information on the topic (i.e. deafness), or hoping to access more services. There has also

traditionally been a lack of participation by fathers in research (Phares et al., 2005), so the researcher was expecting to mostly meet just the mothers. Due to previous research and experience, the researcher was aware that the parents she was meeting for the first time might not have met a deaf adult before (Gregory, 1995). It was quite difficult to remain within the confines of the researcher role, as meetings and interviews with parents were usually held in their homes. Most parents wanted to know about the researcher 's personal life, such as school, university, social interests, and relationships! The researcher refrained from answering too many personal questions, but was friendly, as she wanted the parents to feel comfortable during the interviews.

Some parents may have held a medical view about deafness (due to the nature of the support they have received), while the researcher approached their deaf child through the cultural model, and this could have affected how the researcher conversed with the parents regarding their child. One deaf child had fluent BSL skills and was highly intelligent, but the mother was commenting negatively on why he did not use speech. In a few other interviews, situations arose where the mother shed tears, feeling unsupported or depressed. Another mother went into detail about her own loneliness and parenting skills in relation to the child's behaviour problems. The researcher provided information on local statutory and voluntary services that could give advice and support to families, when requested by the parents. The need for this information from the researcher supports findings in chapter two where there is inadequate support for parents of deaf children from interventionists.

#### 7.4.3 Collecting the data

The researcher was aware that the setting (such as different rooms or buildings) could have a potential effect on the interviews and attachment assessments, whilst also acknowledging the necessity of organising meetings which best fitted with the parents' and children's commitments. There is ongoing debate as to whether a naturalistic or laboratory setting should be adopted when testing attachment styles. One of the advantages of administering an attachment test in an unnatural setting is that this may result in the young child's attachment system being activated (O'Connor & Byrne, 2007). This is because the child will exhibit more attachment behaviours, as they feel more vulnerable in unfamiliar surroundings. Due to the larger geographical area of the study, assessments took place in local children's mental health services, local deaf centres, schools and homes. There were occasions when the location was not entirely suitable, such as one case where the child, researcher and interpreter were given a room where they had to sit around a very small table facing a wall. In future research, attachment assessments with deaf children should preferably be completed across both a familiar environment and a clinical setting, in order to obtain more reliable data (Bretherton, 1995).

As some assessments were conducted in the child's home, their parent(s) were present on some occasions. Most of the time, the parent would leave the room, but stayed nearby, which could have had an impact on how the child responded to the assessment (Watson &

Gregory, 2005). In one case, the father was in the same room and came over to 'help' the child to complete the DCAST. This was a complex situation, as the researcher was already aware of a history of communication difficulties between the deaf child and her father, which was confounded by the child's limited coping strategies and her not understanding what other people said. The father then left the child, and stood at the far end of the room, which may still have had an impact on how the child constructed her responses.

# 7.4.4 Developing and administering the attachment measures

The researcher had opted for the MCAST instrument for the study for several reasons (explained in chapter three), one main reason being its ease of use. The MCAST had been developed on the construct of the internal working model (Green et al., 2000) and was tested on a population of children where over three quarters were white and non-disabled. It may not have come as a surprise, therefore, that before the MCAST could be administered unedited in the initial study, the researcher found she had to adapt the storylines, the administration and her communication style to meet the children's needs. This included: simplifying the details in the vignettes, repeating the prompts and providing examples for answers to both the vignettes and emotional states. When it was not clear that the child had understood or heard, if no eye contact or lipreading occurred, the researcher repeated what she had said and then coded the child's non-response as ignoring or avoiding the question/vignette. Sensitivity to non-verbal behaviour enabled identification of important clues, such as when one child 'froze' after the researcher described the story stem. This

behaviour was marked as having no immediate access to an attachment strategy in order to rectify the child's distress, and was coded as disorganised attachment. In other situations, where the child did not give linguistically fluent explanations or responses, and used a few words to simplify their sentences, the researcher coded them according to the content of each sentence. The responses were often accompanied by facial expressions or body movements. After the initial study, the researcher kept the original MCAST procedure, but modified it for use with deaf children as the MCAST-DC in combination with administration, coding, communication and interpreter protocols. Since three of the four initial cases found it challenging to complete the MCAST, the researcher decided to develop a concrete and visual version of the vignettes, which led to the DCAST (Deaf Child Attachment Story Task).

The DCAST had the advantage of being flexible in that it allowed the child different ways of responding to a distressing event. The responses could be constructed using pictorial examples, by pointing at them only; or choosing the pictures, but adding non-verbal or verbal details; or not choosing any pictures, and creating their own responses. Seeing examples of response pictures, allowed the child to 'realise' what sort of responses the researcher was looking for; following this, and depending on their ability, they could create their own responses. The researcher has included selected examples of the coding and transcript for one vignette from four participants in Appendices 5.1 to 5.4.

In the next phase of the study, the researcher administered the new DCAST procedure to the original children and 14 new participants. The researcher developed criteria on how to determine whether to administer the MCAST-DC or the DCAST, as this was not always predictable. In some cases, the researcher concluded that the child could attempt the MCAST-DC dollhouse procedure, but sometimes it was too difficult or overwhelming to complete. In one case, the child would not stop talking about the same story stem over and over again, and then repeated this behaviour in the next story stem. Administering the DCAST enabled this child to give more structured responses by using pictures; consequently he appeared more confident with his answers. Using an inappropriate instrument could have been resulted in the child being perceived as having a disorganised/chaotic attachment style or not having the cognitive ability to narrate a story stem with props. Few of the subjects were able to complete the MCAST-DC procedure, and only one child was able to narrate and move the dolls and furniture at the same time, which was the original aim. This child was linguistically competent and produced vivid and detailed responses, that were of a bizarre nature (for example, moving away from home and building her own house away from mummy), which followed the pattern of disorganised and chaotic attachment.

Some children communicated differently in the absence of their parents when performing the attachment assessment. One illustrative example was a child who was very quiet in his home environment, with his mother communicating to him in basic sign language. As soon as he saw the pictorial props (when separated from his mother) for the attachment measure, he was excited and immediately started communicating fluently, and demonstrated several non-verbal behaviours. This child thoroughly enjoyed the tasks, even though the researcher had anticipated the opposite based on his behaviour at home.

# 7.4.5 Coding the attachment data

Some participants could not complete all the vignettes of the MCAST-DC or DCAST assessment, for which the researcher produced a general coding for two or more of the four vignettes. This was due to several factors, such as the child becoming tired, not engaging in the task, or not listening to the researcher.

When observing the attachment assessments on videotape, there was a vast difference in the non-verbal behaviours of the signing and non-signing children. This could be due sign language including the use of facial expressions to convey meanings of the signs (Grossman & Kegl, 2007). The researcher followed the MCAST and adapted its coding procedures to try to code the data accurately, for both groups of children. When there was more verbal data produced, by both groups of children, it was easier to conclude an attachment coding. In contrast, it was more challenging when there was limited verbal output, with an absence of non-verbal behaviour to complement the words. It proved to be a lot easier to code children who either used more non-verbal behaviours, such as smiling or nodding when they were speaking or signing, as these would either contradict or reinforce

the child's choices in the DCAST assessment. For example, situations where the child crossed their arms or had a sad expression whilst choosing 'happy' for the teddy in the emotion prompts; or where the child was smiling and nodding to choose a response picture of the mother giving the child a hug.

It would be interesting to explore further whether the level of non-verbal behaviours used by deaf children is associated with their attachment strategies. This is because previous research in deaf mother-deaf children interaction has found deaf mothers using more nonverbal communication techniques with their deaf child than hearing mothers (Loots & Devise, 2003), which might indicate that they are more sensitive to their child's communication needs. The child could consequently learn these non-verbal cues to communicate more richly in their interactions with their mothers and others.

In chapter one, the researcher discussed selected research in disabled children and attachment, where the ratings of secure versus insecure were similar to that of non-disabled children. This supports the meta-analysis by Van Ijzendoorn et al. (1992) where they reported that sensitive mothers would compensate for their child's disability, consequently producing secure ratings that reflect those for normal children. However, the distribution of the attachment codings in the study was 50% for secure and insecure ratings. This did not reflect Ainsworth et al.'s (1978) finding of two thirds secure, but was more similar to Lederberg and Mobley's (1990) rate of 56% secure. Insecure children included those who

were assigned a disorganised coding which, as discussed in chapter two, may be at a higher risk of developing mental health problems (Green & Goldwyn, 2002; Van Eldik et al., 2004). To complicate matters further, Meadow et al. (1984) found that the distribution of attachment ratings in deaf children of deaf mothers was similar to that expected for normal populations (two thirds secure), whereas a recent study (Koester & Meadow-Orlans, 2004) found much lower ratings of secure in deaf children of deaf mothers and hearing children of deaf mothers. Therefore, given the discrepancies in previous studies of deaf children and attachment, and the findings in this study, it cannot be established whether the finding of 50% secure is representative of the deaf population.

# 7.4.6 Quantitative and qualitative findings

The statistical analysis was constrained by the sample size, as there was not enough statistical power for some tests. For this reason, the key variables that could potentially be associated with attachment ratings were selected. In order to maximise statistical power, many of the categorical variables were recoded and dichotomised, before being entered in the analysis (chi square tests, Pallant, 2007). As a number of variables were inter-related (such as "is your child always confident?", "is your child always outgoing?", "is your child easily upset?"), it is possible that they may have been found to act as confounders, if it had been possible to set up a multiple regression model.

Qualitative data was collected from the interviews to complement the quantitative data from the questionnaires. For this reason, a thematic approach (Boyatzis, 1998) was adopted to analyse the qualitative data, rather than an extensive analytical approach such as 'grounded theory' (Glaser & Strauss, 1967). During the analysis of the qualitative data, the researcher found it difficult to establish recurring themes, which was possibly related to the heterogeneous nature of this population (Marschark, 1993; Gilman et al., 2004). These parents had experienced different levels of support from professionals in the audiology, educational and social domains, which often led them to focus on particular topics. For example, two parents were both shocked at their child's diagnosis, but for very different reasons. One parent knew nothing about deafness, while the other had been informed by a genetic specialist that she would not have a deaf child. When themes were identified, the researcher selected the quotes that described the parents' views and presented them in the context of previous research on factors that can mediate the child's development of attachment. Although this thematic approach provided the identification of common themes, a more in-depth analysis might have captured other useful data, for instance where a couple of parents had spoken rather pessimistically about their child's future.

After the quantitative and qualitative data had been analysed, the researcher integrated both sets of data, using a mixed methods approach (Creswell, 2003). The researcher thus established partial support for the variables that were significantly associated with the attachment categories, using themes emerging in the qualitative analysis. For example,

families who reported in the questionnaire that their child's behaviour had an effect on their family life (quantitative) were significantly more likely to present with insecure attachment (quantitative); the researcher subsequently identified interview quotes (qualitative), where parents of insecure children discussed how their child's behaviour was 'awful' or 'their child had behaviour problems'.

The researcher would have liked to conduct a more in-depth interview, focusing on the ten variables that were found to have a significant correlation with the attachment category. In future research, this could be explored, initially through a more detailed quality of life questionnaire and an attachment test, followed by an intensive interview with questions based on the findings arising from the statistical tests. This approach could potentially produce a rich source of data, highlighting possible indicators in the child's family and home life that might mediate the development of their attachment.

# 7.4.7 Other measures used in the study

The researcher used three other measures, the Language Proficiency Profile (LPP, Bebko & McKinnon, 1993), the non-verbal scale of the Kaufman assessment battery scale K-ABC, and the Quality of Family Life Questionnaire (QoFL, Hind & Davis, 1998). The researcher chose to use the LPP, as this could be completed by parents of children who used either sign language or speech. The deaf children's scores were compared with average scores obtained for hearing children of the same chronological age.

The researcher was aware of other instruments that could have measured specific aspects of the child's development, such as emotional wellbeing and theory of mind ability. Although additional measures might have provided further understanding of the participants' ability to perform attachment assessments, these were considered beyond the remit of the thesis. Despite this, one particular variable the researcher would have liked to measure was the quality of emotional and maternal communication in the child-mother dyad, as this has been found to affect the child's development of language (Harris et al., 2005) and attachment (Lederberg & Prezbindowski, 2000).

Using the non-verbal scale of the K-ABC was not completely successful, mainly because of the location and time it was administered. Many of the participants had to perform the scale after a full day at school and in their home, when their siblings and parents were around. The non-verbal scale consisted of several subtests, and the scoring manual stated that a score could not be obtained if more than two subtests had not been completed. Unfortunately, because of the environmental factors, this was the case for a few of the participants. Meeting the child at school or at home during the day, with a simpler non-verbal intelligence test that could be completed in less than ten minutes, would probably have been more suitable. The researcher was aware that even though the K-ABC had been validated on deaf children, some researchers argue that most cognitive assessments rely too much on language. This means that an instrument may be measuring language rather than

cognitive skills (Krivitski et al., 2004). The QoFL was extensive in the questions it contained, and this allowed the researcher to compare several variables for their associations with attachment patterns. It would have been useful if the QoFL had included more questions on mother-child communication and interaction.

# 7.4.8 Interpreter's role in the research

Some of the children's style of communication required an interpreter's presence. Children did not seem to perceive this as a problem; however, the researcher noticed that the measures took a little longer to complete. Although it was difficult at times to control the interpreter's contribution, the researcher wanted the child to feel comfortable with the interpreter. Firstly, because many deaf children had never met an 'interpreter' before, therefore did not understand what their role was. Secondly, because this facilitated the assessment and collection of reliable data, by making the child feel at ease throughout this process. In one case, a child started talking about her mother's boyfriend and how he made her laugh; the interpreter, rather impulsively, asked her, "Do you like him?" The researcher immediately intervened and prompted the interpreter to re-focus on the assessment. This event has been experienced in situations such as therapy, where the interpreter, supposedly following a code of ethics, has overstepped their boundaries or chosen to use an alternative word or sign because they were 'uncomfortable' with the one used by the therapist (Cornes & Napier, 2005). Such situations are difficult to control, in addition to how the interpreter may translate what the child or the researcher says.

The researcher preferred to use trainee or fully qualified BSL interpreters, as suggested in the interpreter protocol, but it was not always possible to locate one of these who was available, as they are in short supply (Woodcock et al. 2007). This meant that the researcher had to use the best available interpreter, who was given a copy of the research proposal in order to understand and appreciate the meaning of the research, what the researcher expected from them, and their role as defined in the Interpreter Protocol (Appendix 4.21). As the attachment assessment and parental interviews had potential for distressing the child and parents, the interpreter had to conduct themselves in a professional manner. The researcher established that each BSL interpreter was a registered member of the CACDP, and therefore followed their 'Code of Ethics' (Appendix 3.11) and 'Guidelines for Professional Practice' (Appendix 3.10).

However, the researcher, despite significant experience of working with interpreters, still encountered difficulties. Interpreters do not all translate BSL or English into each language in the exact same way, even omitting different words or signs (Napier & Barker, 2007), as the nature of BSL does not allow transliteration (Sutton-Spence & Woll, 1999). The researcher, when using an interpreter in meetings with other adults, often lipreads the interpreter to ensure the interpreter is translating her BSL output correctly. This is especially relevant if she is not acquainted with the interpreter or they are not fully qualified. However, when using interpreters during the administration of the attachment instrument to deaf children who required spoken English, it was difficult for the researcher to lipread the interpreter. This was because the child's welfare was of primary concern and she had to monitor the child for verbal and non-verbal cues in order to reciprocate with appropriate questions and actions. On reviewing some videotapes of the attachment assessment, a fully qualified interpreter informed the researcher that the interpreter used for the assessment had incorrectly translated her BSL or the child's English. By incorrect translation, the interpreter had missed key words or main definitions, which changed the meaning of the sentence expressed by the researcher or the child. Ideally, there should have been two interpreters working in the attachment assessment, but it would not have been comfortable or ethical for the child to have to perform potentially distressing tasks with three adults observing them. An alternative option was to administer the attachment assessment again to the same child, but with a different and more suitably qualified interpreter, but this would have been detrimental to the child and to the quality of the data collected.

## 7.4.9 Ethical issues

Due to some professionals viewing deafness according to the medical model (Dalzell et al., 2007), parents might feel that they have to also adopt those views (Hintermair & Albertini, 2005). As the researcher is culturally Deaf and views deaf people through the socio-cultural model (refer to chapter two for definitions), she was aware of this potential discrepancy. During the interviews, some parents did express their concern that their child could not

speak properly, and therefore could 'not communicate'. The researcher felt compelled to remind the parents that their child was completely capable of communicating in sign language, and should not be reprimanded for not being able to speak well. The researcher was prepared for the fact that some parents of deaf children may have never met deaf adults before (Stern et al., 2002), which proved to be correct on several occasions. When it appeared that the parents had limited knowledge or support, the researcher offered suggestions for local contacts, such as charities that specialised in helping parents with deaf children, or local deaf centres.

Although the researcher was aware of the importance of confidentiality, due to the small numbers of the deaf population, she did not anticipate that her own cultural status as a member of the Deaf community could affect how Deaf parents reacted to her during the research. When the researcher met Deaf parents who participated in the study, who clearly belonged to the same community as her, she wished to remain impartial and not influence the answers from the parents. In one interview with a Deaf mother, the researcher asked about the child's education, but the mother looked uncomfortable and was hesitant in replying. As the researcher was culturally Deaf, the mother looked worried about offending the researcher. The researcher did not want her own cultural status to influence the mother's response (Jones, 2004), so she encouraged her instead to be honest. The Deaf mother stated that she wanted her child to go to an oral instead of a deaf signing school, which may be viewed as going 'against' the Deaf culture. The researcher took care to show

that the mother's personal views were respected and not judged negatively by the researcher. In other situations, cross-cultural elements arose where the hearing parents (who belong to mainstream society) expressed that they wanted their child to speak like other hearing children. These parents did not view being deaf through the socio-cultural model, which runs contrary to the cultural beliefs of the researcher. This highlighted a common issue of 'cross-cultural' research (Pollard, 1992), where the participants' cultural beliefs may differ from the researcher's.

Due to deaf children's difficulties in accessing mental health services (Greco et al., 2008), one mother stated that she was depressed and believed that her child was suffering from mental health problems. This mother became extremely emotional during the semi-structured interview; in this case, the researcher made an ethical decision (Drury et al., 2007) to slightly overstep her boundaries as a researcher. This was because the researcher could not stop the interview and leave the mother in distress, as this had arisen during the interview and following questions such as "how did you cope with the diagnosis?" The researcher tried to reassure the mother that she could receive professional help from specialists in deaf mental health and, when she calmed down, the researcher gave her information on how to contact the nearest deaf mental health service. As the researcher had provided the mother with the information, it was now up to her to take the next step of contacting the deaf mental health service. To respect the mother's privacy, the researcher

did not contact her again to enquire about her or her daughter's welfare. The researcher subsequently discussed what had happened with her supervisor.

# 7.5 Reflective: thoughts on the thesis

The researcher will discuss her insight into the process of conducting the study, from both a personal and researcher perspective, how this process and her experiences may have shaped the research, and what she should take into consideration when she conducts further research. As acknowledgement of the personal focus of this section, she will now use the first person rather than third person in describing her experiences and reactions.

# 7.5.1 My experience as a deaf person and how it helped me in formulating, planning and processing the study

It was interesting for me as a Deaf person to read research published mostly by hearing people who discussed deaf children as a collective and homogeneous group, rather than as individuals who are shaped by and shape the world in their own way. This made me realise the need to remain as objective as possible. There are always several and often conflicting perspectives on the same issue when diverse cultures are involved (such as race, religion or sexuality, and disability). A concept such as 'disability' that might be perceived as offensive by one person, might have a different connotation for somebody else within the same group. For example, out of two people with a hearing loss, one may prefer to be described as 'hearing impaired', whilst such a label is offensive to the other person, who proudly calls themselves 'Deaf'.

As a Deaf researcher I felt empathic when approaching the deaf child as a complete being, and had a sense of understanding what they have to go through, growing up in a hearing world. As LaBarre wrote, "A fluent therapist who knows the culture is rare, but so necessary for healing and equal communication to occur." (1998, p.324). In contrast, 'equal communication' did not occur with the deaf children who could not sign, where I had to employ an interpreter. The flow of communication was interrupted even more, when the child could not speak clearly, or lipread the interpreter or myself with difficulty.

With regard to all deaf children, I could not help but feel that they are perfect and only imperfect in the eyes of hearing professionals, who in turn make them imperfect to deal with the hearing world. By this, I mean denying deaf children and their parents the right to learn sign language, potentially making children feel ashamed when they cannot 'speak well' (as witnessed in the study). It seems unethical to me as a Deaf person that this practice continues, and appears likely to continue for a long time. This is an important issue for the very core of attachment development, because a child should be allowed to learn to communicate whichever way they can, facilitating a healthy attachment and a stronger relationship with their mother, as their communication brings them closer to each other (Cambria, 2002). It is absolutely crucial that parents are given full and unbiased

information (Lane, 2005) about communication modalities and how best to communicate with their child. As discussed in chapter two, many deaf children after 'failing to learn' speech are 'allowed' to learn sign language where the impact on their linguistic development is already there (Musselman et al., 1996). In fact, teaching a deaf child sign language will enable them to learn reading, writing and speech (Wilbur 2000) as this is a medium through which they can communicate naturally. Unfortunately many parents are misinformed that sign language will prevent speech development for which Wilbur (2000) states there is no supporting evidence.

Having said that, it is possible for deaf children who use speech to communicate and have fulfilling relationships with their families, as long as they are provided with a secure family environment and not made to feel inferior when they cannot understand what is being communicated (Wallis et al., 2004). This was demonstrated to the extreme in one case study when the child would hide under the table if she could not understand her own mother. This made me very sad, but, being present in a researcher capacity, I could not intervene. However, when the mother later asked me during the parental interview whether her child should learn sign language, I replied that all deaf children should have access to all methods of communication to maximise their potential to communicate. This child, amongst others in the study, was 'severely deaf', a group that has been identified as being at heightened risk for developing mental health problems (Fellinger et al., 2008). As these children have some residual hearing, they are often not permitted to learn sign language,

therefore they do not feel part of either the Deaf community or the hearing world, because they cannot sign, speak or hear well enough to join in fully. Unfortunately, even when deaf children have access to and prefer sign language to communicate, not all parents have sufficiently proficient skills to reciprocate in sign language (Fellinger et al., 2008).

On an even more personal note, I could relate to one mother describing her child's speech as being worse than that of another child, who apparently had 'worse hearing' than hers. Throughout my childhood, whenever it was mentioned that I was born hearing and became deaf after I learnt to speak (post-lingual), I was always scolded for my 'speech'. The comments included: "Your speech should be better", or "Why can you not speak well?" and these comments were uttered by those same people that were supposed to 'support' me. Such statements and judgements never ceased to make me feel inferior. In contrast, I have never experienced such views within the Deaf community, where I had always felt accepted just as I am.

It was also interesting to observe one child's behaviour change from his natural home setting to the research venue of the attachment assessment. Although he had been quiet at home, once he was alone with me at the local deaf centre, he became very excited and signed fluently, using a lot of facial expressions to convey what he could not in sign. The child's mother had a limited level of sign language and would not have been able to understand the child as well as I could. This observation reminded me of the study by Wallis et al. (2004), where a mismatch in the mother and child's communication was a potential risk indicator for child mental health problems. In addition, the difference in sign language skills could affect the quality of interaction between the parents and their child, and consequently the development of attachment (Lederberg & Prezbindowski, 2000).

# 7.5.2 How I have developed as a researcher

Over the years, I have learnt not to take situations at face value, and this includes trying to apply theoretical frameworks in the context of real life. One such theory is that sensitive mothers should be able to overcome their child's disability (Van Ijzendoorn et al., 1992; Vaccari & Marschark, 1997). I would question how a sensitive mother, who has received minimal support and information from professionals, can develop a bond and a meaningful interactive relationship with her deaf child in the absence of knowledge of how to communicate with her child.

During the research, I was fortunate to become the mother of two young children. I felt defensive when I had the personal experience of an audiologist coming within 24 hours of my giving birth to do a hearing test (as part of the newborn hearing screening programme). This was because, even though I am a Deaf person and would not have a problem with my newborn being diagnosed deaf, I was worried about how she would be treated by people. Other Deaf parents have refused the hearing test because they also did not see the benefit of it, whether their child was deaf or hearing (Stein et al., 1999). I did not want the
relationship with my newborn to be spoilt by professionals saying "Sorry, your baby is hearing impaired. What are you going to do about it? Do you want a cochlear implant?" This experience made me feel even more sympathetic towards the hearing mothers who were unnecessarily traumatised by their baby having 'failed' the first hearing test at less than two days old, when they should instead be enjoying the time with their newborn and developing their maternal bond. This is compounded by the fact that the diagnosis would not be clarified until a few months later.

Working with both deaf and hearing people has made me more aware of how my language and mannerisms can affect them differently. Due to the information some deaf children and their hearing parents are given about sign language and how 'bad' it is for their child's speech, it sometimes felt during the research as if I had to prove to them that I did not have special needs or that I was able to write English relatively fluently. This was obvious from the way the parents questioned me off the record before the formal parental interviews commenced. They asked me how I managed to go to university and how I 'coped'. I have had to learn not to take these questions personally, or to feel offended, but to understand why and how the parents' preconceptions arise. Sometimes I felt sorry instead, that they had to think like that.

In one case, I felt a little cross with a mother who, despite her son's high non-verbal intelligence and BSL skills, was quite focused on the fact that he could not speak, and was

preoccupied with him not being given a cochlear implant. During the interview, I had commented to the mother that the child should 'best be left alone' regarding the cochlear implant issue. This was overstepping the boundaries of my role as researcher. Such situations, especially during parental interviews were quite difficult, as parents would often directly ask for my views; it became apparent that they felt they did not have sufficient contact with professionals to have time to discuss their concerns.

I noticed that, as my research progressed, I leant towards wanting to understand more about real-world research, rather than theoretical-based views. In my study, I have tried to adhere to conducting and making decisions on evidence-based research, but with a balance of meeting the needs of the individual child (Gravel & O'Gara, 2003). For example, developing an administration procedure to meet the needs of each child and allowing for a flexible approach, rather than following a rigid administration procedure and doing exactly the same for each child. Sutherland and Young (2007) wrote:

To achieve a deaf-centred approach it was essential to look at the children's linguistic and cultural needs individually, and ensure these could be met as closely as possible to enable them to express their inner thoughts and feelings without inhibition. (2007, p.199)

This led me to becoming more analytical and critical about which steps to follow when conducting the research, such as which approach to adopt when interviewing parents, or which types of analysis to use in my statistical tests. I enjoyed learning how to perform the statistical tests, as they gave me an immediate response to my questions, whereas with the qualitative analysis, it was more complicated and the answers could be interpreted in many ways.

## 7.5.3 Being a 'Deaf' researcher in a hearing environment

As I use BSL as my preferred language, there were some instances where even when funding could be accessed for training, the cost of an interpreter was too high. This is another experience that is common with deaf researchers (Woodcock et al., 2007). Consequently, my research was affected somewhat, but I did the best I could with the resources to which I had access.

One frequent experience has been other academics asking me about being 'Deaf' or sign language, rather than about my research, which has been reported by other deaf academics (Woodcock et al., 2007). However, in supervision I was fortunate enough to be treated as 'normal', which was important to me (Foster & Macleod, 2004), and I felt that my experiences and views as a Deaf person and researcher were taken seriously. One thing I often worried about was my writing style, as English is my second language, and I was concerned how other hearing academics perceived the way I write, perhaps as lacking in terms of vocabulary and grammar. Fortunately, my supervisor and BSL interpreters were able to provide support in producing grammatical, clear, academic writing. I had taken maternal leave from the thesis for about two years. It might have influenced my perspective on the research. With my extensive knowledge of attachment theory and parenting styles, it made me cautious of my own behaviour as a mother! For example, since the birth of both my children, being up frequently during the night and attending to a newborn's need 24 hours a day, suffering from mastitis, recovering from an emergency caesarean (for both babies!), whilst remaining 'sensitive' and putting the child's needs first is nothing short of a miracle! It seems to me that, when researchers want to assess parenting behaviour, they should aim to do so on more than one occasion, because on some days, even I wanted to say, "Stop crying, I have a headache!"

The office where I was based consisted of hearing staff and, when there was no interpreter present, I often felt left out. At lunchtime, the other staff would get together and chat. I cannot communicate with more than two hearing people at most, as I have to rely on lipreading. For me to join, and eat my lunch, while attempting to lipread three or four others would be difficult, therefore I tended to avoid these situations. Unfortunately, I may have appeared to be 'unsocial' or shy, which I am not, and would have interacted differently had they known sign language or an interpreter been present. Therefore, my interactions with other staff were limited to research forums or seminars, which meant they and I did not learn much about each other's lives outside of work.

### 7.6 Recommendations: future research

It is important that further research establishes the construct validity of an attachment instrument for use with deaf children, due to the limited availability of previous evidence. This study confirmed that a pictorial method is potentially viable in eliciting reliable information about deaf children's attachment patterns. This is for children who both speak and sign, and also for those whose communication skills may not match their mental age (for example, Lundy, 2002). In order for an attachment instrument to be validated, it is worth considering what the researcher found in the quantitative and qualitative analysis. The findings, though an elementary step in researching deaf children and attachment, were significant in understanding this area.

Firstly, the study demonstrated that deaf children can give information on their attachment representation, provided they are given the means to do so in a context that has been tailored to their needs. The next step from this should be to improve the DCAST further and to establish its psychometric properties and empirical links with other well-established attachment measures like the Strange Situation Test (Ainsworth et al., 1978; Cassidy, et al., 1992). As already mentioned, a combination of attachment assessments would strengthen the final coding (Bretherton, 1995). It might be beneficial to administer the Adult Attachment Interview (AAI, George et al., 1985) in collaboration with the child attachment instruments, as some studies have suggested that the caregiver should be 'sensitive' enough either to adapt to their child's needs (Bowlby, 1982) or adapt their communication to meet

the child's level of skill (Vaccari & Marschark, 1997). As previously reported in the qualitative study, one mother who had not received support on communicating with her child said, "I decided to try and work out how to communicate with my child because he was becoming frustrated (Child 6)". What enabled this mother to be sensitive enough to realise that her child was becoming frustrated, and to have the confidence to take it upon herself to learn how to help him? The AAI could establish whether there was any correlation between the parents's pattern of attachment in how they adapt to their child's diagnosis, how they tailor their caregiving to meet their child's needs and ultimately, the child's own development of attachment. This would be interesting to explore in the light of Van Ijzendoorn's findings (1995) of a concordance of 75% to 80% of the mother and child having the same style of attachment security. In contrast, Leigh et al. (2004) found much lower paired attachment classifications for deaf mothers of deaf and hearing children than for hearing mothers of hearing children. It would thus be interesting to explore this further and find out the reasons why this was the case, as these authors could only speculate that it was the cultural differences of Deaf mothers that affected the transmission of their attachment status to their child. However in the same study, they used the Strange Situation test and these authors commented that it might have been less than ideal for use with deaf children.

Secondly, the findings from the quantitative results provided some support for the DCAST codings. In future research, it would be essential to understand more about which variables

are associated with secure attachment, in order to strengthen the construct validity of the instrument. Briefly, the four strongest associations from the Quality of Family Life questionnaire (QoFL) will be discussed in the context of previous research. The first variable was the 'family life being affected by the child's communication', which could be related to the parents' attitude to deafness and the child's attachment development; communication competence and attachment; and communication between parent and child (Greenberg & Marvin, 1979; Hadadian 1995; Lederberg & Prezbindowski, 2000). The second variable was the child becoming easily upset, which has been associated with insecure attachment (Denham 1994); and in deaf children, delayed emotional competence (Terwogt & Rieffe, 2004). The third and fourth variables described similar concepts, i.e. 'Is the child always outgoing and confident?' These concepts have been repeatedly found in deaf child research to be associated with, for example, bicultural identity (Preisler et al., 2005); high self-esteem (Bat-Chava, 2000); and secure attachment (Jacobsen et al., 1994).

Once the predictive validity of selected variables is established, these could facilitate the calculation of the construct validity of new or existing attachment assessments, to identify which are more reliable for use with deaf children. A significant variable that could be researched further is the quality and effectiveness of communication between the mother and child, as this has been repeatedly found to contribute towards secure attachment (Klann-Delius & Hofmeister, 1997; Hindley, 1999) and successful development in all other domains (Marschark, 2007). Klann-Delius and Hofmeister (1997) found that hearing

children with secure attachment were more adept at coping with difficult situations using communicative skills. The importance of communication between mother and child has also been identified in studies on theory of mind in deaf children (Moeller & Schick, 2006), where theory of mind skills were higher in children whose mothers talked with them about perspectives, thoughts and actions (mental states) in others or themselves. Although this might not have a direct association with attachment security (Ontai & Thompson, 2008), it could be a prerequisite skill for deaf children to perform an attachment assessment during which they are expected to describe others' states of mind. This cognitive skill may also mediate whether the child reaches the IV stage of development of attachment (Ainsworth, 1973), where the child is able to anticipate consequences of certain behaviours and understand other people's views in respect to getting their distress assuaged. It was found that this stage was achieved by deaf children of higher communication competence (Greenberg & Marvin, 1979).

Another instrument that would have enhanced the understanding of mechanisms involved was the Reaction to Diagnosis Interview (RDI) by Pianta and Marvin (1992a & 1992b), as discussed in chapters one and two. The researcher was unable to receive funding to complete the training, and this was not included because of overall constraints on the number of instruments and the timescale of the study. Briefly, the RDI measures the parents' level of resolution following the diagnosis. It includes questions on whether the parents have come to terms with the diagnosis, whether they have accepted it and

understood the implications realistically, and whether they are still 'seeking' for an explanation for the cause of the diagnosis (Pianta et al., 1996). As discussed in chapter two, Barnett et al. (2006) found a significant relationship between level of resolution and quality of attachment. This may be a useful measure for longitudinal studies that seek to explain the underpinning mechanisms of attachment development in deaf children, in order to inform future interventions. A recent study found a relation between mother's sensitivity during play and their resolution of the diagnosis (Oppenheim et al., 2007), suggesting that the more the mother had resolved diagnostic and related issues, the more sensitive she was towards her child.

The impact of practice and service issues on parents' perceptions, knowledge and interaction with their child, has often been reported in a negative light (Gregory, 1995; Robinshaw & Evans, 2001; Eleweke et al., 2008). This includes the recent newborn hearing screening programme (Tattersall & Young, 2006), where professionals were found to be insensitive towards parents in the delivery of diagnosis. An investigation could be conducted to establish the level of provision and intervention experienced, starting with the newborn screening and continuing with audiological, educational and social services, to find out how they impact on the mothers' coping strategies and ability to adjust to their deaf child. Research studies have consistently found that the level of support mediates how parents come to terms with their child's diagnosis (Greenberg, 1983; Hintermair, 2006;

Marschark, 2007), so this may be a worthwhile area of study with regard to the development of attachment in deaf children.

At the time of the completion of the study, there will be more children having cochlear implants (Swanwick & Tsverik, 2007). Although there has been no study as yet on the effects of having a cochlear implant on attachment development in deaf children, there may well arise the need for one. This is not because of the cochlear implant itself, but because of the implications and interventions of the cochlear implant teams. Some authors suspect parents are 'misled' (Lane, 2005) by the success of cochlear implants and hope for normalisation of their deaf child (Lane, 2005). By normalisation, this is to make the deaf child 'like' a hearing child, in that they can communicate by speech and using their hearing. The researcher wonders, if the parent has not fully resolved the trauma of the diagnosis and 'jumps' at the chance for their child to have a cochlear implant, how would this affect the child's development of attachment if the child is not successfully normalised? Secondly, if parents agree to an implant, does this increase their opportunities for interventions from services compared to those who do not, thus indirectly improving the parent-child relationship? Thirdly, if the child is not happy with the implant (Watson & Gregory, 2005), do they receive psychological support if they are traumatised by the 'failed' attempt to become hearing? This is a concern, as studies have already shown that it is usually difficult for deaf children to access mental health services (McClelland et al., 2001). As already mentioned in chapter two, the parents' lack of knowledge of deaf culture (Knight & Swanwick, 1999) may make them resistant to exploring a deaf identity for their child, because the child has an implant and therefore should be part of the hearing world. Children who do not develop intelligible speech, might consequently become marginalised (Fellinger et al., 2008), especially if they have not been taught sign language and therefore struggle to become members of the Deaf community.

In addition to measuring the parents' resolution of the diagnosis and their attachment style, it may be worthwhile measuring their level of stress, as this has been found to impact on the development of secure attachment in hearing children (for example, Jarvis & Creasy, 1991). These authors explain that, due to the stress experienced by the parents, they may be 'psychologically separated' from their child (Jarvis & Creasy, 1991, p.384). In the context of research on parental stress and deaf children, many studies have identified that parents of deaf children do experience higher stress than those with hearing children (Asberg et al., 2008), particularly when they perceive that they are receiving inadequate support.

A summary of the suggested variables and measures for future research is presented in the diagram below:

Diagram 7.1 Suggestions for future research: research framework in deaf children and attachment



## 7.6.1 Methodological implications for future research

A crucial issue for the generation of valid data from future assessments of deaf children is that a fully qualified BSL interpreter is employed. Due to the researcher's experience of interpreters making different translations or not following their code of ethics, ideally two interpreters should be employed, so that they can monitor and verify each other's translations and support each other to maintain their professional boundaries. This is especially important where the researcher or the parents are hearing. It would be most practical if the interpreters were booked at the beginning of the research for the length of the study, so that consistency is maintained as much as possible, thus reducing external effects on the quality of the data. Even if the researcher is deaf and working with a deaf child who uses BSL, the child's own vocabulary and grammar may be different to that of the researcher, or of a different style. For example, if they learnt BSL late after an unsuccessful placement in an oral school, the BSL interpreter and the researcher can work together towards the best approach to communicating with the child. When a BSL interpreter transcribes interviews by hearing parents or deaf children who use speech, or they transcribe a deaf child's BSL output, then a second BSL interpreter should ideally verify the translations.

Prior to the administration of any assessments, the researcher and interpreter should observe the deaf children, whether they use speech or sign, in informal play. This is so that the interpreter and researcher can 'tune-in' (Roberts, personal correspondence, 2007) to what and how the child communicates. Through this process, the child's regional<sup>7</sup> variations of signs, their speech and the way they interact can be observed, and the researcher can make notes to consider what methods to employ in the administration of an attachment or other assessment. It may also be beneficial for the child to familiarise themselves with the researcher and interpreter. Looking back, the researcher had a case where the child was fluent in both BSL and speech, but during the attachment assessment, she would not sign and would not use her voice, instead she was silently mouthing her answers. This was a child that had performed very highly on the non-verbal intelligence test. It may have been that the child was shy in talking about emotional themes, or that she was inhibited during the assessment, for example because of the location, as she completed the attachment assessment in school. The latter indicates that the completion of an assessment across two settings would minimise the possibility of situation-specific ratings or other artefacts involved.

As the difficulties in obtaining a representative sample have been documented, this could be improved in future through the establishment of direct contacts with services such as the

<sup>&</sup>lt;sup>7</sup> Regional=regional variation of BSL signs - different way of signing the same word (Sutton-Spence & Woll, 1999).

local paediatric audiology department. This would involve receiving ethics approval to obtain a list of all the children registered with the department for the specific age group, and sending initial information letters to all the families. This would prevent local educational authorities from selective inclusion and exclusion of children for organisational and policy-related reasons. A limitation of this approach would inevitably be that, as more deaf children have physical or mental disabilities, there may be a high number of children not fitting the criteria adopted for the study (i.e. having deafness but with no additional disabilities). Despite this, it is a fact that a high number of the deaf child population have additional disabilities (Knoors & Vervloed, 2003), and therefore it may become necessary to include these groups in future research because such co-morbidity places them at higher risk for mental health problems (Howe, 2006). As already discussed in the literature review, mental health problems have been associated with insecure and disorganised attachment.

Future research in deaf children and attachment should include deaf parents of deaf children (Meadow et al., 1983), due to the possible effects of their inherent knowledge of deafness (for example, communication, Loots & Devise, 2003). However, due to deaf children's higher risk for developing mental health problems (Hindley & Kitson, 2000) and accessing mental health services (Vernon & Leight, 2007), there is also a higher chance that that some of the deaf parents could have pre-existing mental health difficulties. It may be ideal to include an instrument to measure the parents' mental health. This could be

especially relevant to deaf adults who may not have had the chance to develop a full Deaf identity and do not feel they belong to either the Deaf community or hearing community (Valentine & Skelton, 2007a). Deaf adults who do not feel confident in themselves as a deaf person might consequently not feel confident in knowing how to parent a deaf child.

In the methods chapter (chapter three), the researcher highlighted approaches to transcription of child sign language, called 'glossing' and 'dynamic space transcription' (Sutton-Spence & Woll, 1999; Morgan, 2003). These approaches were not adopted for the study. However, it may be ideal to adopt something similar to this in future research, because if there is limited sign output by the deaf child, then it may become necessary to meticulously record what sparse data are available. At present, the researcher has not found any standardised system of recording non-verbal behaviour that would be also useful in addition to recording sign language or speech. This could be even more relevant and important for deaf children who do not use sign language, especially those with limited verbal skills.

As discussed earlier in the reflexive section on being a Deaf researcher, the researcher noted differences between her own and the participants' cultural characteristics. Such cross-cultural issues raise ethical considerations in relation to the participants' backgrounds, beliefs, education, language, and social norms (Pollard, 1992). This could give rise to the need for an ethical cultural framework that takes into account the ethics of carrying out

research in a cross-cultural context. Although the researcher was aware that she had to conduct her study within the ethical parameters of the research, it was inevitable that these were occasionally overstepped. The researcher had also developed a complementary communication and an interpreter protocol to guide the assessment and administration of attachment instruments, but did not include ethical considerations for cross-cultural research. In order for future research fully to ensure that the 'ethical responsibility' (Pollard, 1992) takes into account different cultures and how these affect the data or the assessments, an ethical cultural framework should be implemented. This framework would inform the researcher of what aspects to consider relating to the cultural context of the participants under investigation, with respect to the integrity of their beliefs and their language. This would prevent any unethical conduct that could harm their community or put them at a disadvantage for being of a different culture to the researcher.

A final consideration would be that for future research on attachment development in deaf children, at least one of the primary researchers should be "familiar with the needs and characteristics of deaf children" (Koester & Meadow-Orlans, 2004, p.142).

#### 7.6.2 Implications for attachment assessments in future research

The researcher met other students and trainers of the Manchester Child Attachment Story task at seminars and private meetings. These made useful comments on the props and the methods of administration that should be considered for further research, whether the MCAST or any other pictorial version is used. Technical issues concerning whether teddy bears or children are represented in the pictures should be considered, perhaps through an experimental design to explore which version elicits a higher response level. Another colleague suggested including gender-specific versions of the pictures. Where the child was unable to produce any narrative in addition to the pictures, some colleagues suggested that there should be more neutral and exploratory play pictures. The researcher considered these options when developing the first pictures, but was concerned about the large number of pictures from which the child would have to process the information. This could be evaluated in more detail. Also, the coding of disorganised attachment was sometimes quite difficult to determine in a child who did not have substantial linguistic skills in speech or sign. The addition of pictures was suggested again, and these could depict grave events such as a bomb exploding, or a child running away from home to try to represent images of what a child with disorganised attachment would want to convey as their 'response' to a distressing event.

The aspect of cultural sensitivity should also be considered, perhaps having different pictures for children who are culturally Deaf, as opposed to deaf, in order to make them more familiar and relevant to the child's personal experiences. If two versions were developed, then the pictures for Deaf signing children could show explicitly sign language being used and possibly a textphone or flashing lights (deaf alarm system). Another issue of culture or sign language was that one of the story stems, had a 'lost in shopping' theme,

where the child's mother goes off and the child is by himself. One colleague commented that, if a child had low levels of sign language or speech, it would be an even more distressing event for them to have to consider communicating with a stranger, than it may be for a hearing child. According to attachment theory, a sensitive mother should be able to adapt to her child's needs, therefore, in this case, the child should be confident and have been taught how to communicate with 'safe' strangers such as the police, by using a paperpen method<sup>8</sup>. It would be useful, therefore, to do a survey to establish what kind of response deaf children of different modalities would give if they were in such a situation (lost mother in shop) and then an 'expected' sequence of events could be established for this. If it was deemed as an inappropriate vignette for deaf children, then a more appropriate substitute could be installed, for example, being frightened by something they saw on TV.

The study consisted of an all-white sample of deaf children. It is not certain why this was the case. Thus, if the attachment assessment was to be administered to children of different races, it could be relevant to adapt the pictures to represent various ethnic characters, and to

<sup>&</sup>lt;sup>8</sup> Paper-pen method=deaf people use paper and pen to write down what they want to say to people who cannot understand them, if an interpreter is not present or the listener and/or speaker cannot sign.

reflect the child's culture or religion. It may also be necessary to adapt the vignettes or the coding procedures to match ethnic minorities within the Deaf community, such as Deaf black or Chinese children. As mentioned earlier, differences in attachment behaviours have been identified in American and Japanese children (Rothbaum et al., 2007).

Administering an attachment instrument for deaf children should also be studied in comparison with administration to groups of deaf children with developmental disabilities such as autism. It might be assumed that the groups would perform similarly, as no differences in the number of attachment codings were found in hearing autistic children when compared with hearing non-autistic children (Naber et al., 2007). However, deaf children without additional needs, already have challenges in developing communicative competence (as discussed in chapter two and this chapter), which means that, potentially, deaf children with autism could have an even more formidable challenge. Consequently, their attachment codings are likely to be higher in the insecurity category.

Finally, the construct on which the MCAST had been developed was the 'Internal Working Model', as discussed in chapter one. This model suggested by Bowlby (1973 & 1980) may have been relevant for hearing children, but it cannot be assumed to apply to deaf children. Thompson (2000) suggests that for the child to develop and build their internal model of attachment relationships, they require 'shared discourse'. Such an experience may occur less for deaf children, and even in lesser quality, for example, poor, misunderstood

communication, which can frequently occur between deaf children and their hearing mothers (i.e. Becker, 1987; Wallis et al., 2004). In the context of deaf children developing secure attachment and an internal working model, how would a deaf child construct a secure model of attachment if they did not have access to full, rich and open shared discourse as Thompson (2000) suggests? Would this mean a disorganised attachment or does it mean they have a different approach to developing an understanding of their attachment strategy? Further research should focus on exploring how and if deaf children do develop internal working models. It may thus become apparent that a new instrument needs to be created that does not expect an internal working model to exist in deaf children.

#### 7.6.3. Reliability of attachment measures

For future research it is crucial to consider two issues in the testing of reliability for attachments measures for use with deaf children. First, the model of deafness that the researcher works under and secondly, what their skills in 'deaf child' communication development is (for example, British Sign Language or understanding how deaf children pronounce words (as discussed in chapter two). It is important to obtain high coder interrater reliability (Laible, 2004) to ensure the validity of the codings. For this to occur, it would be ideal for the coders to have similar backgrounds, such as similar socio-cultural frameworks and competent knowledge in both attachment theory and deaf children's communication development. Once high rater-reliability was obtained, then further testing

could be conducted between coders who work under different models of deafness and have different skills in sign language (using sign interpreters) or the way deaf children speak.

On application of a validated attachment measure for use in clinical settings, it is worthwhile to consider the approach taken by Shmuli-Goetz et al. (2008) where they used 'naive' coders. These coders had only received three days training on their attachment measure, yet provided high inter-rater reliability. In consideration for coding deaf children's attachment, it would be necessary to establish what level of training was sufficient to provide the coder with accurate and reliable codings. This may be problematic in the context of coding deaf children's attachment categories by such 'naive' coders. As already mentioned, clinicians who may have no prior knowledge of deaf children and the importance of using fully qualified interpreters and correct practice in collecting quality data from deaf children. Even if an attachment measure was found to be validated and have consistent high rater-reliability, the use of this measure may thus be inappropriate in clinical settings without ensuring the coders receive the right training. For instance, as explained in chapter two, inexperienced listeners (McGarr, 1983) may miss words spoken by a deaf child as they are not acquainted with the way deaf children speak. Therefore, for future research it should be established what is required in training for different groups of coders, from those who are proficient in attachment theory to child care professionals who may be skilled in one domain (such as deafness or attachment).

There should also be additional tests on consistency and reliability of attachment coding for over a certain period of time as in the study, the age included a large range of four to eight years. The attachment cycle may be at different stages of stability for each age as it was found that children younger than fourth grade had inconsistent codings in a study by Kerns et al. (2000). Therefore, additional measures should monitor what life changes the child is experiencing at each re-test stage to identify underlying reasons for change of attachment security, if identified.

As discussed earlier in this chapter, some studies have identified differences in attachment behaviour and patterns in cross-cultural studies. It was found by Lopez et al. (2000) that racial/ethnic differences had slight differences in effects on attachment in divorced families. Some deaf children will have be brought up in different cultures besides Deaf community, for instance black or Asian, so it would be useful to ensure reliability of using an attachment measure across different ethnic or racial minorities.

## 7.7 Implications for practice and services

In this section, the researcher will discuss the key findings of the study in the context of improving support and services for deaf children and their parents. The implications will be discussed in relation to different aspects of service provision that are particularly important for families.

## 7.7.1 Diagnosis and support

The interviews highlighted that some parents did not understand what the audiologists meant when they were given the diagnosis and some of the Deaf parents in the study did not like the words the audiologist used. It was clear that some of the parents had been traumatised by the diagnostic experience (Hintermair, 2006), which is consistent with previous studies where parents did not feel that the diagnosis had been delivered sensitively (Gregory, 1995). The researcher believes that the newborn hearing screening should not occur until at least six weeks, because there is little evidence of benefits at an earlier age (Young & Tattersall, 2007), with previous research even suggesting that this could be harmful (Preisler, 1999). In the same study, a parent expressed great regret at having a hearing test done on her infant: "you're basically left with the worry, then we came home and rather than having the joy of bringing a new baby home, all we had in our head was worry...if we could go back and have it just at 6 weeks or even a month" (Young & Tattersall, 2007, p.215). As discussed in chapter two, although the initial hearing test is performed at 24 hours, it can be a lot later (up to 213 days) before this is confirmed (Tattersall & Young, 2006). Therefore, the stress and worry the parents experience with their newborn could affect how they feel towards their child, "It has actually been 8 horrible months on and off. It hasn't affected me bonding with him or anything, but I have not enjoyed him, like I did [my other child]." (Young and Tattersall, 2007, p.215).

Therefore, what the professionals communicate to the parents during this vulnerable time may be quite influential (Porter & Edirippulige, 2007) on how the parents come to terms with their child's deafness and what decisions they make (Dalzell et al., 2007). Insensitive examples include a professional telling the parent that their child will be able to communicate if they learn speech, or that they will be able to hear if they have a cochlear implant. Instead of advising parents how to normalise their deaf child, professionals should offer unprejudiced information (Eleweke et al., 2008) and advise them to do whatever makes their child and them happy. Such stress regarding making important decisions can impair parental ability to cope or resolve the diagnosis (Hintermair, 2006), and lead to mental health problems (Mathos & Broussard, 2005), which consequently will affect the development of the child's attachment (Barnett et al., 2006). In some cases, such parents stated that they 'wished' they had learnt sign language (Gregory et al., 1995, p.51), and this is still not easy to access over ten years later (Eleweke et al., 2008). This is even more significant, as some deaf children expressed immense relief that their parents had learnt sign language, so that they could communicate, regardless of whether they could speak 'well' or not (Sutherland & Young, 2007).

Even though the 'Department for Education and Skills' (May 2003) produced guidelines for local education authorities in 'Developing early intervention/support services for deaf children and their families', which was supposed to be set up in parallel with the newborn hearing screening programme, only a few LEAs have actually implemented them. It has furthermore, been recently reported that there are no interventions in the UK that aim to enhance the development of communication between the deaf child and their parents (Beresford et al., 2008). This means that many parents, who have been told that their child might have a hearing loss at 24 hours old, will receive no information, support or intervention.

Parents need to have clear and balanced sources of information and not to be pressurised or restricted with limited choices, such as the choice between cochlear implants or no speech. This dichotomous position was found by Walsh (2003), where parents felt that, if they wanted their child to communicate, the only option was to have cochlear implants. From the parental interviews, it appeared that some mothers were targeted with all the help, or carried sole responsibility for dealing with services or understanding more about deafness, rather than this being shared with fathers. Services should thus aim to be more inclusive of the whole family, including siblings and grandparents (Jackson et al., 2008), so that they all learn together how to adjust to the deaf child.

Another consideration for supporting parents of deaf children would be to encourage them to adopt a problem-focused strategy in dealing with the diagnosis (Knussen & Sloper, 1992). As mentioned earlier, a parent decided to 'do something' as her child was becoming frustrated by his inability to communicate, which highlights a problem-focused approach. In contrast, another mother, who explained she knew nothing and felt isolated (see chapter 6), did not adopt this approach and as a result felt powerless to help her deaf child. The risk remains as to whether parents manage to obtain comprehensive information about the full range of options available; the professionals delivering the information can be biased and hence selective in the information provided (Lane, 2005). Parents should have access to psychological support to come to terms with the diagnosis, as it can be traumatic (Williams, 2006) to receive a diagnosis that shatters the hearing parents' illusion of their 'perfect' baby.

#### 7.7.3 Communication

Two of the quantitative variables that were found to have a strong association with secure attachment were: (i) where the parents felt that their family life was *not* affected by the child's communication (a positive attitude – Hadadian, 1995), and (ii) the child's language skills being above average (Lederberg & Prezbindowski, 2000). This is an area that should be prioritised by Teachers of the Deaf, education and social services. Communication between the deaf child and their family should become part of everyday family life, whether the child speaks or signs, and no matter how well the child can speak, the family should be taught how to adjust their communication to meet the needs of their deaf child. This includes eye contact techniques and engaging the child in interaction. Several studies have found differences in how deaf and hearing mothers communicate with their deaf infant (Vaccari & Marschark, 1997) in their use of visual and tactile techniques to gain the child's attention. This information could improve hearing mothers' sensitivity towards their

child's communication, and this in turn has been found to improve the child's language milestones (Tamis-LeMonda et al., 2001).

One surprising variable that was found to be significantly associated with secure attachment was whether the parent had received information on sign language classes. When viewed in the context of support and intervention, this may give the parents more confidence in making decisions regarding their child, even if they opt for an oral method. Mathos and Broussard (2005), for example, found that information about the diagnosis, and an understanding of its implications, enable parents to meet their children's needs.

## 7.7.4 Social education

When the researcher met the children and the parents for the first time, it was clear that they had never met a 'deaf adult' before. The parents asked the researcher trivial questions, for instance, did she drive a car? It may seem obvious that of course deaf people can, but this question has actually been written in a book for parents of deaf children (Knight & Swanwick, 1999). It would be psychologically beneficial for the child to have a deaf role model, so that they know they will grow up to be deaf, that they are not alone, and that there is a deaf community out there of which they can be part. Regardless of whether they speak or sign, it is important to know that there is a peer group with which they can identify, and this will help them to develop their self-confidence and self-identity (Nikolaraizi & Hadjikakou, 2006). The latter was one of the key variables that were found

to have a strong association with secure attachment (confidence, outgoing, not being easily upset), which supports Jacobsen et al. (1994), who found a strong link between selfconfidence and secure attachment. Another association with the primary attachment label was found for the quantitative variables, 'having both deaf and hearing friends', which highlights even more the importance of the child being encouraged to meet deaf peers. For all these psychological benefits, this should be a priority for social and education services, especially if the child attends a mainstream school.

Having a deaf role model can also benefit the parents and their acceptance of their child's deafness. When the researcher met the parents with a BSL interpreter, most were amazed that there was such a thing as an interpreter that deaf people could employ for their work. They did not realise that deaf people could go to university and have equal access to education such as lectures and seminars. Some parents felt relieved to discover this, and the researcher believes that such knowledge and understanding could make parents feel more positive and hopeful about their child's future. This in turn could affect how the parent feels about their child's development and education, being more proactive and positive if they know there is support available for their child to go to university. The researcher also explained to parents that there are now opportunities for deaf children and adults to go to

the theatre with interpreters or STAGETEXT<sup>9</sup>, and cinema screenings with subtitles, which are events that the whole family can attend and enjoy together so that the deaf child can participate. This would give the child a feeling of being included rather than left out, potentially giving them more confidence in their role as a member of their family.

## 7.7.5 Professional assessments of deaf children

A few parents reported in both the qualitative interviews and quantitative questionnaires ('child's general behaviour had an effect on family life') that their child had behavioural problems, which are highly prevalent in this group (Hindley, 2000). There was a significant correlation between such behaviour problems and being assigned a coding of insecure attachment (Green & Goldwyn, 2002). Despite this, those parents were not receiving any help from social care or mental health professionals (McClelland et al., 2001; Van Gent et al., 2007). As it can be difficult for professionals who have no knowledge about deafness to recognise that there are symptoms of behavioural or mental health difficulties (Hindley, 2000), this should be a shared responsibility of all services concerned with the child's welfare. If the parents are having difficulties with the child, they should be referred by the social worker or GP to services such as Child and Adolescent Mental Health Services, who

<sup>&</sup>lt;sup>9</sup> STAGETEXT=captioning at theatre shows. www.stagetext.org

should advise on involving other agencies, where appropriate. Due to the longstanding difficulties in accessing support, professionals must be aware that parents might need help for themselves, especially if they have not dealt with the trauma of the diagnosis and/or if they have mental health problems (Mathos & Broussard, 2005).

Fairchild (2006) states that for social workers to perform effective intervention and assessment of children with attachment problems or disorders, there needs to be an accurate attachment instrument that is reliable and straightforward to administer. The measures she suggests as suitable include the MCAST, therefore this measure seems appropriate for use in clinical settings, following further validation of its application with deaf children.

The researcher observed that some deaf children, who she expected to perform well on certain tasks, did not do so. Professionals undertaking assessments should not rely on children's chronological age, as this may not match their mental age in terms of language or cognitive skills (Lundy, 2002; Percy-Smith et al., 2008). Instead, they should remain flexible with alternative props or procedures that enable them to elicit maximum information from the child. If the professional cannot understand the child's speech or the child uses sign language, a fully qualified BSL interpreter should also be present.

### 7.7.6 Socio-cultural model of assessment and intervention

When a parent and child are presenting with relationship difficulties, the social worker, teacher, and child protection worker or relevant others, will need to consider the external as well as internal supports mediating this relationship. Over 90% of deaf children have hearing parents (Weigle & Bauer, 2008) with no pre-existing knowledge of deafness, which fact in itself might bring some degree of stress (Meinzen-Derr et al., 2008) to the parent-child relationship. A holistic family-centred approach should be adopted, including the hearing siblings of the deaf child, as they too will be affected in some way (Tattersall & Young, 2003). The childcare professional needs to consider that, if the mother has not had much support to adjust to her child's diagnosis of deafness, she may have developed an avoidant or ambivalent style of attachment, and be less resilient (George & Solomon, 1996; Howe et al., 1999) than a secure mother who may be more proactive or confident in obtaining support.

The researcher has developed a framework for childcare professionals in their assessment of deaf children and their parents. This was developed with respect to the findings of the thesis and the existing evidence base as discussed above. The researcher has underlined the items in the assessment framework that are related to variables found to be significantly associated to secure attachment in this study, presented in Table 7.1:

Child	Parent(s)	Childcare professional
Psychological	Psychological	Additional training
<ul> <li><u>Self-esteem</u></li> <li><u>Coping strategies</u></li> <li><u>Behaviour</u></li> <li><u>Emotional well-being</u></li> </ul>	<ul> <li>Persisting mental health needs?</li> <li>Resolution/acceptance of diagnosis?</li> <li>Any support received?</li> <li>Parenting skills</li> <li>Attachment style of caregiving</li> </ul>	<ul> <li>Deaf mental health</li> <li>Deaf psychological development</li> <li>Deaf &amp; BSL awareness</li> <li>How to work with BSL interpreters</li> </ul>
Communication	Communication	Administering assessment
<ul> <li><u>Language &amp; communication skills</u></li> <li>Method of communication</li> <li>Communication with parents/siblings</li> </ul>	<ul> <li>Method of communication</li> <li>Information on communication methods</li> <li>Family affected by child's communication?</li> </ul>	<ul> <li>Employ fully qualified interpreter</li> <li>Child speak/sign through interpreter - not parents</li> </ul>
Audiological	Views/feelings	Implement intervention
<ul> <li>Level of hearing</li> <li>Feelings about hearing aids/cochlear implants</li> </ul>	<ul> <li><u>Parents perceive that</u> <u>child has behavioural</u> <u>problems?</u></li> <li><u>Child's use of hearing</u> <u>aids/cochlear implants</u></li> </ul>	<ul> <li>Follow socio-cultural model of deafness in treatment</li> <li>Link with national deaf children's mental health service</li> </ul>
Socio-cultural	Socio-cultural	Multi-agency working
<ul> <li>Perception of self- identity and how others view self</li> <li>Understanding of deafness</li> <li>Friends deaf/hearing?</li> </ul>	<ul> <li>View child as disabled or deaf?</li> <li>Understand Deaf culture or Deaf identity?</li> <li><u>Want child to have deaf</u> <u>friends?</u></li> </ul>	• Establish links between audiological, educational, psychological, social services and voluntary (deaf role models/sign classes)

# Table 7.1 Socio-cultural model of assessment and intervention for deaf children

This table lists the areas on which the assessment should focus, all of which can help in improving the security of the child's attachment. In the 'Child' column, the psychological and communication variables were found to be significantly associated with security of attachment in this study. It was also found that the extent of use of hearing aids or cochlear implant was associated with secure attachment. Of the socio-cultural issues, it was found that children with both deaf and hearing friends were likely to be more secure. The column on the childcare professionals took into account best practice for working with deaf children (Hindley, 2000), as well as observations from the researcher's experience of meeting the parents and children in the study. In relation to parents, the psychological section evidence is based on a correlation between resolution of diagnosis and child's attachment security, and parent and child attachment styles. In this study, the researcher identified that both the parent's main method of communication and whether they felt that their child's communication had an effect on family life were linked to secure attachment. As there was a strong association between whether the parent perceived the child's behaviour as having an effect on family life, childcare professionals should routinely enquire about this, in addition to enquiries about how the parents feel about their child's use of hearing aids or the benefits of their cochlear implants. The process of having a cochlear implant is quite traumatic and the parents might experience related worries or disappointment. As discussed in chapter two, the parents might have been influenced by professionals to adopt a medical view of deafness, so it might be beneficial for them to consider their child in a socio-cultural context, as being Deaf rather than disabled. As the

variable of children having both deaf and hearing friends was found to be positively correlated with security of attachment, parents should be encouraged to promote such relationships, especially if their child attends mainstream education.

## 7.8 Summary

The study may not have resulted in a validated attachment instrument, but it certainly was a step forward in the right direction to enhance our understanding for optimal development of an instrument that can be applied to deaf children. The findings have also contributed to knowledge on factors that can promote secure attachment in deaf children. Although there has been previous research on emotional development or quality of interaction, there have only been five published studies that have used an attachment instrument in this population. After identifying the strengths and weaknesses of the MCAST, the researcher modified the instrument into the DCAST, applicable for deaf children who communicate in any modality and may not have communication skills that reflect their chronological age. On using the new instrument, the researcher succeeded in demonstrating that it was *possible* to elicit high quality data on the deaf child's attachment strategy, using a method other than the Strange Situation. The concluded codings of security of attachment for the deaf children were supported by findings in the quantitative and qualitative data. This parallels previous findings in deaf and normal populations, where associations have been reported between secure attachment and variables in line with those identified in the study (for example communication, behaviour problems, and socio-emotional development). The importance of increasing our understanding of why these and any other variables may apply to deaf children cannot be underestimated. At this present time, although still controversial, evidence is gathering that the child's later development is mediated by the attachment they develop in the early years (Thompson, 2008). Throughout this thesis, several methodological and service issues have been raised, which are central to informing the field of deafness and attachment. The researcher hopes that future considerations of these issues can pave the way for much needed further research and improved services in this relatively neglected field.
## Application of an attachment tool for use with deaf

children

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Website addresses:

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# Appendices

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# Appendix

# **3.1 Language Proficiency Profile**

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<text><text><text><text><text><text><text><text><text><text></text></text></text></text></text></text></text></text></text></text>		This questionnaire was designed to identify the developing language skills of children. Questions are presented in a sequence which reflects increasing language skills. The questionnaire was designed for use with both hearing and hearing-impaired children. Expressions like "saying/signing" or "words/signs" are used so that the questions can be used for both groups of children.
Mark this option if this item no longer applies to your child. (In several places you will see this column marked "n'a". This means that "Past This Level" is not applicable to this nearing to show this shill.         Mark this option if your child currently has this skill.         Mark this option if your child does not yet show this skill.         Mark this option ONLY if you've had no opportunity to observe this in your child.         Mark this option ONLY if you've had no opportunity to observe this in your child.         Mark this option on Your child does not yet show this skill.         Mark this option ONLY if you've had no opportunity to observe this in your child.         Mark this option on Yourger, less language proficient child.         Mark this option on yourger, less language proficient child.         Mark this option as possible.         Mark this option on yourger, less language proficient child.         Mark this option as possible.         Mark this option as possin the possin the possin the possible.		For each question, please mark ( $$ or $\times$ ) the current abilities of your child. The rating scale for each question includes 5 options:
Please remember that some of the earlier items may no longer apply to an older child; these items represent the developing skills of a younger, less language proficient child. If you have questions regarding any of the items on this checklist, please make a note of them. We will address these questions as soon as possible. Thank you for your help and cooperation. DRAFT ONLY - PLEASE DO NOT QUOTE WITHOUT PERMISSION		Past This Level       -Mark this option if this item no longer applies to your child. (In several places you will see this column marked "n/a". This means that "Past This Level" is not applicable to this question.)         Yes       -Mark this option if your child currently has this skill.         immerging       -Mark this option if your child beginning to show this skill.         Not Yet       -Mark this option if your child does not yet show this skill.         Unsure       -Mark this option QNLY if you've had no opportunity to observe this in your child.
If you have questions regarding any of the items on this checklist, please make a note of them. We will address these questions as soon as possible. Thank you for your help and cooperation. DRAFT ONLY - PLEASE DO NOT QUOTE WITHOUT PERMISSION	•	Please remember that some of the earlier items may no longer apply to an older child; these items represent the developing skills of a younger, less language proficient child.
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## Deaf children & Attachment

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<ul> <li>6. have little or no difficulty being understood by strangers n/a 0 0 0 0 who use the same language?</li> <li>7. tell brief stories or narratives? (These stories must be understood without questioning except for specific details.)</li> <li>8. sometimes use a roundabout way of referring to things or events? (Example: the "What-ya-ma-call-it" or the "Sitting thing" for chair)</li> <li>9. usually maintain a steady flow of conversation using accurate word-choices and common expressions?</li> <li>DID YOU HAVE DIFFICULTY WITH ANY OF THESE QUESTIONS? IF SO, WHICH QUESTIONS? PLEASE DESCRIBE THE DIFFICULTY.</li> </ul>	out mentio response m	ate messages that are complete in form; e parts have been left out? (If the child n of him/herself in the message, a "Yes hay still be marked.)	that is, n leaves	/a	0 0	0	0
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<ul> <li>8. sometimes use a roundabout way of referring to things or 0 0 0 0 0 0 events? (Example: the "What-ya-ma-call-it" or the "Sitting thing" for chair)</li> <li>9. usually maintain a steady flow of conversation using 0 0 0 0 0 0 accurate word-choices and common expressions?</li> <li>DID YOU HAVE DIFFICULTY WITH ANY OF THESE QUESTIONS? IF SO, WHICH QUESTIONS? PLEASE DESCRIBE THE DIFFICULTY.</li> </ul>	<ol> <li>tell brief st understood</li> </ol>	tories or narratives? (These stories must I without questioning except for specific	t be 0 details.)		0 0	0	0
9.       usually maintain a steady flow of conversation using accurate word-choices and common expressions?       0       0       0       0       0       0         DID YOU HAVE DIFFICULTY WITH ANY OF THESE QUESTIONS?       IF SO, WHICH QUESTIONS? PLEASE DESCRIBE THE DIFFICULTY.	<ol> <li>sometimes events? (E thing* for</li> </ol>	use a roundabout way of referring to th xample: the "What-ya-ma-call-it" or the chair)	hings or 0 Sitting		0 0	0	0
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	DID YOU HAVE IF SO, WHICH C	DIFFICULTY WITH ANY OF THES QUESTIONS? PLEASE DESCRIBE TO	E QUESTIONS? HE DIFFICULTY.				

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CONTENT This area is concerned with what the child communicates about. That is, what kinds of objects, actions, and relationships are mentioned by the child?

		939	20	di di	all all	4
1.	discuss <u>only</u> things and actions which are visible in the immediate environment? The child is <u>unable</u> to discuss things that are absent.	0	0	0	0	
2.	communicate about an object's disappearance or reappearance, but nothing more?	0	0	0	0	
3.	comment on his/her own actions, or those actions which affect him/her directly?	0	0	0	0	
4.	communicate about what other people are doing with objects? (Example: where an object is being moved to, or who has the object)	0	0	0	0	
5.	comment on actions he/she wishes others to do, or to stop doing?	0	0	0	0	
6.	combine several ideas into a single expression? (Example: "Jeff needs a <u>blue crayon</u> " expresses Jeff's need and some detail of what he needs.)	0	0	0	0	
7.	express something he/she wants to do in the immediate future? (Example: "I want to go play with Sally")	0	0	0	0	
8.	communicate about things or events that are linked in time or that are near one another? (Example: "Go to the library and get a book and come back" or "There's a dog and there's a horse")	0	0	0	0	
9.	communicate about the cause and effect relation between two events? (Example: "He did it because he was angry" or "I can't go out until I finish my work")	0	0	0	0	
10.	communicate about his/her own knowledge, beliefs, and uncertainties? (Example: "I don't know how long it takes to get there" or "I'm sure they're back now")	0	0	0	0	
11.	communicate about a wide range of experiences and any ideas within his/her intellectual ability?	0	0	0	0	
12.	describe <u>clearly</u> and <u>completely</u> the details of abstract systems, or things that have no concrete form? These <u>may</u> include the rules of complex games like chess, or the rules of multiplication or grammar.	0	0	0	0	
DID IF SC	YOU HAVE DIFFICULTY WITH ANY OF THESE QUESTIO ), WHICH QUESTIONS? PLEASE DESCRIBE THE DIFFICU	NS? LTY.				
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	be present.							2
-	DOES THE CHILD			tin Le	ji s	the -	the sec	
	<ol> <li>use only single words/signs? These a describe events or objects currently p</li> </ol>	re usually used to present.	0 dø	0	0	0	0	
	<ol> <li>use physical or other nonverbal ways information about a single word or si (Example: pointing at or holding a pa saying/signing "Book")</li> </ol>	to give more ign? articular book while	0	0	0	0	0	
	<ol> <li>communicate one part of the message and a further part by using nonverbal saying /signing "Book", then sitting o opening the book for you to read to b</li> </ol>	e using words or signs i means? (Example: on your lap and him/her)	0	0	0	0	0	
	<ol> <li>sometimes leave out the name of a ce assuming the listener knows what has (Example: says/signs "Read", but doe "Book")</li> </ol>	rtain object/event, i been left out? es not mention	0	0	0	0	0	
Diese State	<ol><li>have the ability to express an entire n through sign language?</li></ol>	nessage verbally or	n/a	0	0	0	0	
	<ol> <li>try to refer to things that are not pres child may have some difficulty doing</li> </ol>	ent at the time? (The this.)	0	0	0	0	0	
	7. refer confidently to things in both the	past and future?	0	0	0	0	0	
	<ol> <li>describe several related events in both (Example: describe several things that morning, and things that will happen</li> </ol>	t the past and future? t happened in the on the weekend)	0	0	0	0	0	
	<ol> <li>refer to imagined situations and their (Example: "If I had a lot of money, I</li> </ol>	outcomes? could")	0	0	0	0	0	
	<ol> <li>give enough background information tunderstand a message that has a lot of</li> </ol>	to help any listener f new information?	0	0	0	0	0	
	<ol> <li>describe <u>clearly</u> and <u>completely</u> the de systems or things that are not present, doesn't know this information? This c be rich and clear enough to allow a p (Example: the operation of a 10-speed baseball)</li> </ol>	etails of complex , to a person who communication should erson to understand. I bike, or the rules of	0	0	0	0	0	
	DID YOU HAVE DIFFICULTY WITH AN IF SO, WHICH QUESTIONS? PLEASE DI	Y OF THESE QUESTION ESCRIBE THE DIFFICUL	IS? .TY.					
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### Deaf children & Attachment

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COHESION This section is concerned with how the child maintains the flow of conversation. This includes the child's ability to take into account the perspective, knowledge and opinions of the other person.

		725	40	1	di la
1.	primarily maintain the flow of conversation by repeating parts of what the other person has just expressed? (Example: If a parent comments "Look, there's a doggie!" the child responds "Doggie!")	0	0	0	(
2.	participate in the conversation by paying attention to and referring to the same object as the listener?	0	0	0	(
3.	use parts of the questions asked by someone else to build his/her answer? (Example: to the question "What colour is the ball?" the child will answer "The ball is blue.")	0	0	0	(
4.	keep others in a conversation by asking questions about objects or people even though he/she may know the answers?	0	0	0	(
5.	volunteer <u>new</u> information about a topic that others have introduced in a conversation?	0	0	0	(
6.	ask others for more information about topics being discussed?	0	0	0	(
7.	participate in and follow, without difficulty, a one-on-one conversation as it moves from topic to topic?	0	0	0	(
8.	have the ability to participate in and follow a conversation among many people, although he/she may not understand and/or remember specific details?	0	0	0	(
9.	converse, even with strangers, showing full understanding of the general meaning and details being discussed?	0	0	0	(
10.	fully understand even <u>unfamiliar</u> details on topics of interest after they have been discussed? (These details must be within his/her intellectual grasp.)	0	0	0	(
11.	use a number of methods to fix conversations if there is a misunderstanding? (Example: The child can reword or expand on a comment, or ask to have information made more clear.)	0	0	0	(
DID IF SC	YOU HAVE DIFFICULTY WITH ANY OF THESE QUESTIO D, WHICH QUESITONS? PLEASE DESCRIBE THE DIFFICU	NS?			

1. 2. 3. 4. 5.	use language as if communicating with him/herself or simply practising language and not expecting a response? do any of these? (a) identify objects when asked? (b) ask for objects and simple services? (c) greet others? (d) protest the actions of others? describe a broad range of his/her own actions on objects? identify objects and actions in <u>pictures</u> ? describe people and objects in terms of <u>both</u> temporary (Example: emotional state) <u>and</u> permanent (Example: size	999 0 0 0 0	Con 0 0	0 0 0	0	4 3 0 0 0
1. 2. 3. 4. 5.	use language as if communicating with him/herself or simply practising language and not expecting a response? do <u>any</u> of these? (a) identify objects when asked? (b) ask for objects and simple services? (c) greet others? (d) protest the actions of others? describe a broad range of his/her own actions on objects? identify objects and actions <u>in pictures</u> ? describe people and objects in terms of <u>both</u> temporary (Example: emotional state) <u>and</u> permanent (Example: size	94 <sup>69</sup> 0 0 0	0	4 0 0	0	0 0 0
2. 3. 4. 5.	<ul> <li>do any of these?</li> <li>(a) identify objects when asked?</li> <li>(b) ask for objects and simple services?</li> <li>(c) greet others?</li> <li>(d) protest the actions of others?</li> <li>describe a broad range of his/her own actions on objects?</li> <li>identify objects and actions in pictures?</li> <li>describe people and objects in terms of both temporary (Example: emotional state) and permanent (Example: size</li> </ul>	0 0 0	0	0	0	0
3. 4. 5.	<ul> <li>(a) identify objects when asked?</li> <li>(b) ask for objects and simple services?</li> <li>(c) greet others?</li> <li>(d) protest the actions of others?</li> <li>describe a broad range of his/her own actions on objects?</li> <li>identify objects and actions in pictures?</li> <li>describe people and objects in terms of both temporary (Example: emotional state) and permanent (Example: size</li> </ul>	0 0 0	0	0	0	0
3. 4. 5. 6.	<ul> <li>(d) protest the actions of others?</li> <li>describe a broad range of his/her own actions on objects?</li> <li>identify objects and actions <u>in pictures</u>?</li> <li>describe people and objects in terms of <u>both</u> temporary (Example: emotional state) <u>and</u> permanent (Example: size</li> </ul>	0 0	0			
3. 4. 5. 6.	describe a broad range of his/her own actions on objects? identify objects and actions in <u>pictures</u> ? describe people and objects in terms of <u>both</u> temporary (Example: emotional state) and permanent (Example: size	0	0			
4. 5.	identify objects and actions in <u>pictures</u> ? describe people and objects in terms of <u>both</u> temporary (Example: emotional state) <u>and</u> permanent (Example: size	0		0	0	0
5. 6.	describe people and objects in terms of <u>both</u> temporary (Example: emotional state) <u>and</u> permanent (Example: size		0	0	0	0
6.	or colour) characteristics?	0	0	0	0	0
	communicate about the actions and intentions of others? (Example: "He wants to go, too.")	0	0	0	0	0
7.	use language to create and maintain worlds of make- believe such as initiating play, assigning and regulating roles and acting out his/her part in this play?	0	0	0	0	0
8.	use language in active searches for information? (Example: "Tell me more" or "How does?")	0	0	0	0	0
9.	use language to report and question how one event contradicts another? (Example: "He cut his foot, but he didn't cry.")	0	0	0	0	0
10.	use language as a tool for thinking? (Example: to work through math problems or daily concerns such as planning what to say to someone)	0	0	0	0	0
11.	try to influence others primarily by expressing personal preferences? (Example: "Don't do that! I don't like it!")	0	0	0	0	0
12,	try to influence others by giving reasons which relate to more general principles? (Example: "Don't play that game! It's against the law.")	0	0	0	0	0
13.	use <u>accurately</u> any of the following verbs? (Please circle the ones used.)	0	0	0	0	0

### **3.2 Letter from Sally**

### Hind

Textphone

Website



Direct Line (0115) 9518508 ext E-mail sally@ihr.mrc.ac.uk MRC Institute of Hearing Research<br/>University Park<br/>NottinghamNG7 2RD<br/>United KingdomTelephone(0115) 922 3431<br/>1nternationalFax(0115) 951 8503

+44 115 922 3431 (0115) 951 8503 (0115) 951 8509 www.ihr.mrc.ac.uk

12 June 2001

Joanna Penfold Child Psychiatry Ph.D Student Greenwood Institute of Child Health Leicester University Westcotes House Westcotes Drive Leicester LE3 8DG

Dear Joanna

### RE: USE OF THE MRC INSTITUTE OF HEARING RESEARCH'S QUESTIONNAIRE: DEAF OR HEARING IMPAIRED CHILDREN AND THEIR FAMILIES — SERVICES PROVIDED AND QUALITY OF LIFE

I have spoken with the leader of the Epidemiology Paediatric Outcomes team, Professor Adrian Davis, and I am pleased to tell you that we are happy to give approval for you to use the above named questionnaire in your PhD research project.

We wish you well with your research and look forward to learning about the outcomes.

Best wishes

Dr SE Hind Developmental Psychologist

### **3.3 Semi-structured interview questions**

### Semi Structure Interview with parents - commencing Main Study

- 1) When did you first realise there was a problem with your child's hearing? Feelings at time?
- 2) When did you get formal diagnosis? Who was with you, how were you told and what kind of support were you given?
- 3) How did this affect your family, how did your family cope, including brothers, sisters.
- 4) How do you/family feel now different now from then, first discovery of deafness?
- 5) Do you feel you have a good bond or relationship with your child? Are there any problems with communication?
- 6) What expectations do you have for your deaf child? Feel positive/realistic? Do you have any wishes for what you want your child to have in his adult life?

### 3.4 Certificate of MCAST Training

School of Psychiatry and Behavioural Sciences

Child & Family Psychiatry

Sooth Hall Children's Hospital, Charlestown Road, Blackley, Manchester M9 7AA Telephone 0161-220 5025 Fax 0161-220 5227

Professor R C Harrington, Dr J M Green, Dr A Clark



This is to Certify that Janet Penfold has completed a training in the administration and coding of the

#### Manchester Child Attachment Story Task (MCAST)

At Chancellors Conference Centre, Manchester

January 11th - 13th 2002

Signed

Dr Jonathan Greek/ Senior Lecturer and Honorary Consultant University of Manchester Department of Child & Adolescent Psychiatry Booth Hall Children's Hospital Charlestown Road, Blackley, Manchester, M9 7AA



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Faculty of Medicine, Dentistry, Nursing and Pharmacy The Medical School www.medicine.man.ac.uk	4	1851-20	OI one hundred	and fifty years	of excellenc

### 3.5 Letter from J. Green on reliability and reliability coding

Downes, J.

From: Sent: To: Subject: Dr Jonathan Green [Jonathan.green@man.ac.uk] 17 September 2002 10:59 Penfold, J. RE: MCAST reliability



Joanna Downes feedback BEN.doc... Dear Joanna Here is your reliability vignette back

Well done! You got it pretty good I've marked the significant errors with \*\* And given reasons

Look forward to getting more Sorry about the delay

Jonathan

Dr Jonathan Green Senior Lecturer in Child and Adolescent Psychiatry, University of Manchester Hon Consultant in Child and Adolescent Psychiatry, Central Manchester and Manchester Children's Hospitals Trust.

Academic Department of Child and Adolescent Psychiatry Booth Hall Childrens' Hospital Blackley Manchester M9 7AA UK

Tel: \* 161 220 5024/5/6 Fax: + 161 220 5227 Mobile: + 07957541206 email: jonathan.green@man.ac.uk website: www.man.ac.uk/psych

### MCAST RELIABILITY TRAINING CODING SHEET

SUBJECT NAME ... Ben .VIGNETTE ... 2.....

	CODE	your code	COMMENTS AND REASONING give examples and timings for each
1A Engageme nt	8	9	
; 1B Arousal	7	6.5	Good interpretation
1C Turntaking	1	1	

2A Proximity child to mother	7	6	
2B Proximity mother to child	4	6/7	This is a matter of interpretation – we took it that his movement of mother towards Ben doll was just in getting hold of her – not a real movement
2C Self care	1	2/3**	Don't think the hop is really self care – more nice detail in story about the injury!
2D Displaceme nt (doll)	1	2	
2E Displaceme nt (child)	1	2	
2F Reversal	1	2/3**	No – that is mentalising Reversal is when the child takes a carer role in relation to the parent or when he is preoccupied with parental mental state through story (not just when probed at the end)

2G Conflicted behaviour	1	2	
2H Carer sensitivity	7	8	This is just a matter of context in terms of other mothers we see
2I Carer warmth	7	5/6	Matter of context in relation to other representations that we see
2J Carer intrusivenes s/control	5	5	
2K Assuageme nt (child)	6	8**	This is too high because he says 'happy but its still a bit sore' - + still wants a bandage and stay off school -
2L Assuageme nt (observer)	6	7	Good
2M Exploratory play	2	2	
2N Affect	1	1	
20 Content	1	2	
PREDOMIN ANT STRATEGY (1-5) (include subcodes, eg 1.2, 2.1)	1.3/ 1.4 cusp	1.1	We emphasised more the slight lack of complete assuagement and the slight sense of continuing preoccupation at the end.
3A Quality	8	3	7

3B Quantity	8	7		
3C Relevance	8	7		
3D Manner	7	7		
OVERALL COHERENCE OF NARRATIVE (average of 3A-D)	7.5	7		Good!
3E Child of self Mentalising	3	2		
3F Child of mother Mentalising	3	1		Cf above - what you coded as reversal should have gone in here
3G Metacognition	0	0	×	
Scale 4: 3 Episodic D phenomena		N/a	We an e whi reso Vig	counted Ben's initial inhibited hand movement towards the mother as example of low grade episodic disorganisiation – it's a nice example ich goes along with the slight preoccupation and lack of complete olution in the vignette. (Right at the end of the completed interview- mette 5 – there is actually a 'C' pattern with another D score of 4)
				-

### OVERALL CATEGORISATION

(See manual for instructions. Rate predominant and subsidiary codes if necessary. If child is a primary D, rate the best fit alternate or 'forced' coding of strategy – eg D/A)

3

#### NOTES/EXPLANATION OF THE CODING CHOSEN: B3/B4

This is a good B3/B4 cusp. It shows nice exploratory play at the end of the vignette but a lingering preoccupation. It also shows right at the beginning of phase 2 an initial dysfluency we would code as episodic D3. NB Vig 5 becomes a C but the overall i/v coded as a B3 with lowish overall coherence (6).

### **3.6 Original MCAST administration**

### MCAST - METHOD

MATERIALS

Dolls House Furniture and Toys Doll figures - appropriate racial group and selection of child and adult dolls. Video camera.

#### ROOM SETUP

### SEQUENCE

### 1) FAMILY PICTURE.

Pencils and paper. "Show me / draw me who's in your family."

#### 2) SET OUT TOYS AND CHOOSE DOLL.

The child is offered a range of figures from which to choose a 'child-doll' and a 'mother-doll'. It is important that identification is made between 'child-doll' doll and child; and between 'mother-doll' and the child's mother. The 'child-doll' should be called by the same name as the child.

#### 3) INTRODUCING THE STORIES.

"What we're going to do is this. Firstly I'm going to tell you the beginning of a story with you and mummy in it. Then when we get into the story I'm going to ask you to <u>show</u> me with the dolls what happens next.

### 4) CONTROL VIGNETTE - BREAKFAST

The aim of this vignette is to familiarise the child with the procedure. It will also give incidental information about home structure, parenting style and characteristic child reaction patterns.

The Parent doll and child doll are in bed asleep. The alarm goes off in parents' room - parent gets up and goes down stairs to start with the breakfast. Then calls up to the child: "Time to get up... "

### What happens next?

### 5) TEST VIGNETTES.

### **VIGNETTE 1 - NIGHTMARE**

It's nighttime and here you and mum are in bed asleep.
Child can help you place the dolls where he/she thinks they should be.
It's in the middle of the night and everyone is fast asleep very quiet. Everything is very dark.
Then suddenly X doll wakes up (act this out with the doll).
She says oohh.. I've had a horrible dream... oohhh..horrible dream. And she starts to cry and she says ...oohhhh....horrible dream....

Now you show me what happens next.

### **VIGNETTE 2 - HURT KNEE**

For this story it's daytime and mummy's inside the house - what do you thinks she's doing there?

Child can help place the parent doll as they see fit X doll is outside playing in the garden. What does X like to play - what would he be playing? *OK* (whatever it is - act it out - say football) He's *playing football in the garden running around* - *kicking it here and there* (room for creativity as the game is set up but not too elaborate and not allowing involvement of anyone else)

He's running along and suddenly ...oohh. he falls over ... and ... "oowww!" he's hurt his knee and he looks down and he sees it's bleeding ... and it hurts .. and he says "oowww my knee's hurt ..my knees hurt..."

### What happens next in the story?

### **VIGNETTE 3 - ACHIEVEMENT**

This vignette is intended as a relief from the intensity of the distress vignettes and an opportunity for the child to experience a story about a more pleasing event. But the quality of attachment relationship will affect the child's self perception and the reaction to achievement as well as the response they expect from their parent is often revealing. Many reactions here especially in clinical groups are found to be paradoxical and patterns of expectation about success, self esteem and school related problems are also accessed. Psychometrics if the interview show that ratings on this vignette show weaker association with overall attachment status than some others but the vignette is retained to aid the rhythm of the interview. In coding a somewhat different weight is given to this vignette and no 6 (see later).

### For this story we're in school

Child can help set up the school and say who is their teacher etc.

And in school they're doing some drawing and X does a lovely drawing on his paper (demonstrate with small piece of paper and make a little drawing)

And Y (teachers name) comes up and says "X - that's a beautiful drawing ... oh yes that's the best one I've seen today.... what a beautiful picture - you take it home at the end of the day and show your mummy"

So it's the end of the day and X packs up her bag and puts the drawing inside (demonstrate). Then she goes home. She goes home and rings on the doorbell. It is important here that mummy is placed in an accessible position in the house but that the examiner in the set up does not anticipate any reaction from her. The action of the child ringing on the doorbell is the trigger for the hand over to the child. Do not represent the mother coming to the door.

What happens next in the story?

### VIGNETTE 4 - ILLNESS

In this story X doll is at home watching TV. What's your favourite TV programme? X is watching that. Mum is next door - where do you think that she is? Suddenly X has a pain in the tummy. And it gets worse and she says "oohhh...I've got a pain in my tummy oowww it's getting worse" And she feels her tummy - it's a horrible pain. "Oowww"

What happens next in the story?

VIGNETTE 5 - FRIENDS FIGHTING (this vignette was used in the initial validation studies but we now usually omit it. It's validity proved less strong and omission usefully shortens the interview.)

In this vignette, the distress induced relates to the child having an argument with a friend, falling out and the friend leaving and rejecting the child. The child is then left alone with the feeling of rejection (this is the stress stimulus) and then returns to mother. Because there are a number of confounding themes in this vignette, to do with peer conflict particularly, care must be taken to organise the vignette to allow the focus to end up with a child-mother reunion. The vignette often induces a problem-solving task for mother and child.

This story is about X doll playing with a friend. Who are you going to choose as your friend to play with? Let's find a doll.

The interviewer brings out a selection of dolls at this point for the child to choose and to name. *So X and Y are playing together. What kind of thing would they play do you think?* Go with the child's suggestion.

So they are playing (say hide and seek) together. (Act this out for a time). Then suddenly Y says "I am fed up with this, I don't like this game and I don't like you anymore. You are not my best friend anymore and I think you are horrible. I am going away now and I am not going to play with you ever again."

The interviewer takes the friend doll out of the picture and puts it away in an inaccessible place. So then X doll is left all alone feeling upset because his friend left and he goes home to where mum is.

What happens next in the story?

### **VIGNETTE 6 - SHOPPING**

In this vignette, the child finds him or herself separated from mother in a crowd while shopping. To set up the vignette the dolls' house is taken away and furniture from the house or other props are used to create a shopping centre with buildings and streets. This only has to be schematic. The essential requirement is that it needs to be possible for the child not to be able to see the mother doll at the trigger point of the vignette. From experience, during this vignette, it is best not to identify shops specifically during the story. In particular, do not to identify sweet shops since this introduces some powerful conflicting themes!

In this story, X doll and mum are going shopping. Here they go into the shopping centre and look at all the shops and there are lots of people around and they have to hold on tight to each other. They look in this shop here and this shop here. X doll is looking in this shop here .....

At this point, show the child looking at a shop window and then take the mother doll around to another place that is out of sight of the child doll and leave her there.

And X doll looks around with all the people there and she can't see her mummy and there are all the people around but mummy's not there. She looks around and can't see her ....... Then she feels very scared and she says "where's my mummy, where's my mummy......"

What happens next in the story?

12

### VIGNETTE 7 (FAMILY TRIP)

This final story should not relate to attachment themes but is a closure story. The child can suggest a typical family trip that the family would do together. Other family members can be brought on to the scene and the child can act out a typical trip. It is valuable if the child is allowed to play naturally for some time until there seems a natural closure. During this phase, the examiner should not be rating but should be ordinarily responsive to the child and encouraging of them. The examiner, thus at this point, steps out of the role that they have maintained through the rest of the interview.

MCAST Text6 Revised December 2001

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### 3.7 MCAST coding manual

### CODING MANUAL FOR MCAST

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#### Acknowledgements

Concepts and procedures within this coding manual have drawn on a number of different areas of attachment research in infancy and adulthood. The coding of attachment behaviours in the doll play draws on the initial work of Ainsworth et al 1979 in the Strange Situation procedure. Coding of disorganised behaviours draws on the work of Main and Solomon (1990). Concepts of methodologies in coding narrative coherence and affect draws on the work of Main and Goldwyn and others in the Adult Attachment Interview (1985 -). The structure of the interview has similarities to the doll play methodology developed by Bretherton (1994) for younger children and detail of the contents of the vignettes were inspired by aspects of the Adult Attachment Interview (Main and Goldwyn 1985 -). The conceptualisation of coding 'cannot classify' and 'multiple strategy' owes a great deal to Main and Hesse (Hesse 1995).

The authors would like to record their deep appreciation for the generous support of Mary Main and Eric Hesse during the development of this interview.

The coding scales apply to specific aspects of the content and style of the narrative. Most are coded on a 1-9 scale. For the majority of the scales, a general overall schema applies as follows. Where there are exceptions to this, these are indicated.

Score 7 - 9: Scores of 7 and above are within the normal or optimal range but of varying quality.

Score 5 - 7: "Borderline" normal or sub optimal scores but potentially "secure" in categorisation.

**Score 3 - 5**: Abnormal scores, generally raising the likelihood of "insecure" categorisation.

Score 3 and below: Seriously abnormal scores that will often reflect clinical caseness.

### SECTION 1: CODING THE INITIATION PHASE

This phase of the interview is examiner led. Its aim is to bring the child into an engagement with the vignette and generate the arousal that will mobilise their mental representation of attachment. The examiner therefore aims to develop:

- **1.** A deepening engagement with the vignette story.
- 2. A focusing of mood state around the particular distress represented in the story.
- **3.** A gradual increase in emotional tone or arousal.
- **4.** A handing over of initiative to the child that triggers the next phase.

The rating scales record success in each of these aims. They measure the initial setting conditions from which the test phase proceeds. They may sometimes reflect trait variables in the child (for instance, grossly attentionally disordered children will find initial engagement very difficult) and allow for some control of these in analysis.

### Scale 1A: Engagement in Phase 1

A rating of the extent to which the child has got absorbed and imaginatively caught up in the story. Rate by increasing attention to the play materials and the story, lack of distraction to other things, quality of emotional engagement in the story as seen by facial expression, gesture, comments etc. Good engagement with the examiner shown by social referencing etc. also weights here. Code on behaviour *up until the* handover of initiative to the child. Difficulties with the handover and turn taking don't code here.

- 1. Impossible to engage. Either overactive, distractible and unable to focus or extremely passive.
- 2.
- **3.** Examiner has to work much harder than usual but still cannot keep develop the child's engagement successfully
- 4.

- **5**. Good enough to proceed to the next phase but still somewhat problematic and examiner has to work quite hard to initiate/maintain engagement. Below 5 the rater will not be able to proceed with the interview. Above 5 the interview can proceed.
- 6.
- **7.** Good quality engagement by the end. Examiner only has to work slightly to maintain engagement.
- 8.
- **9**. High quality full engagement from the beginning. Immediate engagement with play materials and intense active interest in the story. Deepening concentration as vignette proceeds.

### Scale 1B: Quality of Arousal

We expect a gradual increase in arousal as the initiation of the vignette proceeds. This rating records how easily the child is able to experience this increased arousal.

- 1. No capacity to appropriately modulate arousal in the context. Either an absence of any arousal at all or a chaotic and unfocused over arousal which is not modulated and is incongruous to the context of the vignette.
- 2.
- 3. Partial or very uneven modulation. Difficult to contain and fairly incongruous with vignette. Paradoxical response with decreasing apparent arousal during engagement. Children with ratings of 3 or below will be unable to tolerate the arousal generated in this phase of the interview. They may show behaviour such as completely turning away, leaving the table, clapping hands overhead.
- 4.
- 5. An uneven modulation but a gradual and reasonably appropriate increase in arousal during the initiation phase. Turning away of the body but not leaving the table. Briefly putting hands over ears.
- 6.
- 7. Quite appropriate modulation of increasing arousal. Quite well contained and appropriate. Examples of the behaviour here would be the presence of an embarrassed laugh or inappropriate "forced" smiling.
- 8.

9. Fluently modulated, graduate increase in arousal as initiation phase continues. Sensitive and appropriate to the context introduced by the examiner. Well contained and appropriate to the setting and task. Enables the child effectively to engage in play.

Scale1C:TurntakingattheendofPhase1The aim at the end of Phase 1 is to transfer the initiative to the child to complete the vignette.This scalerecords how easily this is done.

- 1. Smooth transition of initiative
- 2. Child interrupts prematurely and does not allow examiner easily to finish the vignette initiation.
- 3. Child does not respond to turn taking signals and fails to commence with the initiative, or needs prompting, or significant delay in commencing narrative.

### **SECTION 2: CODING THE VIGNETTE COMPLETION**

The aim is to have the child enter the second phase of the vignette somewhat aroused and empathically focused on the distress in the vignette. We assume that most children in that state of distress and tension will wish to find a way of reducing the distress and we further assume that the experience of distress will have activated their internal representation of attachment relationships and expectations of care. The aim of this phase is to observe the spontaneous behaviours played out by the child in pursuing that end. We are interested in *both* the strategy of assuagement that is played out *and* in its effectiveness (i.e. the extent to which assuagement occurs and arousal diminishes). It is useful to think here of a notional graph representing intensity of arousal: in the first initiation phase, the level of arousal has gradually increased to the point of maximal intensity at the transition to the second phase; within the second phase we expect to see the arousal gradually reduce to a threshold below which we may see the switching in to a pattern of exploratory behaviour. We are interested in the profile of that graph as well as the means by which the assuagement is achieved.

In secure attachment behaviour we expect to see the use of an interpersonal strategy to assuage the distress through proximity to the caregiver. In avoidant strategies the child may minimise the initial distress and/or use non-interpersonal strategies such as various forms of self-care or displacement activity. In ambivalent strategies the child will usually show contact maintenance and contradictory resistant behaviours with increase rather than reduction of arousal. We may finally see chaotic behaviour that seems to represent no goal directed behaviour or clear strategy.

The care giving behaviour in phase 2 may be understood in two ways. Firstly, as a straight

forward re-enactment of the child's experience of care giving: which would correlate with home based observations. This is the focus of the scoring in this section. On the other hand, the representation of caregiving behaviour could be considered as already part of the child's internalised working model of attachments and to that extent modified by child's cognitive processes. For instance there may be the beginnings of the processes of idealisation or denigration of the parent. This focus in rating is addressed in the later scoring of coherence and state of mind.

The evidence for rating aspects of phase 2 comes primarily from the behaviour acted out in the doll play by the child. This is supplemented in some scales by observations about state of mind of participants in the doll play and if necessary by probes regarding the state of mind from the examiner. The child's own reactions and behaviour can give supplementary information in both this phase and the rating of state of mind variables. *Particular weight should be given to behaviours that occur spontaneously or with an almost compulsive quality at the beginning of the vignette on the assumption that these form the most unmediated reaction to the distress stimulus*. If behaviours later in the vignette are very different then this may be appropriately recorded as a reduction in coherence. Initial disorganisation of response may be particularly significant as weighting towards a D subcategory.

### Scale 2A: Proximity Seeking: Child to Mother

This and the next scale record the details of proximity seeking. *These are behavioural observations; avoid using inferences about mental state or intentionality*. Code the movement of each person separately - thus if mother moves and child does not, code the child scale as 3 etc. It is possible to score high on both 2B and 2C if both child and mother move towards each other appropriately. All codes refer to the dolls.

- 1. Child markedly increases distance from mother during vignette.
- 2. Child slightly increases distance from mother during vignette.
- 3. Child stays at same distance from mother during vignette.
- 4. A partial movement towards mother during the vignette but not achieving proximity.
- 5. Significant delay in beginning proximity, gradual or interrupted or fleeting proximity with a quick move away.
- 6. Good final proximity made but after some early delay in starting.

- 7. Child creates proximity by getting close. There is clear goal direction and communication but either a slight delay in proximity seeking or an absence of physical contact or a clear and direct verbal communication.
- 8. Proximity with clear and direct verbal communication but no physical contact.
- 9. Child makes swift clear and direct proximity with physical contact. Clear goal directedness.

### Scale 2B: Proximity Seeking: Mother to Child

- 1. Mother markedly increases distance from child during vignette.
- 2. Mother slightly increases distance from child during vignette.
- 3. Mother stays at same distance from child during vignette.
- 4. A partial movement towards child during the vignette but not achieving proximity.
- 5. Significant delay in beginning proximity, gradual or interrupted or fleeting proximity with a quick move away.
- 6. Good final proximity made but after some early delay in starting.
- 7. Mother creates proximity by getting close. There is clear goal direction and communication but either a slight delay in proximity seeking or an absence of physical contact or a clear and direct verbal communication.
- 8. Proximity with clear and direct verbal communication but no physical contact.
- 9. Mother makes swift clear and direct proximity with physical contact. Clear goal directedness.

#### Scale 2C: Self Care Behaviour

Concrete acts of self-care to contain distress. Child acts as his or her own care giver e.g. by talking to self or making a cup of tea or dressing own cut or giving self medicine etc. Distinguish from more non-specific acts that can also act to reduce distress but which do not involve concrete self-care - these are coded as displacement activities. The organisation and elaboration of these self-care behaviours is relevant and should contribute to a higher score.

- 1. No evidence of self-caring behaviours.
- 2.
- 3. Very intermittent use of self-care mixed in with other strategies.
- 4.
- 5. Occasional but not predominant use of self-care. Self-care is more elaborated.
- 6.
- 7. Frequent use of detailed and elaborated self care, but still seeks something from mother.
- 8.

9. Predominant and overwhelming use of self cares strategies to the exclusion of others.

### Scale 2D: Displacement Activities in the Narrative (doll)

These behaviours that have no understandable goal orientation in terms of proximity seeking or specific self care strategy and yet serve the function of containing or masking distress. A number of forms of this can be identified:

- (a) Poorly structured repetitive, non-progressive preservative activities such as fiddling, rearranging furniture, rather random cleaning of the house, walking in circles.
- (b) More organised behaviours such as making or eating a meal, watching TV, organised cleaning, introduction of extraneous topics or characters.

In the coding, the less formed perseverative behaviours described in (a) weight as more abnormal.

These displacement activities can be represented in the narrative by doll or parent but usually involve both, i.e. it would be unusual to see clear goal orientated behaviour from the child doll alongside obvious displacement activity from the mother.

- 1. No evidence of displacement activities.
- 2.
- 3. Very intermittent use of displacement activities mixed with other strategies.
- 4.
- 5. Presence but not predominant use of displacement activities.
- 6.
- 7. Frequent use of displacement activities including bringing in a character besides mother or doll child.
- 8.
- 9. Predominant and overwhelming use of displacement activities to the exclusion of others.

### Scale 2E Displacement activities (child)

#### Displacement behaviours shown by the child during the interview. These include:

### a) motor activity such as drumming, twirling, writhing, arching, fidgeting, sniffing.

*b)* child coming out of the task completely and introducing extraneous conversation such as "we went to the zoo yesterday" or "when are we going to end" or "I want to go and see mummy".

NB. Behaviour that may be the result of overactivity, distractibility, or cognitive difficulties will be coded here but coders should note separately that they believe the behaviours are due to these factors rather than anxiety related displacement. Clues to this will lie in whether the behaviour is episodically related to specifically charged contexts or more general (e.g. appearing also in the phase 1 codings)

- 1. No evidence of displacement activities.
- 2.
- 3. Very intermittent use of displacement activities mixed with other strategies.
- 4.
- 5. Presence but not predominant use of displacement activities.
- 6.
- 7. Frequent use of displacement activities.
- 8.
- 9. Predominant and overwhelming use of displacement activities to the exclusion of others.

### Scale 2F: Reversal Patterns

Child doll behaviours that show either:

a) Active care giving towards the parent aiming to assuage parent's distress.

b) A *predominant focus* during the narrative on the adult's state of mind, distress or predicament rather than the child's.

The phenomena under a) are given stronger weight than those in b)

- 1. No evidence of reversal patterns.
- 2.
- A slight emphasis/awareness of parental predicament and mental state mixed in with child distress.
- 4.
- 5. Significant shift of focus to parental predicament/mental state.
- 6.
- 7. Pervasive or intense reversal including care-giving behaviour from child towards parent.
- 8.
- 9. Predominant and overwhelming use of reversal patterns to the exclusion of others.

### Scale 2G Angry Resistance/Motivational Conflict

Alternating behaviour where there is a display by the child of contradictory behaviours. Alternation between anger and clinginess is a characteristic example of this. There are clearly contradictory or ambivalent feelings underlying the child's attempt to maintain contact with the parent. To be distinguished from *bizarre, disorganised behaviour* (below) where there is no sense of overall goal, less mood congruence and the alteration is very rapid.

1. No conflicted behaviour

2.

- 3. Isolated conflict behaviours
- 4.

5. Moderately high levels. E.g. calling mother because of tummy pain and then when mo comes saying "go away"

6.

7. High levels of conflicted behaviour between clinginess and anger. Intensity and repetition of cycles of this kind code here.

8.

9. Very high levels of conflicted behaviour swamping other behaviours

### **CAREGIVING BEHAVIOUR**

This section codes behaviours observed in the care giving figure during the vignette which are related to care giving (*other* behaviour of the parental figure in the narrative does not code here). Evidence on which the ratings are based are doll caregiver behaviour with the addition of mental state or intentional attributions that the child makes to this figure either spontaneously or in response to probes. With the exception of physical responsiveness, these ratings *require inferences about the caregiver's mental state and intention;* we have to get a feeling about the caregiver *as a person* in the vignette. If there is insufficient information given in the play to make such judgements, code 0.

#### Scale 2H: Physical Responsiveness and Sensitivity

The caregiver's physical and emotional response to the distress. Child orientation and sensitivity to the child's behaviour and state of mind. The rating considers the timing of the response and its appropriateness.

0. Cannot code because parent is not represented in the vignette at all

- Parent represented but no evidence of sensitivity or response to child's signalling of distress. A
  quality of complete ignoring or unawareness of the child. Caregiver's behaviour may continue
  unchanged with other goals in mind driven by caregiver's needs and goals, not the child's. No
  interaction at all.
- 2.
- 3. Delayed or very partial response to the child's distress. Poorly timed or insufficient response, but at least some response to child's distress.
- 4.
- 5. Moderate sensitivity that may be sustained reasonably well. The response may be partially appropriate and reasonable in timing. Perhaps interaction formal in tone.
- 6.
- 7. Good sensitivity and responsiveness with perhaps some delay in initiation of some lack of focus or distraction at times. Basically the child's needs are responded to.
- 8.
- Immediate and clear sensitivity to the child's signal of distress. Lack of any other distraction.
   Clear, appropriate and well timed responsiveness to the child's needs. No other goal orientation.

### Scale 2I: Warmth

The inferred state of mind of the caregiver with respect to warmth during care giving activities.

- 0. Lack of data with which to code (whether or not the parent is represented in the vignette).
- 1. Cold, uncaring, hostile with actively hostile or violent acts.
- 2.
- 3. Cold, unresponsive and uncaring without overt violence or hostility.
- 4.
- 5. Some warmth and care towards the child that may be delayed or mixed in with other reactions.
- 6.
- Warm care towards the child. Expressions of empathy and care but may be delayed or somewhat intermittent.
- 8.
- 9. High levels of warmth, lovingness, empathy and care, undiluted by other reactions.

#### Scale 2J: Intrusiveness/Control

Care giving behaviour that actively intrudes, interferes or controls the child's reactions and imposes the caregiver's agenda on the child. There is a lack of child centeredness. This scale codes *both* behavioural and psychological aspects of the care giving. It relates to the concept of "expressed emotion".

- 1. No involvement/control/impact on child. Total lack of interaction.
- 2.
- 3. Low, sluggish or partial interaction with the child.
- 4.
- 5. Appropriate lively interaction.
- 6.
- 7. Over control and a degree of intrusiveness is very evident.
- 8.
- 9. Overwhelming intrusion into the child's space and reactions. Obliteration of the child's feelings.

### EFFECTIVENESS OF ASSUAGEMENT

The degree to which distress is modulated, independent of behavioural strategy used. Based on doll behaviour and mental state as reported by the child. We are interested in getting a sense of subjective distress in the doll child as well as distress inferred from behaviour. A first rating is made strictly on the basis of the communication made by the child. A second rating is based on the examiner's assessment of the *actual* degree of assuagement independent of what the child says. This is to allow recording of situations where the child maintains that the child doll "feels better" when it is apparent to the examiner that there is a good deal of evidence to suggest that this is not the case. Ratings here equate to different "shapes" of the notional "graph" of the attenuation of arousal during the vignette (see page 4)

NB: In a number of the vignettes the trigger includes a state of hurt in the child, e.g. vignette 3, hurt knee or vignette 5, tummy ache. The coding of assuagement here should be in relation to the *distress engendered by the hurt rather than the hurt itself*. We do not expect the child to represent a tummy ache or cut knee resolving in a magical fashion. Indeed, in the most secure narratives the child often shows the pain or illness realistically continuing for a time: the appropriate care giving assuages the distress however and generates reparative strategies to help.

### Scale 2K: Assuagement (child report)

The child's report in response to probes in conjunction with evaluation of behaviour played out in the narrative.

1. Significant escalation of distress during the course of the vignette and no evidence of resolution or assuagement.

2.

- 3. Level of distress neither increases nor modulates during vignette.
- 4.
- 5. Significant resolution of the distress but somewhat slowly with interruptions.
- 6.
- 7. Good final resolution of the distress with either some time delay or some difficulties.
- 8.
- 9. Prompt complete and satisfying resolution within the vignette.

### Scale 2L: Assuagement (rated by observer)

Rating here is inevitably inferential, but it should be based on observed information rather than indirect theoretical inferences (e.g. invoking mechanisms of denial that are not verifiable from the observations). It should be possible to support codings with specific instances in the tape.

- 1. Significant escalation of distress during the course of the vignette and no evidence of resolution or assuagement.
- 2.
- 3. Level of distress neither increases nor modulates during vignette.
- 4.
- 5. Significant resolution of the distress but somewhat slowly with interruptions.
- 6.
- 7. Good final resolution of the distress with either some time delay or some difficulties.
- 8.
- 9. Prompt complete and satisfying resolution within the vignette.

### EMERGENCE OF EXPLORATORY PLAY

In theory, a satisfactory resolution of arousal will often give way to a different behavioural pattern of exploration. This exploratory play will have a relaxed, imaginative, progressive and enjoyable quality and relate to imagination and mastery. It needs to be distinguished from displacement activity (see above).

Occasionally an inappropriately early probe from the examiner interrupts the child's story. These children might well have returned to exploratory play had they not been interrupted and in many cases there are clear clues that lead one to believe that the child was developing an exploratory play theme prior to the interruption. These children should receive a pro rated score for exploratory play.

#### Scale 2M: Exploratory play

0. No exploratory play seen.

- 1. Limited exploratory play not well developed/elaborated. Poor quality. May show displacement.
- 2. Good well developed and elaborated exploratory play seen. Includes a "fresh quality" to the content with the topic moving on.

### CHILD'S PREDOMINANT AFFECT THROUGH VIGNETTE

Here an initial distinction is made between an affect that changes and becomes modulated through the vignette as the child's arousal and behaviour is modulated, and a mood state that remains inflexible and predominant and unmodulated throughout.

### Scale 2N: Affect

- 1. Modulated flexible affect appropriate to task context.
- 2. Overwhelming unmodulated and preoccupying affect throughout vignette:

2.1 Positive affect (happiness, brightness, overbrightness).

- 2.2 Negative affect (anger, sadness, fear etc).
- 2.3 Oscillating affect.

3. General minimisation of distress or arousal or attachment related themes throughout vignette.

### **BIZARRE THEMES**

Bizarre content is separated from 'disorganisation' (see below). Bizarre themes are those that do not relate to the task of the interview ('reality based') and frequently take on a nightmarish quality with death of child or parent, parents eating children, flying destruction etc. Care must be taken to distinguish themes that may

be normally expectable (and hence reality based) in relation to the vignette - eg monsters in the nightmare vignette or hospital visits in the tummy ache).

### Scale 2O: Play Content

- 1. Reality based.
- 2.
- 3. Basically reality based but with magical appearance/disappearance of characters. Elisions and jumps having a magical causality.

4.

- 5. 70% reality, 30% fantasy.
- 6.
- 7. 30% reality, 70% fantasy. (Bizarre themes ++ ).
- 8.
- 9. 100% overwhelming bizarre and fantastic play.

### CODING THE PREDOMINANT STRATEGY OF ASSUAGEMENT IN THE NARRATIVE

This section records categorically the key behavioural pattern in the interview. Identify the *predominant* strategy used by the child in the vignette to assuage distress by best fit to the definitions below. Code on the information available so far in the coding. The predominant strategy rated here will usually co-vary with the final attachment categorisation of the vignette but the latter task is a separate exercise which takes into account the state of mind codings.

Representation of both child and parental behaviour is included within these codings. This is based on the theoretical assumption that the internal working model of attachment includes the representation of both sides of the interaction. Assignment of a predominant strategy does not depend on whether there is assuagement or not. In particular, one can get assuagement with a non-secure strategy (particularly 2.1) and in a minority of cases a secure strategy can be represented in which there is incomplete assuagement (in particular in 1.4).

Code main strategy 1-4 and sub codes within each strategy. Other less predominant strategies identified can be coded as alternates: viz 1.2/2.1

### 1. Interpersonal (Secure) Strategy

In this strategy the child clearly represents an interpersonal transaction that results in the assuagement of distress. This will largely be seen by communication or proximity to the caregiver and acceptance of care giving and consequent assuagement. The child will spontaneously turn

towards the other person to share and resolve distress. It is clear that the child's expectation is that distress will be largely mediated through contact with another.

- 1.1 Interpersonal strategy but with elements of avoidance or restriction. Proximity scores 4
  7. Parental reaction low on warmth. There may on occasions here be initial avoidance or restriction but with a clear "warming" through the vignette to more contact.
- 1.2 This is a "default" secure category. For patterns of interpersonal strategy which are not easily codeable in other sub categories of this section. In this category, the parental reaction may be less than optimal, and the child may show significant independence. For instance, the child may need to make a lot of noise to attract mother's attention or may gain very swift assuagement and run out of play.
- 1.3 Optimal version of interpersonal strategy. Here particularly the child will represent a dyadic interaction: parental reaction will be warm, concerned, appropriate and well timed. There will be high scores on assuagement and exploratory play.
- 1.4 The essential concept in 1.4 is that continuing assuagement *depends on* continuing contact with the caregiver. This "contact maintenance" can be achieved in various ways; an example would be the child who does not get out of the maternal bed after the nightmare vignette. A consequence of this is that there will be less high scores on assuagement and less high scores on exploratory play since a characteristic of this category is that the child does not easily move on to the exploratory phase of the attachment cycle.

### 2. Non Interpersonal (Avoidant) Strategy

In this strategy the child uses predominantly non-interpersonal means to assuage distress, this will involve a focus towards self-care or displacement strategies or denial of the original distress. Lack of representation of interpersonal behaviour will be seen by a lack of proximity seeking (low scores on proximity scales) or one transient ineffectual interpersonal bid. This lack of interpersonal bid is complimented by increase in displacement and self care strategies reflected in those scales. The other phenomenon commonly seen is "restriction"; when the child will suppress any representation of distress, leave the parent out of the narrative, or where the child does not alert parents to feelings of distress. Self help strategies may be used

independently of the parent's knowledge, i.e. the parent may get on with their activities in the narrative without knowing about what is happening to the child.

2.1 Highly avoidant. Here there is a complete and sometimes highly organised form of the avoidant strategy. Sometimes, this organised form will be apparently successful in assuaging distress thus high scores on the assuagement scales are not incompatible with this category. There will be high levels of restriction of attachment themes, or overwhelming use of self-care strategy.

2.2 Weakly avoidant. Here the avoidant strategy is less complete and organised and will often need a "top-up" of interpersonal contact with the parent outside the theme of attachment e.g. making a meal together. Interaction may be minimally represented, e.g., no voice for the mother doll. No effective interpersonal contact.

#### 3. Ambivalent Interpersonal Strategy

Here the child will look towards interpersonal contact but in an ambivalent way. Often the strategy will seem to promote as much as assuage any distress and will often involve contradictory behaviours. However, there will be inclusion of another person within the behaviour and the child will spontaneously reach towards contact with another in this context.

- 3.1 Interaction promotes distress. There is characteristic dispute and anger. Vignettes tend to be long. Initial distress and interpersonal contact evolves into conflict between mother and child around non-relevant issues, e.g.. clothes and eating, or child introduces new action into the narrative that creates a new focus for ongoing distress or anger. NB to code here anger must be dyadic between caregiver and child rather than some more diffuse anger/aggression in the vignette.
- **3.2** Passive. Weak signalling of distress, weak but clear use of the other for Assuagement. Assuagement will be poor. An example would be a child who asks for Assuagement and then passively hides.

### Chaos or Lack of Clear Strategy

This coding is characterised by an absence of any predominant strategy or assuagement within the vignette. The child's behaviour will not show goal directedness or else will be internally contradictory or show high levels of motivational conflict. This category should only be used when
it is clear that there is no predominant strategy that can be coded. A best alternative coding should be made. See section 4 on "coding attachment disorganisation" for further discussion of this category.

- **4.1 Complete chaos**. This is a coding for narratives in which there is a lack of structure and complete lack of overarching strategy or an apparent absence of capacity to mount a strategy at all. The coding of 4.1 is based on the narrative quality rather than any inference as to aetiology although experience suggests there are likely to be two forms of problem underlying these narratives:
- (a) a group with developmental difficulties who fail to engage effectively in the task at all (e.g., significant comprehension difficulties or attentional disorder) (4.1d);
- (b) children who understand the task but go on to exhibit highly chaotic behaviour. These children will often appear to be highly traumatised (**4.1t**).
- **4.2 Use of multiple strategies**. Here the child uses a number of different and incompatible strategies for assuagement during the course of the narrative, none of which have predominance and none of which are effective in finally assuaging distress. The use of up to 4 sequential strategies can be coded in 4.2, use of more than 4 strategies will be considered completely chaotic and code into 4.1. Note any brief strategies in sequence Thus 4.2/1.1/3.1/2.1. Avoid coding "cusp" B/A or B/C cases into this category. However a common pattern coded as 4.2 will be a mixture of avoidant and ambivalent ("A/C").

#### 5. Control of caregiver

This category is distinguished by the initial absence of the signalling of distress or dependency by the child and the *substitution* of one of two forms of active control of the caregiver at the critical juncture of assuagement in the attachment cycle.

5.1 "Coercive/angry" control, where the child will order the parent around, direct them, force them off in play into journeys or (often dangerous or damaging) situations. There may or may not be anger actively displayed, the critical issue is control of the caregiver at a critical juncture, e.g. in the hurt vignette, the child tells the mother to "get the plaster".

5.2 "Solicitous" control. The focus may be initially shifted to the welfare or safety of the caregiver or the child may need to do an initial activity for the parent in order to get them into a situation where they will care. E.g. child makes a meal for the mother before being able to express distress.

#### A note on cusp codings between avoidant/secure and ambivalent/secure

Avoidant/secure. The following weight towards a secure (1.1) coding:

(a) the child represents an interpersonal transaction that has an effect i.e. there is assuagement of some degree, and the child is affected by the contact with their parent;

(b) there is an absence of predominant self-care strategy in response to distress;

(c) a high degree of restriction within the narrative of evidence of distress, signalling of distress, parental reaction or a general absence of attachment themes will suggest an avoidant coding. Initial transient restriction which then warms to an effective interpersonal contact will be within the secure category;

(d) children who show an interpersonal communication "at a distance" or symbolically which is still effective will be coded as 1.1;

(e) if a child makes 2 or more bids for contact despite being rebuffed, in other words repeatedly seeks interpersonal assuagement, this will code 1.1;

(f) in these cusp codings, the represented child behaviour is the dominant factor although the parental reaction has an influence.

**Ambivalent/secure strategy.** The essential difference between a 1.4 and the ambivalent category lies in the effectiveness of the interpersonal contact. In 1.4 there is a degree of contact maintenance that does not escalate into an angry or ambivalent interpersonal conflict. Assuagement may be only moderate. In the ambivalent category, however, the interpersonal contact is not satisfactory or containing. Typically, the child needs to increase the signalling of distress in some form through continuing or escalating distress, whiny behaviour or irritable, angry interaction. There is escalation into angry or ambivalent conflict. Assuagement is likely to be low.

#### SECTION 3: CODING STATE OF MIND AND NARRATIVE COHERENCE

These codings are based on evidence from within both phases of vignettes. Aspects of the *care giving behaviour* can inform ratings of coherence and other state of mind scales: e.g. incongruities between the ascribed state of mind of the caregiver and the caregiver's behaviour mismatch or incongruity between parental behaviour and child response (particularly in "quality"). Incongruity between child report of assuagement and observer rating of assuagement is particularly valuable in looking at incongruity. Displacement and motivational conflict also influence coherence ratings.

#### **COHERENCE OF DISCOURSE**

Ratings of narrative coherence are modelled on the coding in the Adult Attachment Interview (Main and Goldwyn). This makes use of the theoretical work of Grice, who identified four attributes of effective discourse ("Grice's maxims"): 1) **Quality** - that communication be truthful and internally consistent with evidence; 2) **Quantity** - that it be succinct yet complete; 3) **Relevant** to the topic at hand; 4) **Manner** - be clear and orderly. These criteria are applied to the child's narrative and discourse style during the vignettes.

Scale3A:Quality-InternalConsistencyQuality is coded on: (a) internal consistency within the narrative, i.e. where the child develops a clear and<br/>believable narrative with descriptive depth and associated detail; (b) a congruity between the content of the<br/>story the child presents and their associated behaviours.

Here evidence is gained from all sources; doll behaviour, doll state of mind, child behaviour and speaking. Particular discriminators are inconsistencies between what is said and what is communicated non-verbally and between what is said and levels of arousal in the doll behaviour. Displacement activities in child will also code here.

Ratings of Quality are also influenced by the consistency of patterns in different vignettes through the interview. Here if there is an understandable *progression* of pattern especially with increasing insight and honesty (e.g. from avoidance to anger in relation to caregiver), then coherence is rated higher than if there is a non-progressive *inconsistency* of response with no development.

1. Overwhelming violations of quality: communication is inconsistent and incongruous, many incongruities between affect and gesture and between descriptions of behaviour and the behaviour itself. Or overwhelming incongruity between the child's view of assuagement and the

observer's view. Discrepancy between what a child says and feels and what a child looks like. Response within/across vignettes totally inconsistent.

2.

3. Many violations where the communication is inconsistent or there are incongruities that render the vignette unbelievable.

4.

5. A small number of inconsistencies and incongruities during vignette and across vignettes.

6.

7.Good congruity. The child's emotional expression is in line with the story and renders the vignette vivid and believable. The child may show a few minor displacement violations or may be a little restriction on probes.

8.

9. High level of consistency. Integrated coherence between verbal, non-verbal, gesture, affect, prosody and behaviour. A complete and convincing consistent quality within the vignette. Progression of pattern across vignettes is coherent.

#### Scale 3B: Quantity (succinct yet complete)

Here attention is given to the narrative line. How brief or how full the story is represented. An analogy could be with a piece of film: is the "image" that the narrative represents clear and vivid or is it thin and indistinct or over elaborated, clogged and unclear. Is the time sequence clear or are there passages of restriction or absence? (To continue the metaphor, are there missing frames from the film). Are there gaps or missing information that render the narrative incomprehensible?

- Either the narrative is extremely thin or under elaborated with little or no representation or action, interaction or characterisation OR the story is highly over elaborated to the detriment of communication. There may be a sense here of being "lost in your own narrative".
- 2.
- 3. Many violations of quantity: the story is incomplete and difficult to follow or is too detailed or difficult to follow. The narrative line is either clearly restricted or over elaborated.
- 4. A significant degree of damping or incompleteness interferes with the narrative. Irrelevancies and over elaboration is significant enough to cloud the story line.
- 5. The story is generally clear despite significant areas of under or over elaboration but these do not significantly disrupt or cloud the story line.

6.

- 7. This is a competent narrative with only minor or brief areas of restriction or over elaboration. The story is mainly concise and clear with supporting detail. We have thought of this as a "competent" or "workman-like" narrative. Code above 7 for stories that have particular additional qualities of vividness, clarity and life.
- 8.
- 9. A full and complete story with no areas of "deadness" or restriction. Vivid and alive. The detail supports the story line. No irrelevancies or unneeded information.

#### Scale 3C: Relevance

This scale relates to the child's success in keeping to the task initiated by the examiner in the interview and how well they are able to stay on the topic of addressing attachment themes. This means, for instance, that high scores on self-care which address the attachment issue will score highly on relevance whereas doll displacement by definition avoids the task of the interview and will code down on relevance.

- A total violation of relevance. No grasp of the interview topic. The thread of the story stem is lost. No shape or goal directedness to the behaviour. High levels of *doll* displacement will code here.
- 2.
- 3. Many violations of relevance. The thread is almost lost and the story difficult to follow. Minimal addressing of attachment themes.
- 4.
- 5. Moderate grasp of the topic. The vignette has reasonable shape and is largely goal directed.
- 6.
- 7. Minor violations of relevance. These do not disrupt the overall line of the narrative. Minor doll displacement or diversions but the story is orientated around attachment themes.
- 8.
- 9. Topic is consistently held and child fully engaged and aware of the task. Detail action and interaction is at the service of completing the task.

#### Scale 3D: Manner (clarity and orderliness)

This scale records the way that the manner of producing the narrative is embedded within other aspects of the child's functioning. In good coherence of manner the child can focus on the narrative without it being

interrupted by unexplainable interruptions or lapses; the child can integrate producing the narrative with social referencing to the examiner, handling external interruptions or other real life events (such as the doll's house furniture falling over unexpectedly etc.).

Children code down on this scale if other aspects of their functioning or relations intrude into the narrative task. There is an inability to keep to the boundaries of the task with jumping in, not finishing, distracting, not waiting. There is a lack of ability to appropriately socially reference to the examiner during the task; including signalling the end of the task to the examiner. They may lapse into jargon or meta speech (parental phraseology) or the introduction of odd or irrelevant material. Particularly telling is loss of the boundary between the child and the child doll within the narrative; as if the *child herself* is in the narrative and not the *child doll*.

Many of the disorganised and disorientating phenomena from within the next section will code into this section weighting down on coherence. Also weighting the coding will be - preoccupied pauses, lapses of the narrative into silence for a time while the child is clearly attending to something internal before getting back to the narrative, and high levels of child displacement.

A number of features code positively for manner. Firstly, the capacity of the child to engage with the examiner at the beginning of the task (high score on scale 1A) and continuing social referencing to the examiner through the task. Secondly, Evidence of a child's capacity to reflect on the story line (high scores on meta cognition) and to represent both sides of the dialogue.

- Completely unable to keep to the boundaries of the task, jumping in, not finishing, distracting, not waiting, lapsing into jargon or meta speech (parental phraseology) Vague dialogue within repeated intrusions of unusual or jargonised or artificial speech. Introduction of odd and irrelevant material. Loss of boundary between the child and the child -doll in the narrative. Very high levels of child displacement (2E>8).
- 2.
- 3. Generally poor boundaries kept within the task but some evidence of engagement and social referencing.
- 4. A coding of 5 and above indicates that the vignette play is organised to at least a reasonable extent in an appropriate way within other aspects of the child's functioning. At 5, the child keeps to the boundaries of the task with minor aberrations but essentially the narrative is not disrupted significantly. Mild breakage of boundaries around the narrative.

- 5.
- 6. There is no breakage of boundaries around the narrative. Social referencing to the interviewer maintained throughout the narrative.
- 7.
- 8. Excellent, keeping to the here and now demands of the task, signalling at various stages and at the end. An understanding of the nature of the task and contact with the adult maintained throughout. No child displacement.

#### MENTALISING

These are mental state attributions or descriptions made by the child either spontaneously during acting out of behaviour or as prompted by the examiner. The mentalising scales will be initially used as they are in the AAI. That is, high levels of mentalising ability are almost always seen in the autonomous AAI group, but many autonomous cases do not show mentalising ability. Thus, it is a supportive but not essential characteristic of this category.

#### Scale 3E: Child of Self

- 0. No mentalising ability apparent either spontaneous or prompted. Unable/unwilling to describe self or parent in response to prompts
- 1. Some mentalising only in response to the prompt but this is limited. For instance, "I'm OK" or other vague statements.
- **2**. Mentalising description of self evident with prompting and some elaboration given in mental state terms.
- **3**. Able to mentalise without prompting but prompting issues more full description. A rich spontaneous, continuous and full description of self with intonation of the voice and vividness of presentation.

#### Scale 3F: Child Description of Mother

- 0. No mentalising ability apparent either spontaneous or prompted. Unable/unwilling to describe self or parent in response to prompts
- 1. Some mentalising only in response to the prompt but this is limited. For instance, "I'm OK" or other vague statement.
- 2. Mentalising description of self evident with prompting and some elaboration given in mental state terms.

 Able to mentalise without prompting but prompting issues more full description. A rich spontaneous, continuous and full description of self with intonation of the voice and vividness of presentation.

#### SCALE 3G: METACOGNITIVE MONITORING

Evidence that the child is able to reflect on events as they happen in the vignette. This reflection can be evidenced by the child's verbal comments about the action commenting upon it. This can either be done spontaneously as part of "self talk" during the narrative completion or at the service of social referencing, i.e. commenting on the story to the examiner - "oh this is difficult".

- 0. Absent
- 1. Weak
- 2. Strongly present

# SECTION 4: CODING ATTACHMENT DISORGANISATION Introduction

Coding of disorganised behaviours in this system takes elements from both the D coding system for the Ainsworth Strange Situation Test developed by Main et al and the U system in the AAI. The approach is adapted to allow for the likely effects of the developmental age, and the ways in which early disorganisation may affect later internal representations. It is also designed to be useable in the clinical setting and to enable identification of developmental and clinical factors that may potentially confound attachment ratings within the interview- (i.e. neurodevelopmetal/clinical features that may result in a narrative disorganisation which is not necessarily attachment related).

The interview allows identification and coding of 4 different kinds of disorganisation.

#### 1. Episodic disorganised or disorientated behaviour

Vignettes with transient disorganised or disorientated behaviour representing breakdowns within an organised strategy. When most significant, these episodes of disorganisation occur at critical contexts within the narrative (such as reunions or moments of care or need). The MCAST clearly reveals these behaviours and allows them to be coded. We consider they indicate traces of traumatic or unresolved experience or are markers for highly contradictory feeling states stirred up by the topic of the interview. **Rules for coding these episodic phenomena are set out in the next section.** 

#### 2. Multiple incompatible strategies

The presence of a number of <u>coexisting but incompatible attachment strategies</u> leading to motivational conflict and disorganised behaviour. Bowlby wrote early on from a clinical perspective on the likely presence of such coexisting incompatible attachment strategies - especially in disturbed children. **Vignettes of this kind are recorded in the section on predominant strategy as a coding of 4.2.** - see page 17 for description.

#### 3. No identifiable strategy

A significant minority of vignettes (especially in clinical samples) may be unclassifiable in attachment terms on internal evidence within the interview. These are vignettes with **predominant strategy 4.1** - see page 17. Additional external data is needed to understand the nature of the disorganisation.

Such pervasive disorganisation may commonly be the result of:

- developmental disorder (e.g. SLD, PDD, ADD, LD) making adequate vignette engagement/completion impossible: 4.1 (a)
- pervasive disorganisation due to high arousal/anxiety (which may be post traumatic): 4.1 (b). or a combination of both

#### 4. Controlling patterns of care giving from the child

A number of authors have argued that toddler D behaviour develops in the young school age child into patterns of compulsive control. Two forms of this have been identified: (a) coercive controlling of the caregiver, (b) solicitous care giving towards the caregiver. These patterns are readily identified in the Interview. When predominant as a strategy in response to distress, these patterns are coded in the section on predominant strategy as 5.1 or 5.2. When seen as isolated incidents or subsidiary trends in the vignettes that have other attachment strategies, they are coded in Scale 2F and are not considered to signal primary disorganisation.

#### EPISODIC DISORGANISED OR DISORIENTATED (D) PHENOMENA

Vignettes with a predominant strategy but which show the presence of episodic disorganised or disorientated behaviours. When most significant these phenomena are seen in critical points of the narrative (such as reunions). They represent interruptions of or intrusions into the narrative flow. Episodic D phenomena may be identified within the narrative represented by the child or in the child's own behaviour while playing out the narrative. A rating of episodic D is made on scale 4 below.

#### Disorganised, bizarre, unusual, disorientated behaviours represented in the vignette completion

- (a) Simultaneous or immediate juxtaposition of contradictory behaviours. E.g. Strong proximity seeking then freezing.
- (b) Unexplainable sudden shifts into contradictory behaviour out of context e.g. during a smoothly unfolding narrative, a sudden injection of distressed angry behaviour for no clear reason. Included can be a sudden attack in the mother doll out of context.
- (c) Lapses incomplete movements, freezing, stilling, in the narrative.
- (d) Direct evidence of fear of the parent
- (e) Apparently confused disorientated distracted behaviour. Absence of any initial orientated response to the distress.

#### Child disorganisation/disorientation during vignette completion

Refers to behaviour of the child/child doll during the vignette. Disorientation scores relate to both overt behaviour and dialogue. Included are errors, consistencies and unusual content such as: (a) failure to complete a sentence or behaviour (sudden stopping in the middle); (b) lapse into silence or stillness. c) episodes of dissociation or "spacing out" where the child suddenly appears to lose track or become dazed or confused.

#### Scale 4 Episodic D scale

- 1. No evidence of bizarre disorganised behaviours
- 2. Slight signs of disorganisation
- 3. Mild and infrequent episodes of disorganisation or confusion as defined above. These do not substantially interfere with the narrative or with the child's thinking process and rapport. They represent minor "blemishes" on the narrative.
- 4.
- 5. Moderate evidence of disorganised, disorientated phenomena in complexity, intensity, abnormality, or frequency. These abnormalities definitely intrude into the narrative and make their presence felt but are still relatively minor.
- 6.
- 7. Very significant incidents of disorganised, disorientated phenomena. Striking single incidents or a high frequency of moderately abnormal phenomena. The narrative is definitely interrupted by these.
- 8.
- 9. Very severe and intense disorganisation/disorientation.

# OUTCOME RATINGS FOR ATTACHMENT DISORGANISATION: DERIVING A 'D' SCORE AND CATEGORICAL 'D' CODE

From the different forms of attachment disorganisation rated we derive a continuous 'D' score and a categorical D coding.

#### For the D score:

*If the predominant strategy is 1, 2, or 3,* the D score is derived from the coding on Scale 4 (i.e. the episodic score).

*If the vignette classified as 4.1, 4.2, 5.1, or 5.2* then a D score of 7-9 is assigned depending on judgement as to severity. (In these vignettes there is then an episodic score that is different from the total D score).

#### For the categorical D coding

Use the following thresholds on the D score:

- (i) Under 4.5 total score. No overall D coding. In this category should be mild or transient disorganised phenomena as detailed above. No phenomena should be of high amplitude or abnormality in itself and there should not be too many minor episodes of disorganisation.
- (ii) 4.5 5.5 "alternate D coding". Coded here should be significant disorganised and disorientated phenomena that clearly mark the vignette out from others. The phenomena do not however reach a level of intensity, abnormality or disorganisation to warrant a primary D coding.
- (iii) 5.5 and above. These are disorganised or disorientated phenomena of such frequency or intensity that they warrant a "primary D" code. Multiple or coercive strategies (4.2 or 5.1/5.2) automatically code as primary D.

#### SECTION 5: PROCEDURE FOR OVERALL CODING OF INTERVIEW

#### 1. ESTABLISH KEY VARIABLES FOR EACH VIGNETTE

- 1) Predominant strategy
- 2) Mentalising/metacognition.

Average of scales 3E, 3F

3) Coherence of Mind

Average of scales 3A, 3B, 3C, 3D

4) ABCD classification.

The ABC classification will normally follow that for predominant strategy. Thus 1 and its sub codings become B1 - 4; 2 becomes A1 or A2; 3 becomes C1 or C2. Predominant strategies 4.1, 4.2, 5.1, 5.2, are coded D.

Occasionally the ABC classification will not follow "predominant strategy" - when other variables powerfully intervene e.g. when a secure strategy shows very low levels of coherence this may shift the categorisation either between sub categories of secure (i.e. B3 - B2) or from secure to D.

#### 5) D score - Using criteria in section 4

#### 2. CODING THE WHOLE INTERVIEW

The key codings on the vignettes are combined at the end of the interview into an overall scoring and categorisation for the whole interview. These are the guidelines.

#### **ABCD** category

- The predominant vignette coding across the whole interview generally determines the interview coding.
- But if 2 or more of the vignettes are rated insecure or disorganised, the whole interview must be rated insecure/disorganised.
- Primary D interviews are sub coded with the best fitting alternate category or categories thus D/A/B or D/B/C.

#### Mentalising score

• Average of MM scores across all the vignettes.

Coherence of Mind score Average of the CM for each vignette.

# 3.8 MCAST coding sheet

# **MCAST Coding Sheet**

RATER..... DATE RATED.....

# COMMENTS AND REASONING give examples and timings for each

1A	
Engagement	
1B Arousal	
1C	
Turntaking	

2A Proximity child	
to mother	
2B Proximity	
mother to child	
2C Self care	
2D Displacement	
(doll)	
2E Displacement	
(child)	

2F Reversal	
2G Conflicted	
behaviour	
2H Carer sensitivity	
2I Carer warmth	
2J Carer	
intrusiveness/control	
2K Assuagement	
(child)	
2L Assuagement	
(observer)	
2M Exploratory	
play	
2N Affect	
20 Content	
PREDOMINANT	
STRATEGY (1-5)	
(include subcodes,	
eg 1.2, 2.1)	

3A Quality	
3B Quantity	
3C Relevance	
3D Manner	
OVERALL	
COHERENCE of	
NARRATIVE	
(average of 3A-D)	
3E Child of self	
Mentalising	
3F Child of	
mother	
Mentalising	
3G Metacognition	
Scale 4:	
Episodic D	
phenomena	

# OVERALL CATEGORISATION

(See manual for instructions. Rate predominant and subsidiary codes if necessary. If child is a primary D, rate the best fit alternate or 'forced' coding of strategy – eg D/A)



# **3.9 CACDP Ethics**

COUNCIL FOR THE ADVANCEMENT OF COMMUNICATION WITH DEAF PEOPLE

#### CODE OF ETHICS FOR BSL/ENGLISH INTERPRETERS

#### Definition

In this code "Interpreter" means any person who is registered with CACDP as either a Qualified or Trainee BSL/English Interpreter according to the current conditions of registration.

Note: CACDP's view is that individuals who are involved in the management, training, supervision or mentoring of interpreters, should consider themselves bound by the provisions of this code as if they were practising interpreters insofar as their activities involve interaction with interpreters or consumers.

#### 1. Interpreters shall conduct themselves responsibly and professionally.

This includes:

- I. Seeking to increase their skills and knowledge within the profession.
- ii. Safeguarding professional standards in every practicable way.
- iii. Offering other interpreters reasonable assistance.
- iv. Respecting the ethics and best practice of other professions.
- Interpreters shall interpret truly and faithfully and to the best of their ability between the parties without anything being added or omitted from the meaning.
- Interpreters shall only accept work which, having taken relevant factors into account, they judge to be within their competence.
  - In exceptional circumstances, where a suitable interpreter is not available, an
    assignment may be accepted provided that all the parties have given their consent
    after having been informed of any implications and potential risks involved.
  - II. In the event of unforeseen difficulties arising during an assignment, interpreters should admit any limitations and seek to overcome them in a professional way. If this is not possible an interpreter should withdraw from the assignment.
  - When accepting work, the interpreter's status (ie Registration category) must be stated.
  - Amongst the relevant factors to be taken into account would be the professional advice and guidance available to interpreters through employers, mentors or other support networks.
- Interpreters shall treat as confidential any information which may come to them in the course of their work including the fact of their having undertaken a particular assignment.
  - This does not preclude sharing experiences on a strictly confidential basis within recognised structures of professional support and training, whilst respecting client confidentiality.
  - This also does not preclude disclosure when legally required to do so or when not disclosing information could render the interpreter liable to prosecution.
  - It is recognised that the presence of an interpreter at an assignment which is in the public domain need not be treated as confidential.

- IV. Where evidence is being collected for training/assessment purposes, eg for NVQ witness statements, steps must be taken to preserve the consumer's right to confidentiality. This could be achieved by excluding certain agreed information from the statement or by obtaining the consent of the consumer(s) involved to the preparation of the statement.
- 5. Interpreters shall act in an impartial way and shall be seen to do so, ie taking the side of neither one party nor the other.
  - Any business or vested interests which the interpreter may have in an assignment must be disclosed beforehand or as soon as practicable.
- 6. Interpreters shall not use information obtained in the course of their work to benefit themselves or anyone else improperly.
- 7. Interpreters shall not give advice or offer personal opinions in relation to topics discussed or people present in an interpreting assignment.
  - It is a legitimate part of the interpreter's role to take appropriate steps to ensure good communication is facilitated between people who have differing linguistic and cultural backgrounds. Such steps should always be taken in as professional and unobtrusive a manner as possible.

#### 8. Interpreters may advertise their services providing the information is factual, relevant and neither misleading nor discreditable to the profession.

- When describing their status as interpreters the following expressions are currently acceptable and will remain so until April 2002:
  - "Registered Trainee Interpreter"
  - "Registered Qualified Interpreter"
  - "CACDP Registered Trainee Interpreter"
  - "CACDP Registered Qualified Interpreter"
- The use of other expressions such as "Registered Interpreter" or "CACDP Registered" will not be acceptable.
- An assignment, once accepted, should not be cancelled by the interpreter without good reason. If an interpreter cannot attend an assignment the parties concerned should be informed immediately and a written explanation provided.
  - After consultation with the parties concerned, it is the interpreter's responsibility to make every reasonable effort to find an appropriate substitute.
  - Interpreters must not delegate accepted assignments nor accept delegated assignments without the consent of the parties concerned.

#### COMPLAINTS AND DISCIPLINARY PROCEDURE FOR BSL/ENGLISH INTERPRETERS

All Registered Qualified and Trainee Sign Language Interpreters registered with CACDP will be expected to conform to the Code of Ethics and be familiar with the Complaints Procedure. If an interpreter is believed to have broken the Code of Ethics, a complaint may be made.

#### 1. Initial Complaint

- 1.1 Wherever possible, minor complaints should be sorted out locally. Approaches should be made to interpreters and/or organisations during or after an event. Every effort should be made to sort out problems promptly and amicably.
- 1.2 For major complaints an approach should be made to CACDP. Below is a guide to the procedures for making a complaint.
  - All complaints should be sent to CACDP in writing or on a video letter normally within one month of the interpreting assignment. Complaints will **not** be dealt with by telephone/minicom.
  - A letter/video letter will be sent immediately to the complainant acknowledging receipt of the video/letter and, if necessary, requesting further information.
  - iii. A standard letter will then be sent to the interpreter summarising the complaints and inviting the interpreter to comment.
  - Where appropriate a letter will be sent to the organiser or contractor seeking clarification.
- 1.3 It is expected that many complaints will be resolved quickly and easily after consultation between the complainant, the interpreter and CACDP. After receipt of the complaint, CACDP will write to the interpreter and request comments. CACDP will send this information back to the complainant and no further action may be required.

#### 2. Disciplinary Procedure

- 2.1 If a complaint cannot be resolved through correspondence with CACDP or if an interpreter appears to have broken the Code of Ethics then a disciplinary procedure will be put into effect.
- 2.2 All formal complaints will be dealt with by a Disciplinary Committee (hereinafter referred to as 'the Committee') which will be a standing committee of CACDP. The composition of this Committee will be decided by the Management Committee. It will normally comprise 4 people including representatives from CACDP, an experienced interpreter, and the British Deaf Association (BDA). The Committee will be chaired by a person from an independent body. The Committee will have the power to co-opt such professional expertise as it deems necessary.
- 2.3 If, in the opinion of the Committee, the nature of the allegations warrants such action, the Committee may suspend up to 28 days, without prejudice, the interpreter's registration pending the outcome of its deliberations.
- 2.4 The Committee will review all the relevant correspondence and may request further evidence from those involved in the case. Both the complainant and the interpreter will also be able to submit further information themselves or through a professional adviser, advocate or representative. The Committee will review all the available information. If the complaint is upheld the Committee will take into consideration the interpreter's previous record and may agree to one or more of the following:
  - i. Rejection of the complaint on the grounds that it is unfounded.
  - ii. Acceptance of the complaint without taking disciplinary action against the interpreter - if, for example, an interpreter was functioning under difficult circumstances but did his/her best to provide an acceptable service.

iii. The issuing of a written warning which will remain in force for a stated period of time outlining the Committee's finding. The maximum time would be for 12 months.

iv. The Committee may require one or more of the following:

- Supervised practice or consultations to monitor and improve the interpreter's performance for an agreed period of time.
- Permanent or temporary exclusion from interpreting assignments in specific domains/settings.
- That the interpreter is resubmitted for reassessment on all or part of the NVQ programme.
- That the interpreter attends an interview in order to satisfy the Committee of his/her understanding of, and commitment to, the Code of Ethics.
- Withdrawal of name from the Register of Qualified Sign Language Interpreters/Trainee Sign Language Interpreters, either temporarily or permanently.

#### 3. Publicity

3.1 The Committee's decisions will be published via CACDP's mailing lists, Newsletter or other appropriate means.

#### 4. Appeals Procedure

- 4.1 Any appeal against decisions of the Committee should be made within a period of 4 weeks from the date of the letter informing the interpreter of the Committee's decision, and will be dealt with by the Management Committee, excluding any of its members who were involved in the disciplinary proceedings.
- 4.2 Grounds for appeal shall include:
  - i. Errors in the procedure or conduct of the Committee.
  - ii. Availability of substantial new evidence.
- 4.3 Appeals should be made in writing to the Chief Executive of CACDP outlining the reasons for the appeal.
- 4.4 The Management Committee will provide notification of the success or otherwise of the appeal within a period of 2 months from receipt of the letter. interpreter's registration pending the outcome of its deliberations.

# **3.10 Guidelines for Professional Practice**

NRCPD The National Registers of Communication Professionals working with Deaf and Deafblind People

# Guidelines for Professional Practice for British Sign Language/English Interpreters

Interim from 1 January 2009 until further notice

In this document *interpreter* means any person who is registered as a *Member* of the Register of BSL/English Interpreters (MRSLI), a Trainee Interpreter (TI) or a Junior Trainee Interpreter (JTI) according to the current conditions of registration.

#### Status and Spirit of the Code

Interpreters are required to abide by the *Code of Ethics* and the following *Guidelines for Professional Practice*, when working with consumers, or managing, training, supervising or mentoring other interpreters. It is a condition of registration that interpreters confirm in writing their willingness to abide by the *Code of Ethics* and the *Guidelines for Professional Practice*.

The aim of the *Guidelines for Professional Practice* and the *Code of Ethics* is to ensure that communications across languages and cultures are carried out consistently, competently and impartially; this sets a framework for interpreting, which will be upheld, if necessary, by the *Complaints and Disciplinary Procedure*.

#### Definitions

- Principal means any person or organisation that books the services of an interpreter.
- · Consumer means any person or organisation using the services of an interpreter
- Work and assignment mean interpreting work, and also work related to interpreting, e.g. managing, training, supervising, examining and mentoring.
- · Parties means all those involved in the interpreting assignment.

#### 1. Fundamental Principles

- 1.1 Interpreters respect consumers' rights.
- 1.2 Interpreters do not discriminate against parties, either directly or indirectly, on any grounds.
- 1.3 Interpreters respect confidentiality.
- Interpreters demonstrate a commitment to continuing professional development.
- 1.5 Interpreters do not engage in any behaviour that may bring the profession into disrepute.

#### 2. Acceptance of Work

- 2.1 Interpreters should only undertake interpreting assignments for which they have the appropriate qualifications, competence, and experience.
- 2.2 Interpreters should not accept an assignment where their impartiality could be questioned. Interpreters will disclose any information, including conflicts of interest, which may make them unsuitable for an assignment.
- 2.3 Interpreters may refuse any assignment without giving a reason.
- 2.4 If an interpreter is unable to undertake an assignment that s/he has accepted, the principal should be informed as soon as possible. If the interpreter is in a position to do so, s/he should assist in finding an appropriate interpreter to take her/his place. Interpreters should not hand over an assignment to another interpreter without the agreement of the principal.
- 2.5 Interpreters should, if possible, only accept work on agreed terms and conditions.

- 2.6 Fees for interpreting work should be agreed between the interpreter and the principal.
- 2.7 Once interpreters have accepted an assignment, they should not change the agreed terms and conditions without the agreement of the principal, preferably in writing or on video.

#### 3. Standards of Work

- 3.1 Interpreters should endeavour to interpret as accurately as possible; they should not add nor take anything away from the intended meaning and should keep to the spirit of what is said or signed.
- 3.2 Interpreters should strive to ensure that complete and effective communication takes place.
- 3.3 If there are communication problems during an assignment, interpreters should look to solve these using their professional skills.

## 4. Confidentiality

- 4.1 Interpreters are expected to keep confidential any information pertaining to, or arising from an interpreting or interpreting related assignment. The only exceptions to this requirement are listed in 4.2, 4.3, and 4.4.
- 4.2 An interpreter may require evidence of interpreting for training or assessment purposes. The interpreter should, though, respect the consumer's right to confidentiality and only use such evidence with their expressed permission.
- 4.3 The interpreter may pass on information pertaining to or arising from an interpreted assignment if failure to do so could result in prosecution or if required to do so by law.
- 4.4 Interpreters may pass on information pertaining to or arising from an interpreted assignment to protect the welfare of an individual or the community at large.

- 4.5 Information given and interpreted in public is not confidential.
- 4.6 If required, and with the agreement of all parties, the interpreter may work to the confidentiality policy of the employing institution (e.g. educational establishment or health service).

# 5. Impartiality

- 5.1 Interpreters should be impartial, and show no bias or preference to any consumer when interpreting.
- 5.2 Interpreters should not benefit unfairly from any information learned while they are working.
- 5.3 Conflicts of interest should be declared as soon as possible, if these have not been disclosed when accepting an assignment.

# 6. Professional Behaviour, Development and Relationships

- 6.1 Interpreters are expected to support the reputation of the interpreting profession and work to improve their professional standards and status through continuing professional development.
- 6.2 Interpreters will respect the ethics and the working practices of other professions.
- 6.3 Interpreters should endeavour to present and behave in a manner appropriate to the context of the interpreted interaction.
- 6.4 Interpreters may advertise their services but what is advertised must be accurate, relevant and must not mislead.
- 6.5 Interpreters are expected to support their colleagues in the course of their duties.

6.6 Interpreters should co-operate with and, where possible, support other communication professionals (e.g. speech to text reporters, notetakers, lipspeakers, LSPs – Deafblind Manual, etc) in order to ensure the provision of the best quality service to all consumers.

# **3.11 Guidelines**

The National Registers of Communication Professionab working with Deaf and Deafblind People

# Code of Ethics for British Sign Language/English Interpreters

Interim from 1 January 2009 until further notice

In this document *interpreter* means any person who is registered as a *Member of the Register of BSL/English Interpreters (MRSLI)*, a *Trainee Interpreter (TI)* or a *Junior Trainee Interpreter (JTI)*, according to the current conditions of registration.

Interpreters are expected to abide by the *Code of Ethics* and to follow the *Guidelines for Professional Practice for BSL/English Interpreters* which covers issues of professional competence, practice and procedures that are specific to the work of an interpreter.

The *Code of Ethics* sets out the principles that underpin the work of an interpreter. The purpose of the *Code of Ethics* is to ensure that a working interpreter considers the fundamental rights of those involved in, or affected by, any aspect of an interpreting assignment. The interpreter should be able to justify any course of action by reference to the *Ethical Principles*.

#### Ethical Principles

These are the principles of the *Code of Ethics* that are agreed by all registered interpreters. The interpreter shall:

- do no harm;
- be honest;
- keep her/his word;
- act justly and fairly;
- respect the personal choices another person makes;
- strive to do good.

In the event of a conflict arising between principles, priority should be given to do no harm.

These six principles support and shape the Guidelines for Professional Practice.

Under the *Complaints and Disciplinary Procedure* an interpreter may be asked to explain why they seemed to breach the *Guidelines for Professional Practice*. They may defend their action by reference to the *Ethical Principles*.

# **3.12 Information signposting parents to services**

#### Information for parents on useful contacts

1) Royal National Institute for the Deaf (RNID). Helpline: 020 729 6800.

2) Deaf Child and Adolescent Mental Health Service, St. Georges Hospital, London. Head: Dr Peter Hindley, Consultant Child Psychiatrist. Tel: 020 8682 6925. This is a specialist service that deals exclusively with deaf children and their families.

3) National Deaf Children's Society (NDCS) – Main Office, London : 020 7490 8656. Contact them to get the local contact for the NDCS representative for your area.

5) Leicestershire Deaf Centre, Child and Families Worker – Carol Duddington (Deaf Lady). Minicom/Typetalk: 0116 257 4882. Fax: 0116 257 4847.

6) NHS Direct Line: 0845 4647.

7) Local CAMHS: Westcotes House, Westcotes Drive, Leicester, LE3 0QU. TEL: 0116 295 2900. You can contact them to ask about obtaining a referral to their service.

8) Bridges website : <u>www.bridgesdirectory.org.uk</u> (For information on services in Leicestershire, Leicester and Rutland)

9) There is a book called "Kid-Friendly Parenting with Deaf and Hard of Hearing Children" written by Daira Medwid and Denise Chapman Weston. It is very good and gives a lot of advice and tips on talking to your child who may be experiencing various behavioural problems and it is easy to read. You can obtain it from the Forest Bookshop who specialise in dealing with books, audio and videos for deaf children, about deaf issues, for parents of deaf children. They have a catalogue and you can phone them on 01594 833858, they will send you one. If you say you are a parent of a deaf child, they might be able to send you some extra information about other organisations which I may not have listed here.

#### 3.13 Letters from various Ethics

#### Southern Derbyshire Southern Derbyshire **Health Authority** Local Research Ethics Committee

Chairman: Dr A W A Crossley MB ChB FRCA Administrator: Jenny Hancock ext 6209 (direct dial from Derby hospitals 16-6209) Direct fax: 01332 363963

email: jenny.hancock@mail.sderby-ha.trent.nhs.uk

05 October 2001

Stuart Street Derby DE1 2FZ Tel: 01332 626300 Fax: 01332 626350

Derwent Court

Miss Joanna Penfold Ph.D Student Greenwood Institute of Child Health Child Psychiatry Divison University of Leicester Westcotes House Westcotes Drive Leicester LE3 0QU

Dear Miss Penfold

#### SDLREC Ref: 0109/380 DESIGNING AND VALIDATING A NEW ATTACHMENT MEASUREMENT TOOL FOR DEAF PRESCHOOL CHILDREN

Thank you for your letter of 27 September enclosing a research proposal for consideration by Southern Derbyshire LREC.

Having reviewed your application, it is my understanding that it does not involve NHS patients or staff and will not take place on NHS premises. That being the case, it would not fall within the remit of an NHS research ethics committee and, acting on delegated authority from Southern Derbyshire LREC, I am happy to confirm that it does not require our approval to proceed.

I should point out, however, that arrangements for the ethical review of research in Social Care outside the NHS are currently under review and studies of this type may be brought within our remit in the future.



Yours sincerely

Jud cumb

A W A Crossley Chairman Southern Derbyshire Local Research Ethics Committee



Chief Executive: Jeffrey V -thannalachanking offer



Health Authority

Scarsdale Newbold Road Chesterfield S41 7PF

Tel: 01246 231255

Fax: 01246 206672

INVESTOR IN PROPER

#### NORTH DERBYSHIRE LOCAL RESEARCH ETHICS COMMITTEE CHAIRMAN: J. O. Harris, B.Sc. (Pharm.), M.Sc., M.R.Pharm.S.

JH/AB

24th October, 2001

Miss J. Penfold, Ph.D. Student, Greenwood Institute of Child Health, Leicester Warwick Medical School, Department of Psychiatry, Division of Child Psychiatry, Westcotes House, Westcotes Drive, Leicester, LE3 0QU

Dear Miss Penfold,

#### Designing and Validating a new Attachment Measurement Tool for deaf preschool children

I refer to your submission of documentation in connection with your proposed project. I have reviewed the paperwork, including the letter from the Chairman of Southern Derbyshire Local Research Ethics Committee. I am writing to confirm that I agree with the interpretation given by Dr. Crossley in his letter of 5th October and that your study does therefore not require ethical approval from my Committee in order to proceed.

Yours sincerely.

Jonathan Harris Chairman, North Derbyshire LREC

# Nottingham City Hospital

Please ask for: Dr Derek Pearson

Ref: EC02/151

11th October 2002

Ms J Downes Leicester Warwick Medical School Greenwood Institute of Child Health Department of Psychiatry Westcotes House Westcotes Drive Leicester LE3 0GU Nottingham Research Ethics Committee Level 3 Standard Court Park Row Nottingham, NG1 6GW

Tel: 0115 9123344 ext. 49368 e-mail: dpearson@ncht.trent.nhs.uk www.ncht.org.uk

Dear Ms Downes

#### Re: Designing and validating a new attachment measurement tool for deaf children. EC02/151

Thank you for your letter requesting ethical approval of your study.

Unless your children are being recruited via an NHS organisation we do not have jurisdiction over the study.

I suggest you get written permission from the Deaf Society and Local Education Authority to proceed with the study and give them copies of your approval from other ethics committees to demonstrate that the study has undergone some form of ethical review.

Yours sincerely

Dr D Pearson Honorary Secretary City Hospital Research Ethics Committee





# Leicestershire and Rutland

Healthcare NHS Trust

Research & Development Office Daisy Peake Building Towers Hospital Gipsy Lane Leicester Tel: 0116-225-6307 Fax: 0116-246-1222 David.Clarke@Irh-tr.trent.nhs.uk

DC/JP/6365

31 July 2001

Miss Joanna Penfold C/o Greenwood Institute for Child Health University of Leicester Westcotes House Westcotes Drive Leicester LE3 0QU

Dear Joanna

Re: Designing & validating a new attachment measurement tool for deaf children (6365)

Please find enclosed a copy of the response of the Leicestershire Research Ethics Committee to your application to undertake the above project.

As I suspected in our earlier correspondence, this project does not <u>at present</u> form part of the remit of the Leicestershire Research Ethics Committee (but at least you now have this in writing..!). They have however kindly pointed out a number of errors, and made suggestions which are probably of benefit.

This letter therefore serves as formal Trust approval to undertake the study, and we would apprecaite being kept informed of any significant developments during the study.

With best wishes on the success of your study.

Regards,

Dr. Dave Clarke [R&D Manager]

# Sherwood Forest Hospitals

Our ref: AV/MHpw.jdLRECanr

Your ref:

13 September 2002

Mrs Joanna Downes PhD Student Leicester Warwick Medical School Greenwood Institute of Child Health Dept of Psychiatry Division of Child Psychology Westcotes House Westcotes Drive Leicester LE3 0QU King's Mill Hospital Mansfield Road Sutton in Ashfield Nottinghamshire NG17 4JL

Tel: 01623 622515 Ext No: 3731/3735

Direct Line: 01623 672207

Dear Mrs Downes

#### Designing and Validating a New Attachment Measurement Tool for Deaf Children

Thank you for submitting your research proposal for consideration by the North Nottinghamshire Local Research Ethics Committee.

As your study does not involve NHS patients or staff, and will not take place on NHS premises, it does not fall within the remit of an NHS Research Ethics Committee. On behalf of North Nottinghamshire Local Research Ethics Committee, I can confirm that you do not require our approval for your study to proceed.

I wish you well with your study.

Yours sincerely

All Celli

Dr Allan Voice CHAIRMAN NORTH NOTTINGHAMSHIRE LOCAL RESEARCH ETHICS COMMITTEE



# 3.14 Northampton LREC grant approval



 Northampton Medical Research/Ethics Committee

 Chairman:
 Dr Robin Sheppard

 Administrator:
 Mrs Michelle Spinks 🖀 (01604) 615363

ary care mase

Our Ref: RS/MS/02/30

12 September 2002

Highfield Cliftonville Road Northampton NN1 5DN

Tel: 01604 615000 Fax: 01604 615010

Mrs Joanna Downes Greenwood Institute of Child Health University of Leicester Leicester Warwick Medical School Division of Child Psychiatry Westcotes House, Westcotes Drive LEICESTER LE3 0QU

Dear Mrs Downes

#### 02/30 Adapting the MCAST for use with a Deaf Population

Thank you for your letter of 3 September 2002, enclosing a copy of the revised GP letter for the above study.

confirm that the changes are acceptable and are in accordance with the decision of the Committee.

Yours sincerely

inke

Michelle Špinks Administrator, Northampton Medical Research/ Ethics Committee

# 3.15 Introductory letter about researcher



Dear Parent(s),

I am a deaf researcher at the Greenwood Institute of Child Health, Leicester University. My area of study is looking at relationships between young deaf children and their parent(s). The aim of this study is to design a method in getting information about the relationship.

If you have a hearing impaired child (who is at least moderately deaf) and he/she is aged between 3-7 years old, would it be possible to meet you to discuss the possibility of you helping me with my study? It is important that the first language of the parents and family is either English or British Sign Language (or both).

Please find enclosed an information leaflet and a form to fill in to choose what dates you are free for us to meet. You have the option for me to visit you at home, or if you would prefer, we can meet at my office, with which I will send you map and directions should you decide to do this. When you have completed the form, please return it in the SAE enclosed as soon as you can.

Kindest Regards,

na Pentil

Joanna Penfold.

P.S. For Deaf Parents with BSL as first language, a BSL video will be provided of the letter and information leaflet.

# **3.16** Form indicating parent's interest in participating in research

#### Arranging a date to meet

Please tick which applies:-

- □ I, the parent of a deaf child would NOT like to meet Mrs Downes or participate in her study.
- □ I, the parent of a deaf child would like to meet Mrs Downes during those following dates:- (Please indicate dates when you are free. E.g.  $10^{th}$ - $23^{rd}$  July)

November..... December..... The times that are most suitable for me are (please tick):-

□ Morning (9am-12pm) □ Afternoon (1pm-5pm) □ Evening (5pm-9pm)

Where would you like the researcher to meet you? (please tick):-

 $\Box$  I would prefer to meet the researcher at her office. (off Fosse Road South, in Leicester near the city centre)

## OR

 $\Box$  I would prefer to meet the researcher at my home.

## OR

□ I would like to meet the researcher at the local Deaf centre)

(the centre is at x)

Your name (please print):			
Name of your hearing impair	red/Deaf child:	Age	
Address:			
Tel (inc STD code):	•••••		
Fax:	(optional)		
Email:	(optional)		
Please complete this form an	d return in the enclosed	SAE.	

# **3.17 Information leaflet for parents**

#### How you could help Deaf Children of the Future get better Help

The researcher, Joanna Downes is profoundly deaf and is dedicated in her research to finding ways of helping professionals to know how to treat a deaf child who may have behaviour or emotional problems.

Nowadays when a deaf child is referred to a professional, e.g. social worker or psychologist, with behaviour or emotional problems, there is no special test they can use to find out how the child feels about their relationship with their parents. This is called an Attachment Security test and it means how secure and confident the child feels about themselves and their parents. This test would help the professional to find out what the child needs in terms of therapy or what the parent needs to do to make the child feel more confident and interact more with them.

#### What would the parent have to do?

The researcher would arrange to meet you at your chosen location (e.g. your house or the researcher's office) and the researcher would explain more about the study. If you were happy to participate then you and the researcher would both sign a consent form for each of you to keep. This is to guarantee confidentiality of the data collected as it will not be shown to any education departments or doctors, only for the researcher and her supervisor, Professor Vostanis to witness.

After the consent form is signed, then the researcher will conduct a brief interview. This interview should last no more than 10 to 15 minutes and the researcher will ask questions about the time surrounding the diagnosis of their child's deafness. This may be emotional for the parent as they will be asked to recall their experiences surrounding what may have been a difficult time in their life. An audio recording will be made. Then if the child is at home as well, the researcher will do a mental ability test to make sure that there are no children in the study with severe learning disabilities. This takes up to half an hour and is not a tedious test, which should be enjoyable by the child. Before the researcher leaves, she will give the parent two different questionnaires. One is the family life questionnaire just to collect basic background data and the other one is a communication checklist. This asks what kind of words, sentences the child can make and if the parent finds it too hard to
understand then the child's teacher at school is welcome to do it. These two questionnaires will be collected the next time the researcher meets the parent and child.

The researcher will contact the parent one to two weeks later to arrange a date for the parent to visit the researcher's work place for the child to do the attachment test. Travelling expenses will be paid when the parent provides a receipt. This should not take more than half an hour. As the study is a continuous study, the parent and child may be asked to come back again just for the child to do the attachment test again. This is because the researcher will need to change the test to make it more suitable for different kinds of communication and change the stories.

### What is the Attachment Test?

The test is called the Manchester Child Attachment Story Task (MCAST). It involves the interviewer and the child playing with dolls and a doll house. Before they start, the researcher will ask the child to choose two dolls he/she likes and to name which as the "Mummy" and "child" doll with a name. They will play together for a few minutes to allow the child to see what the house looks like. Then the researcher will tell the child a story and then ask the child "what happens now/next?" and the child will use the dolls and the house to tell her/his story. The story can be something like "The Ben doll is playing outside in the garden and oh no, he's fallen over and hurt his knee! Oh no, his knee is bleeding! It's really sore. Can you tell me what happens next?". Then the child will be allowed to tell the rest of the story how he/she pleases. The child will be talking about situations where they may have been scared, i.e. hurting their knee or having a nightmare. This may cause the child to become sad or slightly emotional. The interview will not continue the task under any circumstances if the child gets extremely distressed.

The purpose of this is to find out how the child would act in situations like these where they are upset or want comfort.

Who is responsible for the study?

The study is being funded by the Greenwood Institute of Child Health and is being organised by the researcher. The principal investigator is Mrs Joanna Downes. The researcher's supervisor is Professor Vostanis (Professor of Child and Adolescent Psychiatry and Consultant). They both are based at:-

Greenwood Institute of Child Health, Westcotes House, Westcotes Drive, Leicester, LE3 0QU. Tel: 0116 225 2880 Fax: 0116 225 2881

Please do not hesitate to contact the above persons about any matter. We will be delighted to discuss the study in more detail at any stage. If you decide to take part, would you kindly complete the enclosed consent form, and return it in the stamped addressed envelope provided.

Thank you for taking the time to read this information.

### Appendix 3.18 Consent form

### Consent form for parent and researcher

Consent must be signed for participation in study.

Deaf children and Attachment, 2003.

I/We,....

Parent(s) of .....consent to my child and ourselves

being involved in the study by Mrs Joanna Downes.

I fully understand that confidentiality will be held on my and my child's records and we have full rights to withdraw from the study at any point without justifying why.

Signature of Parent(s).....

Parent(s).....

Date.....

I, Mrs Joanna Downes, the researcher, will respect the confidentiality and wishes of the parent and child for their participation in the study. all records and withdrawal from the study will be respected.

Signature of researcher.....

Date.....

# Appendix

# 3.19 Letters from various organisations

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	YOUR NEF	et Coneland	
	DRECT DIVLING 01530 513 600	or opposite	
	DIRECT E MAL		
Den la la com			
Dear Joanna			
Thank you for yo	ur letter of 20 August. I am gl	ad that you have the go ahead to ts on 30 August so I would be h	o appy
to send out your	letters as soon as I receive the	em.	
	www.how.mony.l.will.nood.oo.v	you may prefer to send the stam	DS
separately in ord	er that I can return unused sta	imps if I do not need 50.	
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68 Orton Road Leicester LE4 2AS

0116 2680919

22.03.01

Dear Ms Penfold

The Leicestershire Deaf Children's Society are very happy to support your research and we will help you in any way that we can.

Should you require any information or help from us please do not hesitate in contacting us on the above number.

Many thanks

Yours sincerely

Michael Woodman (Chair)



### Appendix 3.20 Letter supporting adaptation of MCAST for the study

**Department of Psychiatry** Room 3,316 University Place Oxford Road Manchester M13 9PL

tel +44 (0) 161 306 7943

ACADEMIC DEPARTMENT OF CHILD & FAMILY PSYCHIATRY

Email: jonathan.green@manchester.ac.uk JG/JM

9 July 2009

For the attention of Professor Panos Vostanis Joanna Downes University of Leicester School of Medicine Greenwood Institute of Child Health Westcotes House Westcotes Drive Leicester LE3 OQU

Dear Joanna

Re: Joanna Downes PhD Thesis "Validation of an Attachment Instrument for use with Deaf Children" June 2009.

I am pleased to confirm that you attended and successfully completed the training course for the Manchester Child Attachment Story Task. During this training I gave you permission to adapt the MCAST for use with deaf children.

I am pleased that you have been successful in this project and I look forward to seeing the results of your work.

Best wishes

Professor Jonathan Greek

Jonathan Green Professor of Child & Adolescent Psychiatry

### Appendix 4.1Translation of original MCAST vignettes into BSL English

The researcher developed this as a guide for administering the original MCAST vignettes. They do not have to be followed verbatim as BSL can have many variations of the same English sentence. Some children may need more detail, some others may require less, depending on their communication competence. The researcher has provided some discussion at the end on administering the vignettes.

Italics – original MCAST vignette

Normal – action

Bold capitals – BSL

### **4.1 Introductory story – breakfast**

Breakfast – parent and child doll in bed asleep, alarm goes off in parents room – parent gets up and goes downstairs to start with the breakfast then calls up to the child, "Time to get up." What happens next?

BREAKFAST – PARENT CHILD-DOLL BED IN ASLEEP. PARENT ASLEEP THEIR ALARM RING, BED OUT COME CHILD ROOM, SHOULDER SHAKE-GENTLY, WAKE-UP. NOW/NEXT HAPPEN WHAT?

### 4.2 Story one - nightmare

It's night time and here you and mum are in bed asleep.

(Child can help the MCAST administrator place the dolls where he/she thinks they should

be.)

It's in the middle of the night and everyone is fast asleep and very quiet. Everything is very dark. Then suddenly x doll wakes up (act this out with doll). She says oooohhh I've had a horrible dream ohhh horrible dream and she starts to cry and she says ooohhh horrible dream...

# HE/SHE BEEN BAD DREAM, UPSET, NOT-LIKE BAD DREAM. NOW CRY, NOT-LIKE BAD DREAM. NOW/NEXT HAPPEN WHAT?

### 4.3 Story two - hurt knee

For this story it's daytime and mummy's inside the house – what do you think she's doing there?

X doll is outside playing in the garden. What does X like to play - what would he be

playing?

OK (Whatever it is - act it out - for example football) He's playing football in the garden

running around – kicking it here and there (room for creativity as the game is set up but not

too elaborate and not allowing involvement of anyone else).

He's running along and suddenly ...ooohh. He falls over...and ..."oww!" he's hurt his knee and he looks down and sees it's bleeding...and it hurts...and he says "oowww my knee's hurt...my knees hurt..."what happens now?

NOW NEW STORY. DAY, MUMMY WHERE HOUSE IN. MUMMY DO WHAT?

Child can help place parent doll as they see fit

### X (DOLL) OUTSIDE GARDEN PLAY. X LIKE PLAY WHAT?

# BALL KICK WALL BOUNCE, AGAIN KICK, AGAIN, RUN-AROUND... FALL! KNEE BANG HURT HURT, NOW KNEE BLOOD. HURT AWFUL! NOW/NEXT HAPPEN WHAT?

#### 4.4 Story 3 – achievement

This vignette is intended as a relief from the intensity of the distress vignettes and an opportunity for the child to experience a story about a more pleasing event. But the quality of attachment relationship will affect the child's self-perception, and the reaction to achievement, as well as the response they expect from their parent, is often revealing. Many reactions here, especially in clinical groups, are found to be paradoxical and patterns of expectation about success, self-esteem and school related problems are also accessed. The psychometrics of the interview show that the ratings on this vignette show weaker association with overall attachment status than some others, but the vignette is retained to aid the rhythm of the interview. In coding, a somewhat different weight is given to this vignette and no.6 (see later).

For this story we're in school. (Child can help set up the school and say who is their teacher etc.)

And in school they are doing some drawing and X does a lovely drawing on his paper (demonstrate with a small piece of paper and make a little drawing).

And Y (teacher's name) comes up and says "X – that's a beautiful drawing ...oh yes that's the best one I've seen today...what a beautiful picture – you take it home at the end of today and show your mummy".

So it's the end of the day and X packs up her bag and puts the drawing inside (demonstrate). Then she goes home. She goes home and rings on the doorbell. What happens next?

NOW NEW STORY WHERE? SCHOOL. CHILD THEIR TEACHER NAME WHAT?

SCHOOL CHILDREN SIT DRAW DRAW (demonstrate with a small piece of paper and make a little drawing). X (DOLL) DO WHAT? DRAW DRAW BEAUTIFUL! LOOK! (at sample drawing). NEXT HAPPEN WHAT? TEACHER SEE PICTURE SAY "OH PICTURE BEAUTIFUL. WHEN SCHOOL FINISH, TAKE HOME SHOW MUMMY!" NOW SCHOOL FINISH, X (show happy face) PICTURE FOLD, BAG PUT-IN-CAREFULLY. X NOW SCHOOL LEAVE GO-HOME, DOOR KNOCK. NOW/NEXT HAPPEN WHAT?

It is important here that mummy is placed in an accessible position in the house but that the examiner in the set up does not anticipate any reaction from her. The action of the child ringing on the doorbell is the trigger for the hand over to the child. Do not represent the mother coming to the door.

#### 4.5 Story 4 – illness

In this story X doll is at home watching TV. What's your favourite TV programme? X is watching that. Mum is next door – where do you think that she is? Suddenly x has a pain in her tummy. And it gets worse and she says "ooohhh... I've got a pain in my tummy ooowww its getting worse" and she feels her tummy – it's a horrible pain. "oowww".

STORY NOW X HOME WATCH TV. YOU LIKE TV? LIKE WATCH WHAT? X WATCH (name of that programme). MUM DIFFERENT ROOM – YOU THINK ROOM WHICH? X WATCH TV (this is to remind the child what is happening with the story in case they have problems with remembering and because it is natural to emphasise the topic in BSL). NOW PAIN WORSE, OH PAIN AWFUL! (hold tummy with arms and bend over with appropriate face expressions). RUB-TUMMY, PAIN PAIN! NOW/NEXT HAPPEN WHAT?

### **4.6 Story 5 – shopping**

In this vignette, the child finds him or herself separated from mother in a crowd while shopping. To set up the vignette, the dolls' house is taken away and the furniture from the house and/or other props are used to create a shopping centre with buildings and streets. This only has to be schematic. The essential requirement is that it needs to be possible for the child not to be able to see the mother doll at the trigger point of the vignette. From experience, during this vignette, it is best not to identify shops specifically during the story. In particular, do not identify sweet shops since this introduces some powerful conflicting themes!

In this story, X doll and mum are going shopping. Here they go into the shopping centre and look at all the shops and there are lots of people around and they have to hold on tight to each other. They look in this shop here and this shop here. X is looking in this shop here...at this point, show the child looking at a shop window and then move the mother doll around to another place that is out of sight of the child doll and leave her there. And X doll looks around with all the people there and she can't see her mummy and there are all the people around but mummy's not there. She looks around and can't see her ....then she feels very scared and she says "where's my mummy, where's my mummy?"

NOW STORY WHAT? X (DOLL) MUMMY TOGETHER SHOPPING. SHOPS LOTS, PEOPLE LOADS. (Try to help the child to visualise the scene first). X MUMMY BOTH SEE SHOPS LOTS, LIKE SHOPS (point), PEOPLE LOTS THAT-WHY HOLD-HANDS-TIGHT. X SEE SHOP, OH LIKE, WANT LOOK. MUMMY SEE SHOP WANT LOOK, WALK-AWAY (move mummy doll off stage). X SHOP IN LOOK LOOK FINISH, TURN-AROUND, MUMMY GONE! MUMMY SEE CAN'T! X SCARED, "MY MUMMY WHERE! MY MUMMY WHERE!" NOW/NEXT HAPPEN WHAT?

#### 4.7 Story 7 – family trip (closure)

This final story should not relate to attachment themes but is a closure story. The child can suggest a typical family trip that the family would do together. Other family members can be brought on to the scene and child can act out a typical trip. It is valuable if the child is allowed to play naturally for some time until there seems a natural closure. During this phase, the administrator should be rating, but should be ordinarily responsive to the child and encouraging of them. The administrator, therefore, at this point steps out of the role that they have maintained throughout the rest of the interview.

#### 4.8 Considerations/issues

The stories have been written in such a way that the child doll 'says' things so that they assume their parent can hear them saying things like, "Oh I've had a bad nightmare" or, "My knees hurt", so this could be like a signal to their parent to come and help them. For translation into a story for deaf child who may not have good speech or means of getting parents' attention using their voice, it may be that the administrator will have to leave it up to the child to try to get the first 'signal' sent out to their parent. That they are 'thinking' what has happened – like "hit knee hurt, really painful" – they are thinking rather than SAYING what has happened.

For a child making the adult aware of their thoughts, e.g. "I feel ill, my knees hurt", saying their thoughts could be one of their attachment assuagement strategies. For deaf children who either speak or sign, there is no need to vocalise every single movement, just demonstrate with the doll and vocalise the main movements e.g. "fall over" and they will understand.

At the end of each vignette, the original question is, "What happens next?" This presumes that the child has the ability to understand and differentiate between past, present and future time frames. The deaf child will be asked this at first, but if they do not understand or do not give appropriate answers, then they will be asked, "What happens now?" The deaf child may be asked the latter initially if their IQ test and communication checklist show that their communication skill/ability is of a low level. Asking the child, "What happens now" allows them to say their story in the present sense and there is less need of the ability to have abstract thinking.

In the illness vignette, it is assumed that the child likes television and that they have a favourite television programme. Children in poorer families might not have a television or deaf children in particular might not have access to many television programmes or even know the *name* of the television programme (which involves English, reading and recognising words in the subtitles, spelling the name). So, in the edited story, the administrator first asks the child if they like to watch television and *what* they like to watch

– rather than the actual name of a favourite programme. This allows them to have the chance to say the *name if* they know *it or* what – Muppets, animals, etc so then the examiner can say, for example, "Doll X is watching Muppets with green hair."

### Appendix

### 4.2 Coding of Initial study one

### MCAST Inital study Coding sheet

RATER.....JD..... DATE RATED......Jan 2003.....

COMMENTS AND REASONING give examples and timings for each

1A	7	Quite interested in researcher talking
Engagement		
1B Arousal	5/6	Not much emotion shown in face expression
1C	1	Quite good turn taking – waited for researcher to finish telling
Turntaking		vignette.

2A Proximity child	8	No attempt to seek mother at first.
to mother		
2B Proximity mother	3/4	After second prompt - child brings mother into story -
to child		somehow mother gets nearer child but not sure if actually
		engages with child in story. Goes to sleep on t.v. not sure if
		mother offers any comfort – this was not stated.
2C Self care	3	Brush teeth – self care/displacement strategy to distract child
		from distressing event (nightmare)?
2D Displacement	7	High – brush teeth.
(doll)		
2E Displacement	7	High – finger in mouth –smiling all time.
(child)		
	8	First prompt in task $-$ no, but in $2^{nd}$ prompt, preoccupied with

2F Reversal		mother sleeping on top t.v.
2G Conflicted	7	Child not sure how to maintain or seek assuagement. First
behaviour		does not involve mother then attempts bring mother in.
2H Carer sensitivity	1	
2I Carer warmth	3	
2J Carer	2	
intrusiveness/control		
2K Assuagement	2/3	When researcher asked how child/mother feeling, child
(child)		shrugged shoulders. Did not want to talk about it.
2L Assuagement	2/3	Child looks slightly disturbed almost putting on a 'smile' for
(observer)		researcher. Minimal non-verbal behaviour present.
2M Exploratory play	0	
	-	
2N Affect	3	
20 Content	7	Some reality at beginning but in 2 <sup>nd</sup> prompt of vignette,
		bizarre.
PREDOMINANT	4.2	Multiple strategies with no successful assuagement or dealing
STRATEGY (1-5)		with distress.
(include subcodes, eg		
1.2, 2.1)		

### **OVERALL CATEGORISATION :**

3B Quantity	9	N/A
3C Relevance	9	N/A
3D Manner	8	N/A
OVERALL	9	N/A
COHERENCE		
OF		
NARRATIVE		
(average of 3A-		
D)		
3E Child of self	2	N/A
Mentalising		
3F Child of	2	N/A
mother		
Mentalising		
3G	0	
Metacognition		
Scale 4:		4.2.
Episodic D		
phenomena		

Minimal verbal/nonverbal behaviour made coding difficult child had use of multiple strategies and did not deal with emotions. Displacement behaviour in himself was very prominent throughout task. Not quite comfortable with distressing theme.

### NOTES/EXPLANATION OF THE CODING CHOSEN:

1) Method of MCAST may not be suitable for child. May not have sufficient communication competence for this method.

### Appendix

# 4.3 Coding of Inital study two

### MCAST Initial study Coding Sheet

SUBJECT NAME..HP1.- Initial study ... VIGNETTE...Nightmare

RATER.....Joanna Downes - ..... DATE RATED.....20<sup>th</sup> January

2003.....

1A	7	
Engagem		
ent		
1 <b>B</b>	4/5	
Arousal		
1C	1	
Turntakin		
g		

2A Proximity child	5	Child plays with bed, toys and taps mother who is aggressive
to mother		and shouts. No breakfast and goes back to bed
2B Proximity	5	Same as above
mother to child		
2C Self care	1 /	Watches T.V? Plays with Toys.
	2	
2D Displacement	7 /	Goes downstairs, no breakfast, turns telly on, noisy t.v., does
(doll)	8	mum's work while she sleeps, bath.
2E Displacement	2	At the beginning, "I'm never scared"
(child)		

2F Reversal	5	Focus on conflict with mummy and mummy being angry, etc.
		talks about mother telling him off etc.
2G Conflicted	9	High! Tries to upset mummy, mummy is angry, "no
behaviour		breakfast", sitting on the roof and "swinging and letting go of
		mother on rope".
2H Carer sensitivity	1	Hostility, Mum towards child and Vice Versa.
2I Carer warmth	1	
2J Carer	7	
intrusiveness/control		
2K Assuagement	1	
(child)		
2L Assuagement	1	
(observer)		
2M Exploratory	1	
play		
2N Affect	2.2	
20 Content	8	Some reality, e.g. t.v., no breakfast, plays with toys, but then
		bath with clothes on, do work for mummy and roof.
PREDOMINANT	3.1	
STRATEGY (1-5)	or	
(include subcodes,	4.2	
eg 1.2, 2.1)		

3A Quality	3	
3B Quantity	4/5	
3C Relevance	1	

3D Manner	6	
OVERALL	3 / 4	
COHERENCE		
OF		
NARRATIVE		
(average of		
3A-D)		
3E Child of	3	
self		
Mentalising		
3F Child of	3	
mother		
Mentalising		
3G	0	
Metacognition		
Scale 4:	2/3	Tries to get attention from mother by turning t.v. up,
Episodic D		mother wants bath with clothes on, boy is on roof,
phenomena		mother follows, falls down, child lets go of rope.
		Controlling-conflict pattern?

### **OVERALL CATEGORISATION :** D Score – Primary D=8

### NOTES/EXPLANATION OF THE CODING CHOSEN:

At the very beginning, the boy said he was never scared. Immediately denies the emotion, but when I asked him to pretend, he seemed to be able to make up a story about having a nightmare very quickly. That was interesting to see. If someone has no experience of being scared, it would be hard for them to imagine or make a story about the situation?.

# Appendix

### 4.4 Coding of Initial study three

### MCAST Initial study Coding Sheet

SUBJECT NAME......HP3......VIGNETTE ....Nightmare

RATER.....JD DATE RATED.....January 2003.....

1A	6	Looks away when interviewer says "bad dream" and starts
Engagement		displacement behaviour by fidgeting with dolls.
1B Arousal	2	Does not seem appropriate. Does not really answer the attachment
		distress but child doll is "happy".
1C	2	Does not pay attention, breaks eye contact and difficult to know if can
Turntaking		understand interviewer/interpreter without lip-reading

2A Proximity child	8	"Go to Bed"
to mother		
2B Proximity	Not	Very interesting – while interviewer starts to say the story,
mother to child	sure?	the boy picks up mother doll and brings it to the child doll,
		puts mother doll back to bed, picks the child doll and brings
		it to mother doll's bedroom. This may have been a mistake
		by child's face expression when saw the child doll.
2C Self car	0	
2D Displacement	8	
(doll)		
2E Displacement	8	Can't stay still and fidgets with dolls while interviewer asks
(child)		prompts.
2F Reversal	1 / 2	

2G Conflicted	2	"Go to Sleep" and Steven's just had a nightmare. Steven
behaviour		goes to see the mother but does not get comfort
2H Carer sensitivity	1	
2I Carer warmth	0	
2J Carer	2	
intrusiveness/control		
2K Assuagement	5	
(child)		
2L Assuagement	1	No evidence the attachment issues were dealt with and no
(observer)		comfort and assuagement. Does not really explain why child
		is happy now – the mother shutting the windows does not
		justify.
2M Exploratory	1	Carries on narrative after probes
play		
2N Affect	3	
20 Content	1	
PREDOMINANT	3.2	Ambivalent – minimum addressing of attachment themes
STRATEGY (1-5)		
(include subcodes,		
eg 1.2, 2.1)		

3A Quality	4	
3B Quantity	3	
3C Relevance	3	
3D Manner	3	
OVERALL	3	
COHERENCE		

OF		
NARRATIVE		
(average of 3A-		
D)		
3E Child of self	1	
Mentalising		
3F Child of	0	
mother		
Mentalising		
3GMetacognition		
Scale 4:	2-	Predominant strategy – 3.2
Episodic D	3	
phenomena		

### **OVERALL CATEGORISATION**

### NOTES/EXPLANATION OF THE CODING CHOSEN:

- Because of total lack of dealing with distress and attachment issues, the interviewer with knowledge that Steven has 'problems' at school, tried to remind Steven of nightmare story. But still got same response, does not even reply to interviewer saying "Has Steven forgot Nightmare?". The child chooses to ignore and carries on talking.
- 2) The child seemed to have an organised strategy but when the mother tells him to "Go to bed", the story finishes. And the boy and mother is supposed to be "happy" with no believable explanation of why.

# Appendix

# 4.5 Coding of Initial study four

### MCAST Initial study Coding Sheet

RATER.....JD..... DATE RATED......Jan 2003.....

1A	9	
Engagement		
1B Arousal	9	
1C	1	
Turntaking		

2A Proximity child	8	
to mother		
2B Proximity	9	
mother to child		
2C Self care	1	
2D Displacement	3	
(doll)		
2E Displacement	1	
(child)		
2F Reversal	4	
2G Conflicted	2	The child doll wanted to go to school? Very upset that she
behaviour		could not go to school.
2H Carer sensitivity	9	
2I Carer warmth	9	

2J Carer	6	
intrusiveness/control		
2K Assuagement	6	The assuagement is continuing and not finished but realistic as
(child)		waiting for "medicine to work".
2L Assuagement	7 /	The Child, C looks content.
(observer)	8	
2M Exploratory	0	
play		
2N Affect	1	
20 Content	1	
PREDOMINANT	1.4	The story showed clear goals but with the continuing
STRATEGY (1-5)		assuagement of contact maintenance required and the distress
(include subcodes,		still being present but better and resolving.
eg 1.2, 2.1)		

3A Quality	9	
3B Quantity	9	
3C Relevance	9	
3D Manner	8	
OVERALL	9	
COHERENCE OF		
NARRATIVE(A-D)		
3E Child of self	2	
Mentalising		
3F Child of mother	2	
Mentalising		
3G Metacognition	0	

Scale 4: Episodic		1.4 secure attachment. Story perfectly clear and consistent.
D phenomena		
OVERALL CATEGORISATION		

Same format as previous story with appropriate answers and secure strategy but with continuing assuagement theme of no final resolution but with a goal of getting better.

1) no additional notes required in sub-codes as evidence is clear to code.

### Appendix

### 4.6 Description and justification of codings in initial study

This section provides a comprehensive description of the vignettes performed by the children in the initial study. The researcher also discusses how she reached her decisions on the coding of the child's attachment strategy.

### Child 1: Story 1 – Nightmare

The Child<sup>10</sup> gave a response of the CHILD-DOLL brushing teeth, going downstairs and then sleeping on top of the TV. Then the mummy doll is sitting in a chair.

If a label was to be given for this vignette, it would be classified as predominant strategy 4.1 for "Complete Chaos", with a Primary D rating of 6 or more. The classification of the Child's attachment security would be due to his response strategy not having a clear goal and the mother having minimal or no effect on the story. The Child did not deal with the distress presented in the vignette. The validity of the coding Primary D is difficult to interpret from an interview where one cannot clarify or understand what the Child was

<sup>&</sup>lt;sup>10</sup> When the researcher is referring to the child themselves, she will use "Child" and when referring to the child-doll, "CHILD-DOLL" in small capitals.

thinking when he pointed and moved the dolls, shrugged his shoulders and gestured "I don't know" repeatedly in response to prompts. The Child's inability to complete the task in this vignette is demonstrated by the fact that, even in the Child's preferred language (BSL), he cannot express himself at the level required for the task. Whether this is due to the Child's low level communication, possible learning delay/difficulty or cognitive impairment, one cannot be sure. It would be unfair to the validity of the MCAST and to the Child to class them as Primary D, when the validity of the data collected is in question.

#### **Story 2 – Hurt Knee**

It appeared that when the interviewer was trying to make this story easier for the Child to understand by giving possible answers, e.g. "feeling happy or sad?" This may have interfered with the congruity of the Child's answers to prompts. In another incident, the Child repeatedly pointed at the dolls or at 'something' inside the dollhouse, e.g. the Child pointed at the mummy doll and the interviewer said, "Come?" (as in "Mummy comes to CHILD-DOLL") and Child signs, "Yes". It cannot be verified that this is what the Child was really saying, as his 'pointing' at the mummy doll could have alternative explanations.

In another instance, the interviewer was probing how the doll was feeling and Child pulled a negative-affect face expression and shook his shoulders intensely. When the interviewer attempted to remind the Child of the vignette theme, he tried to stop her by shaking the doll in front of her face. When prompts were asked about how the mummy doll was feeling, it was perceived that the Child looked like he was guessing, as he changed his answers from "crying/upset" (which he signed while smiling) and then to "happy". If this were a hearing child with normal development and communication level, he would be classed as primary D for all the shoulder shrugs, interruptions, severe inconsistency in story flow, and paradoxical answers.

#### Story 3 - Tummy ache

The Child behaved similarly as he did in the previous vignettes. The Child was unable to produce a response to the vignette and needed extensive prompting from the interviewer. As before, the Child changed his answers to the emotional prompts from "happy" to "sad". It was really not clear what the Child's response to the vignette was. Therefore, this was considered unclassifiable due to inconclusive data.

### Story 4 – Lost at shopping trip

This is an interesting interview as, up to this point, it had been questionable whether the Child could relate to the emotional context of the vignettes. As this could be open to individual interpretation, the researcher will consider potential angles of coding this section of the interview.

The Child did understand the context of the story but froze (symptomatic of Episodic D Phenomena) when the interviewer told the Child that the CHILD-DOLL had "lost mummy". The Child (from transcript – "getting visibly upset, starts chewing finger, both hands near

mouth, eyes swelled up, knee jerking, upset tone of signing") starts pointing at the mummy doll, which has been placed on the floor (not part of the story after 'lost') and does not seem to know how to resolve the distressing situation. In the vignette, the interviewer said that the mother went to the shoe shop. After the above display of behaviour and pointing, the Child eventually signs quickly, "Shoe Finish Bus". This could be interpreted as, "Mummy finishes looking at shoes and then we go home on the bus". It cannot be ascertained if the mummy came back to find the boy, then they both went home; or whether the boy found the mother and then both went home; or whether the mummy went home on her own, and so on. After the Child made the three-sign response, he broke the interaction and social referencing became non-existent. He ignored the interviewer's prompts, and played quietly with the dolls and dollhouse. The interviewer asked a final prompt of how the CHILD-DOLL was feeling and the Child replied, "Nothing".

As discussed in a meeting with hearing colleagues with no knowledge of sign language, they interpreted the Child's behaviour in this vignette as possible frustration at not being able to understand the interviewer or not being able to communicate. This could be due to mild learning disability, and also due to the Child's inability to communicate reasonably enough to give reliable data for a classification.

#### Child 2: Story 1-Nightmare

The Child responded immediately when the researcher finished the vignette, saying, "I'm never scared". However, when the interviewer told him to pretend, he was readily able to produce an elaborate response. The Child's response had a bizarre and violent theme.

#### Story 2 – Hurt knee

In this section, the interviewer allowed the Child to choose 'pirates' to play with, which can have lots of fantasy characters or themes. However, the content of his story was interesting, as it included several threatening themes and violent behaviour from the boy towards his mother, and vice versa.

### **Story 3 – Achievement (not required to code)**

This story was supposed to be a relief from the traumatic content of the attachment themes. However, the Child turned it into a conflict story. When the CHILD-DOLL returns home from school and shouts for mum, mum replies, "You know I've got headache"; the CHILD-DOLL tells mum that his story has been the best in class, and mother says, "Well, theirs must be pretty rubbish; now, I'm trying to sleep, so leave me alone". The CHILD-DOLL says, "But it's nice", and the mother replies, "Then I'll rip it up".

Story 4 – Tummy ache

The Child tends to go on and on. The interviewer is trying to finish this vignette phrase, but the Child interrupts and wants to carry on with his story. Some sentences do not make sense, with no flow and remain unfinished. At the beginning, the story seemed to have an appropriate goal for assuagement (seeing a doctor, although some might think it is a bit extreme for a tummy ache). However, when the CHILD-DOLL went to see the doctor, it did not seem to provide reassurance, and there was no emotional aspect present in the story. The Child talked about bed time and the mum wanting to sleep in the CHILD-DOLL's room, but couldn't, as the CHILD-DOLL made the room too small for mother to sleep in. The story line was then lost, with no clear goal or aim for assuagement.

### **Story 5 – Shopping trip**

This Child responded to the vignette with a relatively realistic story about what the CHILD-DOLL would do after discovering he was alone. However, when he was asked about the emotional context, he seemed to 'list' all the emotions expected for the 'lost mummy' and then the emotions for the 'found mummy' scene. The emotions listed were those that would be expected, but the boy did not express them as if he really felt or believed them.

#### Child 3

#### **Story 1 – Nightmare**

This Child did not really deal with the distressing event. It was hard to know if he heard the interpreter, because he did not seem to engage in social referencing and was playing with

the dolls all the time. He also displayed high displacement behaviour, both in relation to himself and the CHILD-DOLL. It was inconclusive if he could identify or empathise with feelings, as he only said that the CHILD-DOLL was, "Happy" after being told to, "Go to bed".

#### Story 2 – Hurt Knee

At the start, the boy gave a good response, "Mummy comes running out to bring child inside", but after that he did not deal with the distressing event or signs of comfort and assuagement. When asked how the CHILD-DOLL was feeling, the Child again responded, "Happy".

### Story 3 – Achievement

Normal response to school story. The Child was mumbling a bit, so some of his words could not be transcribed.

#### Story 4 – Tummy ache

This is interesting, because in the Child's story the CHILD-DOLL clearly sought comfort from the mother for assuagement ("I've got a tummy ache"), but the mother replied, "Can't do nowt about that", offering no comfort whatsoever. When the interviewer asked how the CHILD-DOLL felt, the Child ignored her and carried on making up a story that completely lost the attachment theme and had no clear goal. There was no dealing with the emotional aspects of the tummy ache incident, even though the Child clearly acknowledged the distressing event.

#### **Story 5 – Shopping trip**

The interviewer was surprised at the way the Child responded to this vignette. Before the interviewer had started the shopping trip stem, the Child had been playing with the dolls, telling himself a story about 'buying chairs'. When the interviewer informed him that she wanted to tell him a story, he stopped and listened. As soon as the interviewer finished, the Child carried on telling the story that he had started BEFORE the interviewer described the vignette; i.e. 'buying chairs'! This was the most distressing story out of the 5 themes but the Child did not acknowledge it. As the interviewer had noticed previously, the Child seemed to drift away into a world of his own in the way he played with the dolls (high displacement). Not knowing whether the Child had really listened to the interpreter, understood her or chosen to ignore the distressing theme, the interviewer opted to remind the Child of the story. Even though the Child seemed to acknowledge the story at the second attempt, he still gave a non-emotional response of being, "Shattered!" When the interviewer asked the Child how mummy was feeling, he replied, "I don't know that one". This appeared to confirm the interviewer's suspicion that he could not appreciate various emotions and empathise.

#### Child 4

### **Story 1 – Nightmare**

It was easy to code the sub-sections for this vignette, as each behaviour and action could clearly be categorised. There were elaborate story productions, with clear goals for fully resolving assuagement, along with appropriate social referencing, turn taking and eye contact.

#### Story 2 – Hurt knee

Same as above.

### Story 3 – Achievement

The Child gave a nice story about bringing a friend home, having lots of dolls and feeling happy.

### Story 4 – Tummy ache

This was interesting because, as each vignette became more distressing, the Child appeared conscious of it, by requiring more contact maintenance and not giving a complete assuagement of the tummy ache. She said that the CHILD-DOLL, "Was waiting for the medicine to work but feeling better", which is realistic and appropriate for this vignette.

**Story 5 – Shopping Trip** The Child gave an appropriate and realistic response to the vignette, with a resolving final assuagement.
## 4.7 Whole nightmare







# Appendix 4.8Whole bike vignette



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## 4.9Whole tummy ache vignette









## 4.10 Whole lost while shopping vignette







## 4.11Achievement Vignette





# Appendix 4.12 Emotions for DCAST





# Appendix 4.13 Holiday 'closure' picture





### 4.14 Administration Procedure

This procedure outlines how to administer the MCAST-DC and DCAST. First the researcher has to choose which instrument is the most appropriate to use with the child.

Language and communication	Instrument to use	Communication procedure to
competence of child		use
a) Oral	MCAST or	Communication procedure (i)
High communication competence	DCAST	
b) Oral	DCAST	Communication procedure (ii)
Low communication competence		
c) Sign	MCAST or	Communication procedure (i)
High communication competence	DCAST	
d) Sign	DCAST	Communication procedure (ii)
Low communication competence		

 Table 1. Which instrument and communication procedure to employ

### 1.1 The child description

The child scores for IQ and communication are calculated using norms validated for use with deaf children, and then compared to norms for hearing children of average scores to inform the researcher whether they are suitable for administration of the MCAST. This is because the MCAST was originally designed for use with hearing children of average intelligence, therefore it would not be helpful to compare scores in these domains of the deaf child to a deaf population norm. The following describes the child characteristics (a-d) as listed in table 1 above:

a) The child who uses oral communication as their main means of communication, with an average to high score in both IQ and communication.

b) The child who uses oral communication as their main means of communication, but has a low to average IQ and communication score.

c) The child who uses BSL as their main means of communication, with an average to high score in both IQ and communication.

d) The child who uses BSL as their main means of communication, but has a low to average IQ and communication score.

If a child has a high IQ score but low communication score, *or* a low IQ but high communication score, they will require the Pictorial test version to be administered. The ability requirements of the original MCAST are that the child be of average development in *both* IQ and communication, not in *either*.

### 1.2 The data collection and transcribing

As the MCAST-DC and DCAST is performed with deaf children, it is important to make sure that the following is recorded:

- 1) The child's face and upper body, if possible
- 2) Dollhouse
- 3) Researcher
- 4) Interpreter (if present)
- 5) The DCAST props (pictures) and the child in same frame.

The instances where transcribing is required are:

- Child has clear intelligible speech and does not use sign language, in which case a hearing person is requested to transcribe.
- 2) Deaf child who uses BSL, and is transcribed by a BSL interpreter. The exact BSL is written down with an English translation provided in a second transcript.

The transcribing of the child who uses speech allows the researcher to code the child's attachment security. The transcribing of the child who uses BSL allows a hearing person with no knowledge of BSL to know what the child was saying. It also provides a comparison for the researcher, whose knowledge of BSL may be different to the interpreter's, for example regional variations of BSL vocabulary that may be different to what the researcher uses.

### **1.3 Administration procedure of MCAST-DC**

1) The MCAST original procedure will be followed for the breakfast vignette. If the researcher thinks the child is able to complete this, she will continue, then follow the original MCAST administration procedure.

2) During the administration of the MCAST-DC, if the child starts creating spontaneous irrelevant responses, starts displacement behaviour by creating bizarre or repetitive responses, or becomes distracted, the dollhouse will be abandoned.

3) The researcher will explain that they are going to play a different game, and introduce the pictures. The researcher will give the child time to look at the pictures to move on from the dollhouse, if they had used it previously. The steps in the next section will then be followed.

### **1.4 Administration procedure of DCAST**

This procedure is to be followed for all children. Special considerations for children of lower communication competence are outlined in the communication procedure (Appendix 4.9).

The researcher first asks the child to draw a quick picture of their family:

1. During this time, it is important for the researcher and interpreter (if present) to acquaint the child with themselves and their role, so that the child is comfortable

with the situation. This could be achieved by discussing the drawing, colours used, or what clothes the child is wearing. The child may have questions about sign language or the role of the interpreter, which the interpreter will be encouraged to clarify.

- 2. Although the picture drawing is a short period, it may give the child, interpreter and researcher a chance to become accustomed to each other's voices and signs.
- 3. In ome instances, the deaf child may have to teach the researcher their name-sign<sup>11</sup>.
- 4. The researcher and interpreter should clarify whether the child who relies on speech to communicate, can hear/understand what is said without lipreading, or if they do need to lipread.
- 5. The researcher will introduce the main pictures illustrating the theme, and wait to check if the child asks or starts talking about the pictures. If the child does not start talking about the pictures, the researcher will describe what is happening in

<sup>&</sup>lt;sup>11</sup> Name-sign= the 'sign' that accompanies one's name when signed. For example, someone called Joanna who likes pigs, would have their name signed using the sign for 'pig'. This is a custom of the Deaf community and can be applied to hearing or deaf people.

the main pictures. If the child starts talking about the pictures, the researcher will let them take over.

- 6. The administrator can give the school vignette at the beginning, if it is doubtful whether the child can perform the task at all. If it is not, then this should be given after the first two main vignettes. If the child appears tired or is getting restless, the school vignette should be omitted.
- 7. Once the child has understood the theme, the researcher will ask them, "What happens next?" and then wait for them to respond. If the child appears unsure, the researcher will ask, "Do you want to look at some pictures to help you think of what happens next?"

Table 2. Guide for which response pictures to show the child first

Vignette	$1^{st}$	2 <sup>nd</sup>	3 <sup>rd</sup>	4th
Nightmare	Toilet	Wake mum	Call mum	Go back to
				sleep
Bike	Call mum	Go back on	Put plaster on	Mum comes
		bike with	by self	and pats knee
		bleeding knee		with tissue
Tummy ache	Call mum	Do nothing	Go find mum	Mum brings
				water
Lost in	Look at toys	Call mum	Tell security	Walk home
Shopping			guard	

When the researcher gives the response pictures, she will say, "You do not have to choose them, or you can make up your own story". The child has three ways of creating a response:

- 1. Create their own response entirely.
- 2. The child can choose to only point at the pictures.
- 3. Choose pictures, but provide additional verbal or non-verbal data.

The researcher will ask the child if they have finished making their choices or telling their story. The researcher will quickly repeat what the child said or what pictures the child chose to confirm the child has understood. For example, "You say that teddy will go to the toilet, then wake mummy up, but mummy says, 'Go to bed'. Right yeah?" This is to confirm whether the child understood what their selected pictures signify. It may not always be necessary to do this if the child has made it explicit what he or she believes will happen next. Where a child is unsure or relatively vague, then they can be prompted to confirm what happened.

When the child says, "Yes", make sure the child can see the last response picture they have chosen, then ask the 'emotion' prompts. If the child is unable to answer, then show them the 'emotion' pictures. The researcher can then ask what the teddy and mother are thinking. Continue administrating the remaining pictures. In all cases, conclude with the seaside vignette, and encourage the child to take their drawing of their family to show their mother/carer.

### 4.15 MCAST-DC & DCAST communication procedure

#### Communication procedures for the administration of the MCAST-DC and DCAST

There are two broad ways of communicating during the administration of the MCAST-DC and DCAST, for children of low or high communication competence. Before the researcher administers the DCAST, the interpreter, if present, will be encouraged to talk to the child and familiarise themselves with the child's form and level of linguistic and vocal skills. A deaf child who does not use sign, will not necessarily have easily understood speech, so the interpreter should be allowed to spend between five to ten minutes to 'learn' the way the child talks. The child's parent will be outside the room, and the child will be allowed at any point during the task to see them if they become distressed. Although it will be difficult to use the same words or signs with each child because of different communication abilities, the content of the stories or prompts will remain the same. When signing to the child, the researcher will try to use similar styles of face expressions, gestures, body language and signs with each child. However, for a child who has lower communication or IQ score, the researcher may have to emphasise more certain emotions or actions to make it clear that the particular event is important.

### **1.1 Culturally sensitive norms of communication**

The researcher is a Deaf person and uses physical contact as part of initiating communication. This means that she will tap the listener's shoulder if she wants to gain

their attention to establish eye contact or to engage their line of sight to the object in question. Gaining the listener's attention may be prompted by elbowing, waving the picture or dolls in their field of vision, or just waiting for them to look back at the researcher or the interpreter. Some participants may not have been brought up with knowledge of how deaf people communicate, thus the researcher will observe how they initiate communication. For example, if the child calls out the researcher or interpreter's name instead of tapping their arm, they may not employ physical means of gaining a listener's attention. In these situations, the researcher will refrain from physically touching the child's arm or tapping their shoulder.

### 1.2 Special considerations of 'Deaf' communication that may affect coding

It is necessary to be aware of how some deaf children may communicate at home, especially if they have some participation in the Deaf community through role models or deaf clubs. The following behaviours may be encountered during the assessment or in response to the vignettes, and should not affect their attachment codings negatively.

- 1. Banging a table or stamping on a floor (hollow) to gain the person's attention.
- 2. Throwing things in the person's field of vision.
- 3. Touching someone (even a stranger) on their hand, arm or shoulder to gain their attention.
- 4. Switching lights on and off in the room to gain a person(s) attention.

- 5. When the child wants to convey something without using a BSL sign or using verbal/formal words. These actions/gestures include pointing, face expression (gasp, eyebrows raise, nod, shake head) and eye contact.
- 6. For a deaf person not brought up in Deaf culture, some of the above behaviours may be considered rude. This applies especially to deaf people who were brought up in mainstream schools, in a hearing home environment, and in a hearing society as a whole.

### 1.3 Deaf children who rely on their hearing to communicate

When the researcher is signing to a child with good hearing who can hear the interpreter's voiceover, she should ensure that the vignettes are described clearly and slowly, to give the interpreter time to do the voiceover. If the child looks interested in watching the researcher sign, the researcher will follow the method above, in case the child is tired and wants to lipread instead of listening to the interpreter's voiceover.

### **1.4 Communication procedure (i)**

The researcher can follow the administration as outlined in the original manual for the MCAST-DC. The researcher can follow the administration procedure for the DCAST. If the child cannot lipread or understand the researcher, then an interpreter will be used to administer both the original and pictorial MCAST. In one of the study cases, the researcher

explained to the child that she used BSL and the child would not be able to understand her, so an interpreter was required. The interpreter should be encouraged to develop a rapport with the child, to sustain their motivation while they relate to the pictures and the attachment theme. The interpreter should, however, not help them with their responses.

### **1.5 Communication procedure (ii)**

It is important to remember that the child's speech or sign language skills may not match their chronological age. It is also crucial that the interviewer does not overwhelm the child with too many alternative explanations of the same sentence, which may confuse them even further. The following are suggestions as to how the DCAST could be administered, although not all of them have to be used:

- 1. Explain to the child that the teddy has the same name as them.
- 2. Suggest to the child that the teddy can talk and sign.
- 3. Use more non-verbal body language when storytelling, in particular when relating the distressing event. For example, using face and body language to show teddy in pain when falling off their bike. A child with minimal language skills may rely more on non-verbal cues in understanding communication.
- 4. When describing what happens in the dollhouse or pictures game, the researcher will make sure that she stops signing/speaking when the child looks at the pictures to which she is referring, because this means the child is

not 'listening'. When a deaf child who uses speech or sign language does not look at the person, one cannot assume that they know what is being said. Hence, face-to-face and eye contact are very important, unless it is clear that the child can hear and comprehend speech without lipreading.

- 5. Use less detail when describing the main themes. Omit trivial or irrelevant information such as 'sunny day' and instead focus on the key event.
- 6. Describe the choices of emotions in the emotion pictures at the end.

### 1.6 Involving an interpreter with a signing child of lower communication competence

When working with deaf children with minimal communication skills, the interpreter's role is to tell the researcher the words/signs they hear from the child or, if requested, to convey a sentence by the researcher into simplified BSL or spoken English. There is no rigid protocol to follow, because there may be different ways of structuring a sentence, so that each child can understand.

### **1.7 For deaf children of deaf parents**

If a child has deaf parents who sign or talk, the parents may have a low educational background, or have not had the support to be able to teach their child to talk or sign. This means that the child may use 'made up' signs or attempt to use their voice to communicate. From the initial meeting at the child's home, the researcher will judge whether an interpreter is required to be present. For example, one of the subjects had a hearing mother

and a deaf father, both of whom signed, but the child had started to learn to sign at a very late age. When the researcher met the child, the child was attempting to use their voice and was in the very early stages of using his hands to sign. At some instances during the visit, when the researcher could not understand the child, the interpreter (who was appointed for the interview with the mother) could pick up on some words that the child was attempting to say. Even if the researcher was hearing, an interpreter might still be required because they can recognise the kinds of sounds deaf children miss out when pronouncing words. An inexperienced hearing listener may find the deaf child very difficult or impossible to understand, because of gaps in pronounced sounds.

### 1.8 For deaf children of hearing parents

Again, the researcher will judge from the initial meeting at the family home whether she can understand the child. Even deaf children of hearing parents may not have learnt to use their voice to pronounce words properly, or not have had the opportunity to learn sign language at an appropriate level for their age. This was another subject where the mother used sign language, but the child's communication level was not at a stage where structured BSL format was being used, instead gestures or miming (non-verbal behaviour) were present. In some instances, the interpreter picked up on a sound the child made, while on other occasions the researcher understood the child's primitive signs.

### 4.16 Discussion of the adaptation to the MCAST coding

### Discussion of the adaptation to the MCAST coding procedure

This section outlines how the original MCAST coding procedure and coding sheet were adapted for the MCAST-DC and DCAST. Starting with the coding sheet, the researcher selected sections to be kept or omitted. The following refer to the original sections on the MCAST coding sheet (Appendix 3.8). The new sections can be found on the MCAST-DC (Appendix 4.19) and DCAST (Appendix 4.18) sheets. The MCAST-DC and DCAST sheets remain the same as the original, except for in the DCAST there is an additional table available for recording non-verbal data.

#### 1.1 Adaptations to the original MCAST coding sheet

**First part**: In the first part of the MCAST coding sheet, '1A Engagement' was kept and slightly changed to include whether the child was able to concentrate, whether they engaged enthusiastically, or was able to continue with the vignette. A new section 'Child understands?', was added to ensure that there was clear communication between the child, researcher and interpreter and whether the child understood what the researcher wanted them to do. The second section '1B Arousal' from the original MCAST, was kept and modified to 'Affect exhibited by child during stem', to include recording non-verbal as well as verbal expressions of emotion. The third section that was omitted was '1C Turntaking', due to communication differences in deaf children. It is important that the child can

contribute and perform the task, regardless of whether they engage in turn-taking, especially if they have not been taught communication skills to a high standard. A new fourth section, 'Displacement behaviour', was created to distinguish between genuine movements that are symptomatic of sign language or gestures in deaf children, and true displacement in the child's response to the attachment provoking events.

**Coding - Grice's Maxim and Overall Coherence of Narrative:** This section was omitted, as it requires substantial data in the child's communication, which may prove difficult to collect in a heterogeneous population of deaf children. Although the child's attachment coding may not be as strong without the Grice's maxim, a basic coding can still be derived without this section.

**Coding - Episodic D Phenomena:** As there is a possibly higher risk of deaf children having disorganised attachment (please refer to chapter one for further discussion), the researcher decided to keep this coding for the present.

**Part Two of the original MCAST:** Below is a discussion of which sections were kept or omitted the original MCAST coding:

Original	Keep/Omit	Reason
MCAST Sub	for	
coding	DCAST-(ii)	
2A Proximity	Keep	The researcher considered this sub-coding to be relevant as in the response
child to mother		pictures there is opportunity for the child to choose whether the child will
		go up to the mother, or vice versa.
2B Proximity	Кеер	Same as above.
mother to child		
2C Self-care	Кеер	There is opportunity for this in the nightmare, bike and tummy ache
		stories, where the child can choose to put plaster on, go to toilet, or get a
		glass of water themselves.
2D	Omit	The child will not be holding a doll or the teddy, as it is in 2-Dimensional
Displacement		format, so it will not be possible for the child to perform displacement
(doll)		behaviour of this nature.
2E	Keep	This is relevant as the child can exhibit non-verbal behaviour, e.g.
Displacement		twitching, looking around, or moving the pictures around with no obvious
(child)		aim.
2F Reversal	Omit	This is quite difficult to demonstrate in terms of verbal output, and the
		child will not be able to perform this if they have a premature level of
		linguistic and cognitive development. For the child to demonstrate that
		they are adopting the mother's role, this would require superior
		communication skill.
2G Conflicted	Keep	There is opportunity for the child to demonstrate this theme. For example,

### Table 1. Subcodings in part two of MCAST

behaviour		in response to the main theme, after the child has gone to the mother, the
		mother has given an 'angry' reaction (in picture); or the mother being
		angry with them, but saying that the mother or child is 'happy' in response
		to the emotion prompt; or, not representing the mother in their chosen
		sequence, then saying that the mother is angry in the emotion prompt.
2H Carer	Omit	This is quite detailed and will be combined in the next sub-coding of
sensitivity		warmth.
2I Carer	Keep	This will be combined with sensitivity, as it is often difficult to distinguish
warmth		between sensitivity and warmth in the response pictures. The mother is
		shown a picture of giving the child a glass of water, which can be coded as
		sensitivity; while in other pictures, the mother gives the child a hug or talks
		to them.
2J Carer	Omit	This is not exhibited in the pictures, so the researcher decided to omit it. If,
intrusiveness/		however, the child demonstrates related evidence, this will be recorded.
control		
2K	Keep	The child will have opportunity to say if they think the teddy and mother
Assuagement		are happy, sad or angry. In some cases, the child may be able to say what
(child)		they are thinking, although some children cannot differentiate cognitions
		from emotions as two functions.
2L	Keep	Although this might be difficult to identify, the researcher wishes to
Assuagement		establish whether it is possible to assess the child at the end of the vignette
(observer)		and conclude whether they can show assuagement or affect.
2M Exploratory	Keep	There is limited opportunity for this in the pictures, so the researcher will
play		keep this as provisional at present.
2N Affect	Keep	This sub coding of non-verbal behaviour context was included in the
		original MCAST, and explores the child's state of affect throughout the
-------------	------	---
		vignette. Was it fixed, flexible, oscillating or of a negative/positive nature?
20 Content	Omit	Not relevant, as it looks at how much bizarre and fantasy content was
		included in the child's response. It is not suitable for the DCAST, because
		there are no fantasy responses in the pictures. However, if the child does
		give additional data, this will be recorded.
Predominant	Keep	Hopefully, sufficient data should be collected to conclude a basic
strategy		attachment label. The researcher at present will not give for different types
1) Secure		of A, B or C variations, but rather the basic label.
2) Insecure		
Avoidant		This is due to specific and detailed data being required to give a variation
3) Insecure		of secure label, e.g. "secure but with element of avoidance", "secure but
Ambivalent		with continuing contact with caregiver".
Ambivalent		with continuing contact with caregiver".

**1.2 Additional Non-verbal table:** The researcher added this table to the DCAST coding sheet so that, if a child was being minimal in their communication and responses, the coder could record any non-verbal behaviour. This was in order to collect sufficient data for an attachment coding. The table is as follows:

Which response	First picture	Second	Third	Fourth	Fifth	Emotion	Emotion
picture was chosen						Child	Mother
after main theme?							
Time between each							
choice (secs/mins)							
Intensity in which							
context did child							
choose? Pointed							
slowly or quickly?							
Any extra							
linguistic/non-verbal							
output (i.e. extra							
storyline)?							

If there is enough data to complete the above sections, then the coder can do so. They do not all have to be completed, but some key data such as, for instance, if the child was quick in choosing their first response, but then took a long time in choosing their second response. This might indicate that they were unsure what would happen next in their attachment strategy, consequently an ambivalent or disorganised style where the thread of the strategy got lost. To aid the coder (Appendix 4.13), the researcher a) described what each type of attachment category generally means; b) highlighted which pictures could fit in each type; and c) produced a table illustrating several examples of sequences that could fit into each type of attachment.

#### Appendix

#### 4.17 MCAST-DC and DCAST coding procedure

#### Coding Procedure for the MCAST-DC and DCAST

This procedure can be used to code the performance on the MCAST-DC and the DCAST by children of both lower and higher communication competence. In the first section, the researcher will highlight key points for the coder to consider on the validity of the child's performance, and will discuss deaf-related features of children's behaviour that the coder needs to be aware of when coding the videotapes. In the last section, a guide on how to code the MCAST-DC or DCAST performances will be presented.

#### Critical analysis of the child's performance

It is important to consider the validity of the child's performance on the vignettes. It would be preferable to view the videos before the coding starts, and to consider the following questions. This is because it may not be possible to code all vignettes that the child performed. The following questions are aimed at analysing whether the child's vignette(s) should be coded or not:

- 1. Did the child understand the questions? Did the researcher repeat the questions too many times?
- 2. Did the child appreciate the emotional context of the vignettes?
- 3. Did the child's linguistic and communication competence enable them to understand the task? Did they understand the interviewer or interpreter?

- 4. Could the child be understood when they responded?
- 5. Conduct of the interviewer: too little or over-prompting? Giving pictures too quickly or missing the child's cues to talk?

After the child's vignettes have been coded, the coder is encouraged to compare the coding against any other supplementary data collected. This could be data from family questionnaires, parental interviews and the child's psychometric tests.

#### **Definition of attachment patterns**

The coder needs to be aware of what kind of responses could fit into each attachment category. The researcher has illustrated examples in the following descriptions:

**Secure:** If the child chooses a response where the teddy either calls for the mum or goes to find her immediately after the presenting vignette, this can be the start of a secure strategy. They also need to have a clear goal of finding the source of potential assuagement. The following is the response to the main bike story (please refer to figure 4.4 in chapter four).



The next picture can be the mother showing the teddy warmth and sensitivity to their distress. This is one of the pictures where the mother is placing her arm around the child and attending to their distress, for example offering a glass of water or putting tissue on their bleeding knee.



In the next picture, the child carries on with their previous activity, for example going back to sleep, or riding their bike. This indicates exploratory play, which is supposed to only happen (according to attachment theory) after the child has had assuagement.



**Insecure-Avoidant:** The child does not go immediately or call for the mother's attention. They will either follow some other activity, such as go to the toilet or get a glass of water for themselves, then go to the mother, or call. In cases of extreme avoidance, the child may 581 not represent the mother in their response, and just carry on with their previous activity, for example choose the bike picture where they resume riding with their knee still bleeding. The child may thus be able to achieve assuagement without dealing with the attachment issues, by presenting high levels of self-care behaviour.



#### **Insecure-Ambivalent:**

The child may actively seek assuagement then hide, or select a different action after seeking the mother's attention, such as going to the toilet after attempting to wake the mother up in the nightmare story. The child and mother may express anger or conflict, where the mother shows anger at the child, or the other way around (this would have to be additional information provided by the child).



Disorganised: This coding of attachment will be difficult to decide, because the DCAST is newly developed. Therefore, it should be treated with caution. The coding of disorganised attachment should initially be included, then following the administration to the rest of the participants, the researcher can decide whether it should be kept or omitted. An example of disorganised coding in the DCAST could be if a child chooses a sequence of response pictures that do not make sense at all, OR does not even choose a response or just one picture. This could mean either that the child:

- 1) Can understand the story task and has a disorganised, chaotic attachment strategy; or
- 2) Does not understand the story task and has just made up some responses, or is confused.

In the cases where the researcher is not sure which of the above applies, she can produce an additional vignette of a different theme, and base her decision on what the child does. If the child does not exhibit any evidence of being able to understand what the story task requires, the attachment test will be abandoned. A disorganised sequence of response pictures to the bike story may be:



With an emotion of 'happy' for the child and 'angry' for the mother; the child would have to provide additional non-verbal or verbal data when choosing those pictures. These behaviours may include being upset, engaging in severe displacement behaviour, trying to avoid the task or pausing and staring at the pictures. Assigning a coding of disorganised attachment is a serious decision, and therefore should not to be taken lightly. As the development of the DCAST is in its early phase, it is again to be regarded with caution.

#### Attachment patterns in the response pictures

The child's response to the vignettes as chosen by their choices of the pictures needs to be assessed in conjunction with their non-verbal or verbal output. The response pictures they refer to as letters A-G can be found in Appendix 4.13. These are only provided as a guide: The tables are as follows:

# 1. Nightmare

Secure Codes			Insecure-A			Insecure-C		
D	А	D	F	F	В	F	А	
С	C	E (or C)	D	G		D	F	
b	В	C or E	В	В		С	D	
		В				G		

### 2. Bike

Secure Co	des	Insecure-A			Insecure-C		
D		F	G		А		
В		Ι	E		С		
С					I or E		
E or I							

### 3. Tummy ache

Secure Codes		Insecure-A			Insecure-C			
А	D	А	С	А		А	А	D
F	F/G		В	D		С	D	В
G				С		Е		G

### 4. Lost at shopping trip

Secure Codes			Insecure-A			Insecure-C		
G	G	Е	D	D	D	D	А	D

Е	Ι	С	G	Ι	А	D	Ι
	Е		С	С	В	С	В

#### Non-verbal and verbal behaviour of deaf children

There are several features of deaf children's communication of which the coder needs to be aware:

- a. Non-verbal behaviour mismatch with verbal/sign output. For example, if a child had their arms crossed when they chose the "happy" emotion for child-teddy, they may not have been feeling completely happy. Or, if the child chose a picture of a mother hugging her child, then chose "angry" emotion, this would contradict a complete assuagement.
- b. Because of the communication barriers for deaf children, the non-verbal behaviour must be given equal weighting to the actual signed or spoken words produced. This may be even more important in those with sign language, or with *lower* development of either spoken or sign language. For example, an English translation of a child signing, "I played football well today" may sound very plain, but would have a different context if accompanied by facial expressions, body movements and gestures to highlight how well they really played.

- c. The coder should read the communication procedure, section 2 on 'Deaf' communication behaviours. This is because actions such as banging a table may be normal in deaf, but not in hearing, children, and thus be mis-coded as having a negative intent.
- d. The dollhouse may elicit more physical, non-verbal behaviours than a pictorial test, because a pictorial version may require less non-verbal behaviour from the child. Therefore, the coding of a child using the MCAST-DC, should be coded consistently with another child using the DCAST.

#### 5. Mother and deaf child relationship

Communication and interaction between a deaf child and their mother may differ considerably. For example, when a child hurts themselves:

- 1) The child physically goes to the mother to let her know that they have hurt themselves.
- The mother may have heard the child hurt themselves by falling off the bike, so may run out to check what is happening.

- 3) A deaf child may not be able to call their mum because of delayed speech development; or lack confidence in their voice; only using sign language; or their mother being deaf and not being able to hear them.
- A deaf child may approach their mother, and prefer a physical method such as faceto-face communication by tapping her arm.
- 5) Even a deaf mother may have good hearing or use a technological aid such as a pager or baby alarm to 'alert' them to the child crying or making a noise such as calling out "mum" in the night.
- 6) Children participating in the study may be deaf, but with different levels and abilities within the same hearing loss range. For example, a hearing child might call their mother and hear them say "go to bed", which is the same as a deaf child calling their mother, who then physically walks into their bedroom and tells the child face-to-face "go to bed". This must be taken into context and should not influence the coding, i.e. should not have an automatic negative or positive effect.

#### 6. Supplement A: Coding procedure for the MCAST-DC and DCAST

From the original MCAST coding manual, the following sub-codings were selected. An explanation for each event is described below.

- 1) Child to mother
- 2) Mother to child
- 3) Self-care behaviour
- 4) Displacement by the child
- 5) Angry/conflict behaviour
- 6) Physical responsiveness caregiving behaviour
- 7) Warmth caregiving behaviour
- 8) Assuagement (child report)
- 9) Assuagement (observer)
- 10) Exploratory play
- 11) Child's predominant affect (while doing the task)
- 1) **Child to mother:** For each vignette, this will have a constant value, unless the child gives any additional information on the way they approach the mother.
- 2) **Mother to child:** For each vignette, this will have a constant value, unless the child gives any additional information on the way the mother approaches the child.
- 3) **Self-care behaviour:** For each vignette this will have a constant value, unless the child gives any additional information on how much self-care behaviour the teddy engages in.

- 4) Displacement by the child: This looks at how the child behaves during the task: do they fiddle, do they play about with the pictures, move in their seat, or become preoccupied with other things irrelevant to their performance of the task? The coder needs to be aware that a deaf child may move more than a hearing child, because they want to sign, gesture, or gain the researcher's attention by moving pictures around and not choosing any of them, looking out of window, staring at the researcher/interpreter or other object, freezing, or using blank expressions.
- 5) **Angry/conflict behaviour:** For each vignette, this will have a constant value, unless the child gives any additional information on the intensity of the mother's or child's anger, or any related conflict.
- 6) Physical responsiveness caregiving behaviour: The original MCAST included two separate subcodings (Physical responsiveness/sensitivity or Warmth). These two subcodings referred to the way that the caregiving behaviour was performed by the mother and her sensitivity, as well as whether the mother showed warmth and empathy towards the child in distress. In the pictorial version, this will be demonstrated as caregiving behaviour with subtle physical responsiveness. For each vignette, this will have a constant value, unless the child gives any additional information on the intensity of the caregiving behaviour.

- 7) Warmth caregiving behaviour: As stated above, the original MCAST, had two separate subcodings (Physical responsiveness/sensitivity or Warmth). In the pictorial version, this will be shown as caregiving with warmth (actual close physical contact with e.g. cuddling) and care. For each vignette, this will have a constant value, unless the child gives any additional information on how much warmth and empathy the mother shows.
- 8) Assuagement child report: This will be coded only if the child can give a response to the prompt, "How is the teddy feeling now?" after the vignette. If the child says, "Happy", then the child in the story should have had complete assuagement, with their distress being resolved by the mother. The coder again needs to remain aware of non-verbal behaviour incongruent with signed or spoken responses. For example, if the child is looking uncomfortable (twitching, tapping) while he says, "Happy!" quickly, without smiling or looking relaxed, there should be caution in giving a full assuagement score (the same applies below).
- Assuagement observer report: This will be coded by the researcher making connections between displacement behaviour and how the child moves on the story.

- 10) **Exploratory play:** This may not be relevant to all the vignettes. Following the pictorial version, only the shopping and bike stories provide an opportunity for this. If the child, however, gives any more information about their actions after their distress has been resolved, for example in the tummy-ache and nightmare story, then this will also be coded for those two vignettes. In the bike and shopping vignettes, exploratory play will be given constant values unless indicated otherwise.
- 11) **Child's predominant affect throughout the vignettes:** Is the child able to control their emotions and express, either through sign or verbally, appropriate emotions for certain points in each vignette?

Where stated "if additional information is given", this can mean the child describing or discussing the events in the pictures or making up their own response in addition to "pointing" at which response picture they want.

Where stated "constant value", where the child has simply pointed at the picture, they will be given a base sub-coding using the modified coding system for minimal communication.

#### 7. Communication between child and interviewer

The coder will have to decide whether or not the child was purposely ignoring the interviewer once it becomes clear that the child could hear the interviewer without looking at her to lipread. This is after the interviewer has repeated herself twice, either re-producing

a section of the vignette or asking a question. If it is clear that the child ignored the interviewer, this can be recorded in the displacement subcoding.

### 8. Coding of security

When the child's data has been analysed, the coder should conclude and assign one of the following labels:

- i. Secure (definite relative)
- ii. Insecure avoidant or ambivalent
- iii. Disorganised/chaotic
- iv. Unidentified.

# Appendix

# 4.18 DCAST coding sheet

### **Coding Sheet for DCAST**

Story Stem: .

Child ID: .

Child LPP Score: .

Child Non-Verbal K-ABC Score: .

### Part 1: Overall performance of child for whole task

Handover/engagement of child	
Did child pay attention, engage enthusiastically? Did they	
take-over the task of describing what was happening in	
pictures? Did the child look keen to carry on the story?	
Child understand?	
Communicational aspect – understand situation with	
interpreter & researcher. Cognitive aspect - does child	
understand the story and what is expected of them?	
Affect exhibited by child during stem	
Did they sign/say sounds like "ooh", face expressions, non-	
verbal behaviour?	
Displacement behaviour?	
(None - heavily present)	
Any non-meaning behaviour such as fiddling, being	
uncomfortable, no eye contact, etc.	

### Part two

The child's response to story stem.

### Basic sequence of response to story stem fits criteria of:-

Label: (Attachment Strategy)

### **Pictures: (which pictures chosen)**

Emotions: (e.g. "Happy" for Child & "Happy" for Mother.)

2A	
Proximity	
child to	
mother	
2B	
Proximity	
mother to	
child	
2C Self	
care	
2D	
Displacem	
ent (doll)	
<b>2E</b>	
Displacem	
ent (child)	
2F	
Reversal	
2G	

Conflicted				
behaviour				
2H Carer				
sensitivity				
2I Carer				
warmth				
2J Carer				
intrusivene				
ss/control				
2K				
Assuagem				
ent (child)				
2L				
Assuagem				
ent				
(observer)				
2M				
Explorator				
y play				
2N Affect				
20				
Content				
PREDOMI				
NANT				
STRATEG				
Y (1-5)				

Part Three

What response	Picture OR	Second	third	fourth	fifth	Emotion	Emotion
picture chosen	story	response				Child	Mother
after main theme	described?						
presented by							
interviewer or							
described by							
child.							
Time between							
each							
choice(secs/mins)							
Intensity (In what							
context did child							
choose? Point							
slowly, with							
determination or							
hesitation?)							
Any extra	frowning,	Signs or	Non-				
linguistic/non-	crossed arms,	verbal	verbal				
verbal output	"That one",	output	behaviour				
(i.e. extra	*smiling*	use	use				
storyline) and of		speech	asterisk				
what nature?		quotes	symbol				
			for				
			duration				
			of action				

# Appendix

# 4.19 MCAST-DC coding sheet

### **Coding Sheet for MCAST-DC**

Story Stem: \_\_\_\_\_.

Child ID: .

Child LPP Score: .

Child Non-Verbal K-ABC Score: .

### Part 1: Overall performance of child for whole task

Handover/engagement of child	
Did child pay attention, engage enthusiastically? Did they take-	
over the task of describing what was happening in pictures?	
Did the child look keen to carry on the story?	
Child understand?	
Communicational aspect – understand situation with interpreter	
& researcher. Cognitive aspect – does child understand the	
story and what is expected of them?	
Affect exhibited by child during stem	
Did they sign/say sounds like "ooh", face expressions, non-	
verbal behaviour?	
Displacement behaviour?	
(None - heavily present)	
Any non-meaning behaviour such as fiddling, being	
uncomfortable, no eye contact, etc.	

### Part two

The child's response to story stem.

### Basic sequence of response to story stem fits criteria of:-

Original MCAST Coding Manual & MCAST-DC/DCAST coding guide

2A	
Proximity	
child to	
mother	
<b>2B</b> Proximity	
mother to	
child	
2C Self care	
2D	
Displacemen	
t (doll)	
2E	
Displacemen	
t (child)	
2F Reversal	
2G	
Conflicted	
behaviour	
2H Carer	
sensitivity	
2I Carer	
warmth	
2J Carer	
intrusiveness	
/control	

2K	
Assuagement	
(child)	
2L	
Assuagement	
(observer)	
2M	
Exploratory	
play	
2N Affect	
20 Content	
PREDOMIN	
ANT	
STRATEGY	
(1-5)	

### Part Three

Episodic D Phenomena	

# Appendix

# 4.20. DCAST Storyboard with letters

Vignette One: Nightmare



# Vignette two: Bike Story



602

# Vignette three: Tummy ache



603



# Vignette four: Lost in Shopping Story

### Appendix

### **4.21 Interpreter Protocol**

#### Guidelines for interpreter and researcher working with parent and child

These guidelines are very important to create a consistent method of collecting data. Most deaf children will be able to understand the deaf researcher by lip-reading or sign language but in cases where they rely on audio-vocal communication, an interpreter will be required to translate for both subject and researcher. In most cases a hearing parent will require an interpreter, even if they have some signing ability, because this might interfere with the quality of the interview.

#### 1.1 What is required of an interpreter's qualifications?

Trainee or qualified interpreters are already registered with Council for the Advancement of Communication with Deaf People (now called Signature<sup>12</sup>). Refer to Best Practice and Ethics policy in Appendices 3.10-3.11. This includes confidentiality around any data/information to which they are exposed whilst conducting their interpreting services.

<sup>&</sup>lt;sup>12</sup> www.signature.org.uk

#### **1.2 Meeting parents - hearing parents**

Explain to hearing parents about the use of a third person in research/formal situation. The interviewee is to look at the deaf researcher while talking, but the deaf researcher will have to look at the interpreter while the interviewee is talking. When the deaf researcher is talking to the interviewee, the interpreter does voiceover but the interviewee looks at the deaf researcher during voiceover. Some parents will feel uncomfortable with this situation, as they will not be used to looking at the researcher while the interpreter is doing the voiceover. The researcher understands this and will not coerce them to look at her, as it cannot be helped in most situations.

- 1. Develop rapport with hearing parents. The researcher and interpreter will introduce themselves and explain their roles. The interpreter is there as a "shadow" of the researcher so if the parent wants to talk to them about issues other than what the researcher is saying (e.g. clarification of a question), then they will have to wait until the meeting or interview is over. This can be hard to maintain, especially if the parent is nervous or waiting for the researcher to complete a task with the parent's child. If this cannot be avoided, the interpreter will know that they are not to talk or give information about the researcher's work.
- 2. The researcher will explain that the aim of the interview is not judgemental but rather to find out what their childhood and relationships with their family were like. If the

parent wants a break during the interview or to continue the interview at a different time, this will be arranged.

- 3. The researcher will be prepared for situations where the parent may start talking about personal problems with their child. If this occurs, the researcher will try to get the interview back on track by asking them the question again. If it becomes apparent that the parent needs someone to talk to, e.g. they persist talking about a particular problems, the researcher will explain that she is not a qualified counsellor and will happily send them information in the post with contact details of counsellors or therapists.
- 4. In interviews with hearing parents, an audio recording will be made of the parents' and the interpreter's voice. The researcher, being deaf, will not use her voice at all and the interpreter will do voiceovers of the questions she asks. When the transcript is completed, the researcher will pass a copy on to the interpreter to make sure that there is no non-verbal information that is missed or of any misunderstandings by the transcriber.
- 5. The interpreter should maximise their interpretation of the parent's emotional tone of voice into matching facial expressions in BSL for the deaf researcher to appreciate.

#### **1.3 Meeting parents – deaf parents**

- 1. Deaf parents who use Sign Supported English or British Sign Language will not require an interpreter, as the researcher is competent in both forms of sign language.
- 2. Deaf parents who do not use sign language will require an interpreter and the interpreter and researcher will follow the protocol as outlined for hearing parents above, with the exception that the interviewee will need to look at the interpreter in order to lipread them during their voiceover of the researcher.

#### 1.4 Semi-structured interview with both deaf/hearing parents

- 1. The researcher will explain that the interview is not to judge them, but to find out what their childhood and relationships with their family were like. If the parent wants a break during the interview or to continue the interview at a different time, this will be arranged.
- 2. In interviews with deaf signing parents, a video recording will be made of the interview. The video will show both the researcher and the parent communicating in sign language. The researcher will transcribe the interview herself and give a copy of the transcript to an interpreter who will check that there are no misunderstandings of the meaning by any particular sign. This is inevitable because in British Sign Language, there is no actual exact English translation for every individual sign. The

interpreter will just see that they have similar understanding of the content of the sentence that has been translated by the researcher. This is to ensure nothing is missed for scoring the AAI.

3. The researcher will be prepared for situations where the parent may start talking about personal problems with their child. If this occurs, the researcher will try to get the interview back on track by asking them the question again. If it becomes apparent that the parent needs someone to talk to, e.g. they do not stop talking about their problems, the researcher will explain that she is not a qualified counsellor and will send them information in the post with contact details of counsellors or therapists. The interpreter is not to attempt to console the parent after interview has finished unless absolutely necessary and keeping the researcher informed of what is being said.

#### 1.5 Guideline for doing the K-ABC with deaf children

- The researcher will first establish what kind of sign language the child uses. This could be Sign Supported English or British Sign Language. The child could have either high or low communication skills, so the researcher needs to 'tune-in' to the communication level of the child.
- 2. If the child uses speech and cannot lipread the researcher, an interpreter will be present. Prior to the assessment, the interpreter will need to ascertain how the child

can communicate. This means, does the child rely on their hearing or do they need to be able to see the interpreter to lipread her and how well can the interpreter understand their speech. If their speech is not intelligible, the researcher will provide them with a paper and pen to write down their answers or ask them to gesture/point their answers. When using the interpreter in the assessment:

- a. The interpreter is to convey exactly what the researcher says to the child.
- b. The interpreter is not to encourage the child to talk to them about things other than what the researcher said.
- c. The interpreter will not help them complete the test items.
- d. The interpreter will not rephrase or try to make the child understand the task item, unless specifically requested by researcher.
- 3. The researcher will teach the child how to perform the first sample (practice), followed by first and second items. If the child responds correctly, but then scores the next non-teaching item incorrectly, go back to the second teaching item and explain how to repeat it. If the child responds correctly, but then scores the next (third non-teaching item) incorrectly, just mark zero.
- 4. Keep a positive face expression, even if the child is not responding correctly, otherwise this will convey a negative meaning to the deaf child. Give positive encouraging comments, such as "You are doing well, you are trying hard, etc".
- 5. Try to move to the next item as quickly as possible, to sustain the child's interest/attention.

#### 1.6 Administering the attachment procedures with interpreter

During the administration, the interpreter, if present, can try to develop a rapport with the child:

- 1. If child has never met an 'interpreter' before, the interpreter can explain in simple terms what her role is.
- 2. The interpreter needs to make it clear that she is there to translate what the researcher says and not the one doing the assessment.
- 3. If child attempts to socialise with interpreter during assessment, interpreter must re-focus child's attention onto task.
- 4. If child makes a sound that is significant, e.g. a whisper or screaming, the interpreter will inform the researcher even though there may be no words.
- 5. If an interpreter is present during an assessment with a BSL user of low communication competence, the interpreter can offer a variation of a prompt at the researcher's request. This is to enable the child to understand what is being said.
- 6. The interpreter is not to engage the child in any conversation that is outside of the task or to ask any other questions relating to the task that the researcher has not asked. In the context of the nightmare vignette, the interpreter might want to ask, "Do you have nightmares often?" This is inappropriate and not part of the assessment.

## Appendix

# 5.1 DCAST coding for BSL user with transcript

Coding Sheet for DCAST -

Child ID: HP6 .

Child LPP Score: 91 (out of 99 for average hearing child)

Child Non-Verbal K-ABC Score: (could not complete test)

### Part 1: Overall performance of child for whole task

Handover/engagement of child	Very keen to engage. Such enthusiasm.
Child understand?	Yes – but have to give response pictures slowly.
Affect exhibited by child during stem	Yes – enjoyed signing different emotions
Displacement behaviour? (None - heavily present)	Maybe a bit distracted.
(rone neurily present)	

### Concluded attachment strategy pattern of the Child from all vignettes: Secure

#### Notes:

Child is quite young compared to the average age of the children in the study and child uses SSE/BSL to communicate. But nevertheless, the child made full effort in doing the tasks.

#### **Story Three – Tummyache**

2A	Proximity	child	to	1	Child calls mum
mot	her				
2B	Proximity	mother	to	4	Mum comes
child					
---------------------------	-----	--			
<b>2C</b> Self care	0				
2D Displacement (doll)	0				
2E Displacement (child)	2	Changed his mind a few times, rather excited about the task.			
2F Reversal	0				
2G Conflicted behaviour	0				
2H Carer sensitivity	5	Takes child to bed after child calls for mum.			
2I Carer warmth	2	Not sure of level of warmth but signs that mum takes him to bed which			
		indicates caregiving.			
2J Carer Intrus//control	2	Appropriate			
2K Assuagement (child)	4	Child seems content to go to bed, mum goes to bed too.			
2L Assuagement (observer)	4				
2M Exploratory play	1	Bit present - going to bed and mum goes to bed too? Comfort the child?			
2N Affect	0				
20 Content	0	Realistic.			
PREDOMINANT	1.4	.secure with continuing contact needed (also using nonverbal			
STRATEGY (1-5)		behaviour)			
1					

#### Notes

1) interesting response - mother goes to bed too but in different bed. Is the child transferring his bad tummy ache onto the mother. I do not think so. I think it is more for a comforting parenting style as the child is quite young - 4 1/2 years old.

2) child looks carefully at the vignette pictures. Some UN output. The child seems more excited/interested in the "rabbit on TV" than the main theme! However child is keen to engage and studies all the response pictures carefully and describes them all either to himself or to Joanna.

3) response : go find mummy, mummy takes Nicholas to bed - EXTRA info:( signs) "mum comes down the stairs, takes Nicholas up the stairs and they go bed in separate beds to sleep". Emotions - (forgot to ask).

4) "mum comes to bed too" - feature of contact maintenance?

#### Tummy ache vignette – Transcript followed by coding sheet

(UN= Unintelligible {NS}= Not sure

C: (looks like child is talking to himself, about the features in the main pictures, cannot see clearly what he is really saying)

I: do you know what happening? He's got a bad tummy, really painful, ooh ooh

C: (UN)

I: he has bad tummy, he's watching TV. happy, sitting on sofa, comfortably, TV. funny, rabbit

C: rabbit (child looks really excited about rabbit)

I: suddenly bad tummy, really painful -

(child points at first picture where child is happy – pointing at happy teddy?)

I: bad tummy ooh

I: Nicholas teddy bad tummy, ooh painful, what do you think happens now?

C: points at main pictures

I: bad tummy – call mum?

C: sore (looking at pictures)

C: water

I: yes

C: drip water into glass drink

I: (points at picture ) nothing, put up with bad tummy

C: nothing (copies interviewer's sign) eat nothing!

I: eats nothing? Right

C: (UN)

I: what do you think do now? Which one?

C: (points)

I: go find mummy?

C: (nods positively)

I: then what happens next?

C: go sleep bed

I: mummy takes Nicholas to bed?

C: Mummy go sleep same picture, same as that (pointing at 2 pictures simultaneously) (not clear what object child is referring to).

I: that one sore – not same

C: eyebrows creased/angry expression

I: yes

C: (NS - talking about dropping glass of water?

I: yes..... mummy angry, you don't want ? no?

C: no.. (UN) (pointing at other pictures)

I: (that picture) calling mum – you want that?

C: yes. (playing picture)

I: you want this one? Which one?

C: points

I: call mum, then call mum take to bed?

C: (nods), {signing – mum come down stairs, child walk towards mum, both go up stairs together then both go bed in different beds.} (Child shows placement signs for different beds).

I: mum and Nicholas go bed. Yes that's fine.

(showing camera pictures) I: Last one, nearly finished!

### Appendix

### 5.2 MCAST-DC coding with Oral child with transcript

Coding Sheet for DCAST

Child ID: HP12 .

Child LPP Score: 88(108.6) Child Non-Verbal K-ABC Score: 0

## Part 1 Overall performance of child for whole task

Handover/engagement of child	5
Child understand?	Yes
Affect exhibited by child during stem	Very minimal
Displacement behaviour?	Quite high – arms behind back for most of task.
(None - heavily present)	

Concluded attachment strategy pattern of the Child from all vignettes: Disorganised

This task will be coded using MCAST coding manual as the child was able to provide a detailed narrative which permits for detailed coding. Including the Grice Maxim where appropriate.

Problem with the room used for the interview: it was too small, the seating was not suitable. Child had to turn her head 180 degrees from interpreter to interviewer and back again. the child was facing a window/wall so it was very difficult to obtain a filming of her face and frontal body. The layout was like this:





2A Proximity child to	5	
mother		
<b>2B</b> Proximity mother to	5	
child		
<b>2C</b> Self care		Not sure if it was self care, but not really achieved any assuagement.
2D Displacement (doll)	9	
2E Displacement (child)	9	
2F Reversal	7	
2G Conflicted	7	
behaviour		
2H Carer sensitivity	1	
2I Carer warmth	0	
2J Carer Intrus//control	7	
2K Assuagement (child)	3	
2L Assuagement	1	
(observer)		
2M Exploratory play	1	Highly displaced
2N Affect	2.2	Negative
20 Content	8/9	
PREDOMINANT		4.1. Disorganised - highly chaotic/no identifiable strategy.
STRATEGY (1-5)		

### 1) Story Three – Tummyache – Using the DCAST.

- Researcher thought it was an interesting remark when the child described the mother being retrospective

   "the fun they used to have when Emily was a baby".
- the child misbehaves in school by scribbling in a school book comes home, wants the mother to look in school book, then goes to hide. Almost as if she is manipulating the situation to create a conflict on purpose.
- 3) I think child is trying to **sign** when talking about drawing house, so did not give her high displacement (child) score.
- 4) Interesting, child makes big story about leaving home, running away, making her own house. Mum tells her "if you don't like it, call me, my phone number". Child says "can't remember phone number".
- 5) The child freezes when I pass the vignette over to her especially when she is thinking of something to say to the distressing event. The child creates a complete diversion and a completely different scenario/situation. The attachment theme is not addressed at all. Introduces a "special place". Causes conflict by misbehaving by "scribbling". High preoccupation again with hide n' seek, roof and mother's state of mind.
- 6) I think the child's response to this vignette is a shorter response because I encouraged her to finish by asking the prompts.

#### **Transcript of Tummy Ache vignette**

J: right so this time mummy is in the kitchen cooking and Emily is sitting watching television so she's watching television. What programmes does Emily like?

#### C: tweenies

J: ok so she's watching the tweenies she's laughing its really funny and she's having a good time lovely sitting on the sofa, its all comfortable watching television. Suddenly she gets a really bad tummyache. Oh its really painful, oh gosh, she's never had tummy ache like that before. What do you think she will do?

C: she goes to school and she goes to a special place goes to school and Miss said you have got to draw all the patterns on your house. Emily got told off cos she just went just went drawed a circle and scribbled, scribble,

scribble, scribble and she just and she went and she scribbled all over all over her page and all over her book and over the pictures she went. {Child demonstrates making a mess}

C: On every picture and she got really told off and she went home like la la la la la la la la la and mummy said that let me look in your book your school book. Emily and she looked and she ran away upstairs and to her room and she hided behind the wardrobe. And mummy said have you had a nice day and Emily said yes a fine, fine day. She said well come here and we'll look on the roof she saw Emily behind the wardrobe and she went "argh" and Emily climbed onto the roof "Emily" {mummy calling}. And Emily ran away and she went la la la la la la la la and when mummy was down, she was up. {Mummy coming up now} and she was in her mum's room and Emily heard banging on the door of the room.

{child now keeps putting mummy doll and Emily doll upstairs and downstairs alternately so neither are in the same place}

C: And she went and they keep going. Emily was up while she was down. Mummy was up when she was down and Emily got to go to school the next day and mummy was teaching and everybody laughed cos she, cos she, cos she, cos she trousers fell down and then pulled them back up went home pulled everything outside {table and chairs and beds} she did and mummy and mummy only had the bed left cos Emily cos Emily was going to live where all the stuff are. She can make up her own house and there be a room, bedroom and her own everything and she lived by the house. This is going to be the dining room here, it's going to be nearly the same as her own house and mummy moved, mummy moved she did, this was her real house and that day Emily, Emily lived there for a long, long time, mummy took the bed and she left. She lived where no one could see her over at here and that day Emily did never see mummy cos she never wanted to and when mummy went out to the shops to buy lots of food, she got the bed and she ran, ran, ran away it was her own house and she had lots of stuff and that morning when she woke up mummy, mummy everything was back normal, but mummy said remember when you don't...'

C: Like it, just call out....and Emily forgot what it was so she got her house and she lived by the house with all the stuff out of the house then the next day Emily changed the house a bit. She put the kitchen there

{Child moving doll's house furniture around}

IW: I think that's great. That's really a good story that's a good end to the story but we need to move on to the next story. We haven't got much time.

C: got to move the stuff back now.

IW: can I just ask you how is Emily feeling now.

C: er er happy

IW: and what's she thinking about?

C: thinking about what mummy will be doing cos daddy's going to come home soon, might shout at Emily so Emily put all the stuff back together and she'll feel happy for herself because its all back together and she won't get told off, but daddy might think its a bit naught and daddy wont play with her she put the chairs back but she couldn't put them {???} back into the wall so she just put them back like that.

IW: and mummy, how's mummy feeling?

C: mummy's feeling very sad cos she lived by herself by the next {???} if Emily started to be nicer to her, she will come back and have fun again, like she said she would always be and Emily

IW: what was she thinking about? What's mummy thinking about?

C: she's thinking about the fun that they used to have when Emily was a baby and Emily put everything back but when daddy came he nearly spied and nearly knew but Emily put everything back very quickly. She grabbed everything in the house, she put the figures back up she tidied the beds, but the beds were the wrong way around that was like that and daddy knew and daddy nearly came home and found and that was there every bed was like that at Emily's house cos she been a very naughty girl and could not nail back things and she didn't know how the bedspread so she just put like, like, like, she thought they would go but it was no good. She still got told off but then she thought....

IW: that's ok, brilliant a lovely story. We will do one last one ok.

C: then I will go back to class.

J: yes. {Child tidies up doll's house}

# Appendix

## 5.3 MCAST-DC/DCAST cochlear implantee with transcript

Coding Sheet for DCAST – (i)

Child ID: HP14

Child LPP Score: 112 (out of 108 average for hearing child)

Child Non-Verbal K-ABC Score: 91 percentile

### Part 1: Overall performance of child for whole task

Handover/engagement of child	Slow and quiet
Child understand?	Yes
Affect exhibited by child during stem	Quite minimal
Displacement behaviour?	A bit shy (opposite to how she was at home
(None - heavily present)	visit)

### Concluded attachment strategy pattern of the Child from all vignettes: Secure

#### Notes:

The child was quite surprised to see me at her school even though I had informed the parents and school knew I was coming. No one seemed to have reminded or told her of my visit even though I had told her at our initial meeting in her home that I would be seeing her again.

The child can talk but during the task, seemed to be fixated on my signing and did not use her voice much to talk/communicate and chose to mouth most of her words to me (with no voice) and a lot of eye contact present, lipreading me and watching my signing. The child was also acting quite introverted and quiet which

was different to how she was at home - more confident, talkative, outgoing. Maybe the child is shy in her

school environment?

### **Story Four – Lost in shopping**

<b>2A</b> Proximity child to mother	4	Very clear.
2B Proximity mother to	4	
child		
2C Self care	0	
<b>2D</b> Displacement (doll)	0	
2E Displacement (child)	0	
2F Reversal	0	
2G Conflicted behaviour	0	
<b>2H</b> Carer sensitivity	5	
2I Carer warmth	5	Hug
2J Carer Intrus//control	2	Appropriate
2K Assuagement (child)	4	
2L Assuagement (observer)	4	
2M Exploratory play	0	
2N Affect	0	Seems appropriate.
20 Content	0	
PREDOMINANT		1.3 Ideal – optimal secure attachment. Secure ideal dyad.
STRATEGY (1-5)		

#### Notes:

Child clearly signals for mum, mum comes, hug. Both happy because hugging at the end. Complete assuagement.

#### Transcript of Lost while Shopping vignette

IW: you are very quick, there's only one more, then u can go for lunch. Ok its very busy day, with lots of people in the street. There's Sarah with her mummy, holding hands, there's so many people, then mummy sees a food shop, she wants to buy some food, and Sarah, Sarah sees some toys and she wants to look at the toys ok. So they let go of each others hands and suddenly Sarah realises that her mummy isn't there, she's lost. She's a bit upset and scared. So what do you think Sarah will do? Do you think she will walk home? Or do u think she will shout for her mum, or will she try and find a security guard? You know a man in uniform in the shop. Or will she go and look at some toys? Which one do you think she will do?

C: (mouths) "call mum" (and points at picture)

IW: she'll look for her mum. Ok so does mum say "ooh teddy where have you been?", does she give her a hug, or does she say "you've been naughty girl".

C: (points "that one")

IW: she will give you a hug. Brilliant, excellent. Is that the end?

C: (nods)

IW: ok and how do you think Sarah feeling now?

C: (points at happy face)

IW: why is she happy?

C: (points at picture of Mummy & Child hugging)

IW: yes, because they are hugging

C: "happy" (mouths)

IW: why is she happy? C: (points at picture of Mummy & Child hugging)

IW: ok you've done really well, well done.

# Appendix

## 5.4 DCAST coding for Deaf child of Deaf parents with transcript

Coding Sheet for DCAST – (i)

Child ID: DP5 (Deaf parents)

Child LPP Score: 93 (99 average for hearing child)

Child Non-Verbal K-ABC Score: 97 percentile (Child was age 4 at time)

# Part 1: Overall performance of child for whole task

Handover/engagement of child	Keen and attentive
Child understand?	Yes
Affect exhibited by child during stem	Yes – mainly through nonverbal behaviour
Displacement behaviour?	No (got a bit excited)
(None - heavily present)	

### Concluded attachment strategy pattern of the Child from all vignettes: Secure

### **Story one - nightmare**

2A Proximity child to mother		Short delay
<b>2B</b> Proximity mother to child	0	Short delay
<b>2</b> C Self care	1	Bit – going to toilet.
<b>2D</b> Displacement (doll)	1	Bit – toilet – avoidance? See mum? Or deal with nightmare.

2E Displacement (child)	1	Seemed a bit confused, jumping up and down in chair.
2F Reversal	0	
2G Conflicted behaviour	0	
<b>2H</b> Carer sensitivity	4	
2I Carer warmth	3	
2J Carer Intrus//control	0	Appropriate interaction.
2K Assuagement (child)	4	
2L Assuagement (observer)	4	
2M Exploratory play	0	
2N Affect	0	
20 Content	0	
PREDOMINANT		Secure 1.1. content and assuagement seems clear.
STRATEGY (1-5)		

#### Notes

1) Child was youngest in the study.

- 2) Child does not sign much but SEEMS to understand and points out which choice pictures she wants.
- 3) When I asked what is happening in the main pictures, she signed "ghost".
- 4) From pictures: Child chooses to go to toilet first, has talk with mum and mum gives her a hug.
- 5) Child chooses "happy" for both mum and child emotional prompt.
- 6) secure 1.1 coding.

#### **Transcript for Nightmare vignette**

- IW= Interviewer, C=Child
- (pt)=points to object, usually picture
- (neg) = negated by headshake

Spoken or mouthed English words are in italics.

Xxx=indistinct sign or mouth pattern

IW: Your sign name what? Your sign name?

C: star

IW: Star (nod). My name piggy ok? Victoria (pt) Victoria dream (pt) sleep. (pt) what? {the researcher is asking the child what is in the main nightmare vignette picture}

C: Ghost

IW: right. wake up, pant, what think do now?

C: (pt)

IW: gone, wake up cry cry what think, what Francesa do now?

C: (neg)

IW: back sleep...

C: (imitates calling "mum")

IW: "mum!", toilet

C: toilet

IW: think do?

C: (pt)

IW: toilet? Ok. Victoria go talk mummy, wake mummy, which? Or back sleep?

C: (pt)

IW: talk mummy? Good. Mummy do what?

C: (pt)

IW: mummy say "Bed!" or (pt) mummy cuddle? which?

C: (pt)

IW: mummy cuddle (nod). Victoria bad dream pant wake-up, upset, go toilet, go talk mummy, mummy cuddle, good! Well-done!

C: (bangs on table)

IW: Francesa feel now what? Ooops, mummy, which?

C: (pt)

IW: Angry? Sad, happy...

C: (pt)

IW: Happy? Ok. Victoria feel what?

C: (pt)

IW: happy, good. Clever girl, clever girl, brilliant.

### Appendix

### **5.5 Detailed discussion of DCAST codings**

The initial study was followed by administering the new MCAST-DC and DCAST to 18 participants (including the four original initial children). This produced a wealth of information and the researcher wanted to discuss some implications of using the MCAST-DC and newly developed DCAST.

#### **1.1 Oral children of higher communication competence**

All the cases in this group who used the pictorial method were happy to use it. They were all willing or able to give additional information, except for one child who was very quiet (as opposed to her behaviour in her home ) and was not able to response to the dollhouse vignette but did when gave option of pictorial response. One child (HP12) who used the dollhouse all the way through gave the most detailed narrative while using the dolls to demonstrate what she was doing. She was the only child out of all the deaf children in the study to be able to provide a running commentary (narration) while simultaneously playing with the dolls props.

All the children except one (HP14) in this group adapted to the Interviewer-Interpreter-Child communication dyad and were able to use their residual hearing such that they did not need to look at the interpreter when she spoke. The child (HP14) did not listen to interpreter although she has the hearing ability to do so.

#### 1.1.1 Case study: HP9

One child (HP9) was aged 9 years old at time of assessment. Researcher is aware that this child may have been too old but child did not attempt to give any verbal or non-verbal additional information to the assessment. It was very hard to get this child to engage at all, either with dollhouse or pictorial procedure. The child sat with her arms behind her back for most of the assessment. The key words child used in her response to vignettes were ambivalent words like 'if'(4 times), 'might' (2 times), 'maybe' (12 times). She did not seem sure what to say or what would happen, so with her choice of words, the researcher coded her as ambivalent. The reason for this was because this is not reflective of a secure child who knows definitely that her distress will be reassured and assuagement will be achieved. The researcher tried to get the child to engage more as she appeared distant and not as interactive as she was in her home, the researcher could not establish the reason for this. The child appeared uninterested and gave only minimal answers.

### 1.2 Oral children of lower communication competence

These children provided the most challenge in administering the attachment assessment, particularly because they did not have sufficient verbal skill to communicate. Even a child who the researcher later found out had a Deaf father, relied primarily on speech to communicate and it was difficult to understand him. Children who rely on speech but have a lower communication competence have less skill in non-verbal communication, meaning that it was hard to read their non-verbal cues or for them to know how to express themselves. However one child from this group was able to engage with the attachment assessment and participate in choosing response pictures, resulting in a secure category.

#### 1.2.1 Case study: HP4

This assessment was far from appropriate for many reasons, mainly it was conducted in the child's home; the child's father but not mother was present; and the child had run to hide under a table when she heard that the researcher and interpreter had arrived. The father took over the first vignette, then left to let the researcher continue with the rest of the assessment.

#### **1.3 BSL children of higher communication competence**

It was found that although all the children except one (who was 4 and opted to 'point' at pictures) was capable of telling stories using the dollhouse, it proved difficult for a deaf child who is a BSL user to narrate and tell story with the dollhouse props. This is because the child would 'show' what their response was with the dolls but to actually know what the dolls were doing was very difficult. And also, their narrating ability to simultaneously tell what was happening as they moved the dolls was limited. The researcher believed this is rather due to lack of opportunity to have done this before rather than an intellectual skill on the deaf child's part. The pictorial method was easy to administer because then the child

could tell in BSL what happened next or just choose the pictures. Communication was then easy and clear between child and researcher. The children liked the materials.

### 1.3.1 Case study: HP5

This child went from being vivid, overwhelmed, excitable, and difficult to engage with and attend to the researcher with the dollhouse method to being extremely detached from the theme and his signs and words were dramatically reduced with the pictures method. The researcher tried to adapt to the child's needs by bringing the dolls back without the dollhouse which seemed to elicit the child to engage more again. However, problem was present again of knowing exactly what the child was doing with the dolls as no running commentary was provided simultaneously.

#### 1.3.2 Case study: DP17

Child brought a lot of humour to the whole assessment and seems very happy throughout. Child chose 'happy' as main emotion for mother and child for all vignettes. The child's BSL skill and structure is very high, along with his face expressions and non-verbal communication. The child seemed to be enthusiastic and enjoyed doing the pictures. All the child's responses manifest the impression that the child did not want the mother's help with assuagement and chose 'happy' for all emotions. One could argue whether this child actually understood the concept of other people having state of mind different to theirs (theory of mind) and the possibility of having different emotion at a distressing event. Child was labelled secure-avoidant, according to the MCAST manual. The researcher felt that even though the MCAST manual would have categorised this child as 'avoidant' it would not have been a true reflection of the child's attachment strategy. This was because the child engaged, showed affect and knew what he wanted to do and was happily content at the end of the stems. The researcher also felt that sometimes the child was 'winding' her up with his responses as if he knew what she wanted him to say. The researcher had also observed the child at home and saw that he had a warm and loving relationship with his mother. This might have affected how the researcher coded the child.

### 1.4 BSL children of lower communication competence

It was still possible to administer the DCAST to children who used sign language who may have been quite young at the time of the assessment (age four years). The researcher had to do a few prompts and this helped the child to give responses, either spontaneously or by pointing at the pictures and describing what was happening in the pictures. Sometimes the child would offer a one-word sign to describe the main event or they would look at the researcher and wait for her to tell them. One child who had hearing parents, was able to despite his lower BSL skills, use non-verbal behaviour to describe what was happening in the pictures. Two children (one at 4 years and one at 3 and half years) who both had deaf parents were able to point to the pictures. The four year old child was able to engage in three of the vignettes, but the younger one lost interest after the first vignette.

#### 1.4.1 Case study: DP18

The researcher has included coding and transcript for DP 5 in appendix 5.4. This child was able to clearly choose her pictures when prompted to do so and could understand the content of the main pictures describing the vignette themes. She provided nonverbal cues and BSL communication which made scoring easy even though she was young to be administered the DCAST.

# Appendix

Child ID	Age (approx)	Sign/Oral	Attach Coding	MCAST-DC or DCAST or both	LPP score	K-ABC score (percentile)
HP1 (Hearing Parents)	8 years	Oral	4:2 Dis.	DCAST	112 (108)	79
HP2	7 years	Oral	1:1 Secure	MCAST	108 (108)	53
НР3	7 and half years	Oral (some sign)	2:1 avoid.	DCAST	99 (108)	42
HP4	6 years	Oral	4.1/4.4	DCAST	54 (108)	0
HP5	8 years	BSL	2:1 Avoid	MCAST- DC/DCAST	77 (108)	96
HP6	4 and half years	BSL	Secure	DCAST	91 (99)	0
HP7	3 and half years	Delayed BSL/Oral	Uncodeable	DCAST	47 (99)	0
HP8	7 and half years	BSL/Oral	1:3 Secure	MCAST- DC/DCAST	112 (108)	91
HP9	9 years	Oral	3.2	MCAST- DC/DCAST	108) (108)	0

# 5.6 K-ABC scores

HP10	6 and half years	Oral	2:1 avoid	DCAST	102 (108)	86
HP11	6 and half years	Oral	1:4 secure	DCAST	70 (108)	96
HP12	6 years	Oral (some BSL?)	4:1 Dis.	MCAST-DC	88 (108.6)	0
HP13	4 and half years	Oral	3.2 Ambivalent	DCAST	88 (108)	0
DP (Deaf parents) 14	7 years	BSL	Secure 1:1	DCAST	59 (108)	0
DP15	3 and half years	BSL	Secure	DCAST	93 (94)	0
DP16	8 years	BSL	Secure	DCAST	Info not avail.	92
DP17	5 years	BSL	Secure/avoid	DCAST	108 (101)	96
DP18	4 years	BSL	Secure	DCAST	93 (99)	97

# Appendix

### 5.7 Tables listing quantitative data from Quality of Family Life questionnaire

Table 5.6 Use of hearing aids and cochlear implants

	Ν	%		N	%
Chronological age of child at first fitting of			Some	2	11.8
hearing aid. Les.	s or equal to:				
One year	4	25	Little	1	5.9
Two years	3	18.75	None	2	11.8
Three years	5	31.25	What did you think of the su	pport you	ı received
			with hearing aids?		
Four years	4	25	Excellent	1	5.9
How often does	your child use h	earing aid now?	Very good	3	17.6
All day	9	50.0	Good	11	64.7
Sometimes	2	11.1	Poor	1	5.9
In school	2	11.1	N/A	1	5.9
Never	3	16.7	Did your child have	cochlear	implant
			assessment?		
Cochlear	2	11.1	Yes	4	23.5
Implant					
How easy was it	to get child to v	vear aids?	No	13	76.5
Very difficult	4	23.5	How much did the asses	sment afj	fect your
			family?		
Quite difficult	3	17.6	Some	3	75
Quite easy	8	47.1	A lot	1	25
Very easy	1	5.9	Happy with decision	of	
			assessment?		
Is the child willing	ng to wear aids	now?	Very happy	2	50
Nearly always	10	58.8	Quite happy	1	25
Quite often	1	5.9	Quite unhappy	1	25
Not often	1	5.9	Age child when had cochled	ır	
			implant		
Never	3	17.6	24 months	1	50
Cochlear	2	11.8	52 months	1	50
implant					
Can the child he	ar with aids?		How did you feel about the d	operation	2
A lot	6	35.3	Very worried	1	50
Moderately	5	29.4	Worried but confident	1	50
Nothing	2	11.8	How long does the child us	se	
			cochlear implant for?		

Cochlear	2	11.8	All day	2	100
implant					
Don't kno	w 1	5.9	How much does the child	hear	
			with Cochlear implant?		
N/A	1	5.9	A lot	2	100
Did you	understand th	he information on hearing	Has the child adjusted to the	cochlear	• implant?
aids?					
All	5	29.4	Completely	2	100
Most	7	41.2	Satisfaction with th	e	
			information and support wit	h	
			cochlear implant		
Some	2	11.8	Very happy	2	100
Little	1	5.9			
None	2	11.8	1		

# Table 5.7 Education

	N	%		N	%
Teacher visited how long af	Level of support from school?				
Within 1 week	1	7.7	Very happy	8	47.1
Within 1 month	7	53.8	Quite happy	6	35.3
<6months	1	7.7	Quite unhappy	2	11.8
10 months	1	7.7	Very unhappy	1	5.9
18 months	1	7.7	Did the school provid	le all supp	oort agreed?
Don't know	2	15.4	All	11	64.7
How was Teacher of	Deaf (ToD) at	explaining	Most	3	17.6
information?					
Excellent	5	35.7	Some	1	5.9
Very good	3	21.4	None was agreed	2	11.8
Good	5	35.7	How do you feel	about	information on
			educational provision	n?	
Fair	1	7.1	Very happy	6	35.5
How was the ToD's advice on managing your child?			Quite happy	7	41.2
Excellent	5	38.5	Quite unhappy	2	11.8
Very good	2	15.4	Very unhappy	1	5.9
Good	3	23.1	N/A	1	5.9
Fair	2	15.4	Did you receive adeq	uate infor	rmation?
Poor	1	7.7	None provided	2	11.8
How was the teacher's help with communication with your			Not enough	4	23.5
child?					

Excellent	5	38.5	More required	2	11.8	
Very good	1	7.7	Enough 9		52.9	
Good	4	30.8	Was it easy to unde	Was it easy to understand the information?		
Fair	1	7.7	Very easy	6	35.3	
Poor	2	15.4	Quite easy	5	29.4	
Do you have worries about education?			Quite difficult	3	17.6	
Yes	8	47.1	Very difficult	1	5.9	
No	9	52.9	Are you happy	with your	child's Special	
			Education Needs s	upport?		
			Bancanon recas s	uppon:		
Which type of school does y	your child attend?		Very happy	4	28.57	
Which type of school does y Nursery for deaf	your child attend? 2	11.1	Very happy Quite happy	4 7	28.57 50	
Which type of school does y Nursery for deaf Nursery with support	your child attend? 2 1	11.1 5.6	Very happyQuite happyQuite unhappy	4 7 2	28.57 50 14.29	
Which type of school does yNursery for deafNursery with supportPHU	your child attend? 2 1 6	11.1 5.6 33.3	Very happyQuite happyQuite unhappyVery unhappy		28.57 50 14.29 7.14	

# Table 5.8 The child

	Ν	%		N	%
Child outgoing?			Child's friends h	earing or deaf?	)
Always	7	38.3	Hearing	10	55.6
Often	7	38.9	Both	8	44.4
Sometimes	4	22.2	Child uses mone	y at shop, asks j	for things?
Child confident?			Yes	7	41.2
Always	6	33.3	No	2	11.8
Often	8	44.4	Too young	8	47.1
Sometimes	4	22.2	Rides bike in the	street?	
Child withdrawn?			Yes	10	58.8
Often	1	5.9	No	3	17.6
Sometimes	5	29.4	Too young	4	23.5
Rarely	6	35.3	Looks after pet?		
Never	5	29.4	Yes	4	23.5
Child active?			No	7	41.2
Extremely active	8	44.4	Too young	4	11.8
Very active	8	44.4	N/A	2	23.5
Active	2	11.1	Plays games/rea	ds?	
Problem with sleeping	g or waking u	p?	Yes	14	82.4
Never	14	82.4	No	1	5.9
Sometimes	1	5.9	Too young	2	11.8
Often	1	5.9	Special responsi	bilities?	
Always	1	5.9	Tidy room	6	35.3
Sleep walking?			No	11	64.7

Never	17	100	Does the child tell you if their aids not working?	?
Nightmares			Always 7 50.0	
Never	9	52.9	Often 1 7.1	
Sometimes	7	41.2	Sometimes 3 21.4	
Always	1	5.9	Rarely 1 7.1	
Problems with discip	line?		Never 2 14.3	
Never	6	22.2	Does the child tell you if their aids ne	ed
	0	55.5	cleaning?	
Sometimes	7	38.9	Always 2 14.3	
Often	3	16.7	Sometimes 4 28.6	
Always	2	11.1	Rarely 3 21.4	
Temper tantrums?			Never 5 35.7	
Never	8	44.4	Does the child clean their aids?	
Sometimes	6	33.3	Always 1 7.1	
Often	2	11.1	Sometimes 2 14.3	
Very often	1	5.6	Rarely 1 7.1	
Always	1	5.6	Never 10 71.4	
Easily upset?			Does the child change their hearing a	aid
			batteries?	
Never	7	38.9	Always 2 14.3	
Sometimes	5	27.8	Sometimes 3 21.4	
Often	4	22.2	Rarely 2 14.3	
Always?	2	11.1	Never 7 50.0	
Aggressive?			Does deafness affect the child's life?	
Never	12	66.7	No 4 23.5	
Sometimes	1	5.6	Little 3 17.6	
Often	2	11.1	Not too much 4 23.5	
Always	3	16.7	Quite lot 4 23.5	
Child's behaviour a p	problem for the fo	amily?	Very much 2 11.8	
No	9	50.0	Child clumsy?	
Little	1	5.6	Yes 6 35.3	
Quite big	4	22.2	No 11 64.7	
Big	3	16.7	Serious injury last 12 months?	
Very big	1	5.6	Yes 1 5.9	
Take child to visit the	vir friend's home	?	No 16 94.1	
Very often	6	25.2	How happy does your child feel being wi	ith
	0	55.5	friends?	
Sometimes	10	58.8	Very happy 9 52.9	
Never	1	5.9	Quite happy635.3	
Do you explain th	ings to your	child when	Quite unhappy15.9	
watching television?				

Very often	6	35.3	Don't know	1	5.9
Sometimes	9	52.9	How happy do	es child feel w	ith others in family?
Never	2	11.8	Very happy	5	29.4
Do you telephone friends or	ı your	child's behalf?	Quite happy	9	52.9
Very often	1	5.9	Quite unhappy	/ 1	5.9
Sometimes	4	23.5	Very unhappy	1	5.9
Never	12	70.6	Don't know	1	5.9
Is this a problem for you?			Is your child h	appy with how	they communicate?
Mum prob/child no prob	2	11.8	Very happy	5	29.4
Mum no prob/child prob	3	17.6	Quite happy	9	52.9
No prob for mum/child	9	52.9	Quite unhappy	/ 1	5.9
Mum & child find prob	3	17.6	Very unhappy	1	5.9
Does the child play in the ne	eighbo	urhood?	Don't know	1	5.9
Very often	5	29.4	How does	your child	feel about their
			independence	2	
Quite often	4	23.5	Very happy	8	47.1
Sometimes	1	5.9	Quite happy	8	47.1
Never	5	29.4	Quite unhappy	/ 1	5.9
Too young	2	11.8	How does yo	our child feel	about their school
			work?		
How easily does your child	make f	friends?	Very happy	8	47.1
Very easily	3	16.7	Quite happy	9	52.9
Quite easily	12	66.7	How child feel	about sports?	
With some difficulty	2	11.1	Very happy	6	35.3
With great difficulty	1	5.6	Quite happy	7	41.2
			Don't know	4	23.5

# Table 5.10 Satisfaction with quality of services

	Ν	%		Ν	%	
How do you feel about current support for you?			Speech therapist			
Very satisfied	3	18.8	Completely	3	27.3	
Quite satisfied	10	62.5	Mostly	4	36.4	
Quite satisfied	3	18.8	Slightly	3	27.3	
How do you feel about current support for your child?			Not at all	1	9.1	
Very satisfied	6	35.3	Social worker			
Quite satisfied	9	52.9	Mostly	2	33.3	
Quite satisfied	1	5.9	Quite	2	33.3	
Very satisfied	1	5.9	Not at all	2	33.3	
How satisfied are yo	u with professio	nals' knowledge of	Did you rec	eive enough	information on:	

deafness?			Communication methods		
Not at all	2	11.8	A lot	2	13.3
Quite	12	70.6	Enough	9	60.0
A lot	3	17.6	Not enough	4	26.7
How satisfied are you v	vith: Health visit	or	Language develo	pment	
Completely	4	23.5	A lot	2	12.5
Mostly	3	17.6	Enough	4	25.0
Quite	4	23.5	Not enough	7	43.8
Slightly	3	17.6	None at all	3	18.8
Not at all	3	17.6	Hearing aids		
GP			A lot	4	26.7
Completely	4	25.0	Enough	8	53.3
Mostly	7	43.8	Not enough	2	13.3
Quite	4	25.0	None	1	6.7
Slightly	1	6.2	Cochlear implan	ts	
Audiology			Too much	1	7.7
Completely	6	35.3	A lot	2	15.4
Mostly	5	29.4	Enough	4	30.8
Quite	5	29.4	Not enough	2	15.4
Community paediatrici	an		None	4	30.8
Completely	2	18.2	Signing classes		
Mostly	3	27.3	A lot	1	7.7
Quite	3	27.3	Enough	5	38.5
Not at all	3	27.3	Not enough	5	38.5
ENT doctor			None	2	15.4
Completely	2	14.3	Cause of deafnes	S	
Mostly	7	50.0	A lot	1	7.1
Quite	2	14.3	Enough	5	35.7
Slightly	1	7.1	Not enough	5	35.7
Not at all	2	14.3	None	3	21.4
Teacher of Deaf			Deaf culture		
Completely	7	50.0	A lot	1	7.1
Mostly	4	28.6	Enough	5	35.7
Quite	2	14.3	Not enough	5	35.7
Slightly	1	7.1	None	3	21.4
Educational psychologist			Benefits		
Completely	4	28.6	A lot	3	17.6
Mostly	4	28.6	Enough	9	52.9
Quite	1	7.1	Not enough	3	17.6
Slightly	3	21.4	None	2	11.8
Not at all	2	14.3			

## Appendix 5.8

Figure 5.1 Percentage of the secure classifications assigned to the 'Family life affected by child's communication' variable



This pie chart shows that the answer 'No-family life not affected by child's communication' obtained 78.8% of the secure codings. Whereas the answer 'Yes – family life is not affected by child's communication' obtained only 21.2 % of the secure codings.

### Figure 5.2 "No": Family life is not affected by child's communication



Figure 5.3 "Yes": Family life is affected by child's communication



Figure 5.4 "Always": Is your child always confident?






# **5.9** Associated findings for secondary variables

# Table 5.17 Phi and P-values for 'Friends are both deaf and hearing' with 9 variables

Name of variable (phrased as	Friends are both deaf	Phi	P value (Fisher's
associated with secure	and hearing (87.5%	value	Exact Test)
attachment)	secure rating)		
Parents main language is sign	62.5%	.693	.007
You received enough information	100%	.632	.013
on sign classes			

## Table 5.18 Phi and P-values for 'Main language' with 9 variables

Name of variable (phrased as	Parents main	Phi	P value (Fisher's
associated with secure	language is sign	value	Exact Test)
attachment)	language (100%		
	secure rating)		
Family life is not affected by	100%	.777	.002
child's communication			
Friends are both deaf and hearing	100%	.693	.007
Your child is not easily upset	80%	.523	.047
Your child is always outgoing	80%	.523	.047
LPP Cohesion is above average	80%	.523	.047
Family life is not affected by	80%	.523	.047
child's general behaviour			
Your child sometimes or never	80%	.523	.047
uses aids.			

## Table 5.21 Phi and P-values for Use aids with 9 variables

Name of var	riable (ph	rased as	Uses	aids	Phi	Р	Value	(Fisher's
associated	with	secure	sometimes	or never	value	Exa	ct Test)	

attachment)	(85.7% secure		
	rating)		
Your child is not easily upset	85.7%	.766	.002
Your child is always outgoing	85.7%	.766	.002
Your child is always confident	71.4%	.645	.013
Parents' main language is sign	57.1%	.523	.047
language			
Family life is not affected by	71.4%	.532	.049
child's communication			
LPP Cohesion is above average	71.4%	.532	.049
Family life is not affected by	71.4%	.532	.049
child's general behaviour.			

### 6.1 Selected parental interview transcript: Oral child

**IW:** [on receiving the diagnosis of deafness]

**IW:** And how did you feel at the time? Shocked?

Mother: Disbelief really, and upset.

**Father:** Basically the same, because it was a shock, she had passed her hearing test when she was younger. Although it had taken 2 goes to actually do that hearing test, we weren't too sure about the first time, and then we tried to find out why she passed the first test originally and then had a hearing loss afterwards, so we were unsure as to whether or not something like a virus or something had done something, a jab or anything like that.

**IW:** What kind of support were you given?

Father: I think we've been quite happy with what we've had.

**Mother:** We received a lot of information through the Children's Services Initial Assessment (?). There was like a family pack sent to us. I think we had several visits. Teacher for the deaf came to see us. They followed her through school. She had speech therapy for a couple of years. They tended to be at the clinic. She doesn't have them any more.

**IW:** How did this affect your family?

**Mother:** Actually, looking back, we tended not to say anything didn't we. We kept it quiet for quite a while. We didn't quite know how people would cope with it. We had to sort of

try and cope with it ourselves first. We spoke to my parents and Adrian's(?) parents first and explained what we could to them. I think from ????hearing loss ???it's been a learning experience, hasn't it, since? You know. we've gone from there.

**IW:** How do you/family feel now – different now from then, first discovery of deafness? Mother: I think we are so much more open to deaf issues, being aware of this. Before she went for her hearing aid I was so upset about it, so I think it took me quite a while to get over it, but thinking positively, really, things could have been a lot worse. I think now, we are just so pleased that Samantha is doing so well.

**IW:** And your family?

Mother: They're fine. I think when we explained it, you know, they understood didn't they.

### 6.2 Selected parental interview transcript: Deaf child of Deaf parent

IW: what support were you given when they told you she was deaf?

Mother: nothing

**IW:** nothing?

Mother: they said "you should be alright because you both deaf"

IW: did you expect support, did you want support? Did you want more information

Mother: no

**IW:** you were happy?

**Mother:** I have support, teacher for the deaf, said will give home support but I said we don't need it. Gave help when start nursery, have support from nursery.

IW: you have support from nursery, what kind of support?

**Mother:** like which school is the best for her, assessment procedures, how? Not much really, not much support really. They gave support, how start assessments for parents. Support linked with deafness, not really nothing.

IW: they gave you normal support for how to be a parent, nothing to do with deafness

Mother: yes.

**IW:** how did this affect your family?

**Mother:** my family were happy because my parents are deaf. His (partner)'s family not happy, thought bad, "another deaf person in the family".

**IW:** you are talking about your boyfriend, your partner? Your partners family hearing, your partner deaf himself.

Mother: yes

**IW:** his family hearing, they were not happy?

Mother: no

**IW:** they said that or?

Mother: They said "aahh, shame got deaf child, not a normal baby". She IS normal.

**IW:** how did your partner feel?

Mother: he got used to it, grew up with it. They (parents) "speak, speak" then when he was

15, 16 learnt sign language.

**IW:** you have brother, sister?

Mother: yes two, one deaf one hearing.

IW: how did they both react to your daughter's deafness? Alright?

**Mother:** it was interesting because my hearing sister said good because both parents – me and him deaf, suitable to have deaf child.

IW: how do your family feel now? How your partner family feel now

**Mother:** not sure, (asks partner) how your family feel now? They now realise she can communicate and do things, realise can have deaf child be normal. It was different for them when they had deaf child, they were on their own and difficult to cope. But with us, normal process and develop well

**IW:** do you feel you have a good bond/relationship with your child? no problem with communication?

**Mother:** yes good bond, no problem with communication. Feels normal, if she was hearing or deaf, still communicate. Normal.

### 6.3 Selected parental interview transcript: BSL child with

**IW:** So when Nicholas was first formally diagnosed how did this affect your family, your husband?

**Mother:** I accepted it immediately, because I thought I'm his mother. I've got to accept it. My husband didn't accept it, refused to learn to sign. I had to threaten divorce to try and get him to learn to sign. He was convinced, like so many other parents, that he will hear. My father, who is elderly, but is very open-minded, said I would like to learn to sign. My mother-in-law is a natural communicator, so I taught her a few basic signs, key words, and she communicates quite well, although now Nicholas is a lot better at signing so some of her signs confuse him. They confuse me too. But she accepted it, although had this thought that he will one day hear. My mother, who died just after Nicholas was diagnosed, herself had a hearing problem and she wore hearing aids and found that everybody treated her as stupid, ill or ignorant. And was very grieved that Nicholas should have a hearing problem because of her own experiences. If she had been alive today, with the knowledge I've got I could have helped, but that's another story. So basically I suppose the only person that supported me, my family, as far as communication, was my dad, although my mother-in-law was a fantastic support with Nicholas as a baby, whether deaf or hearing and I have, luckily for me, I have very good friends who would do anything for me and were at the end of the phone, and my health visitor was probably number one.

**IW:** How does your husband feel now – has he accepted it a little more?

Mother: After I threatened him with divorce! A bit drastic I know, but sometimes you need to be. He decided to go to college and he actually passed Stage 1. H now is on Stage 2 and he will sign with Nicholas, but he tends to sign key words rather than trying to learn the joining words that I think are very important for Nicholas to learn. Whether Nicholas chooses to be BSL or sign supported English in his way, is down to him, but I find it very difficult not to use my voice and sign, so I will probably always be SSE, but my vocabulary is a lot greater than my husband's although he's on Stage 2 and I feel should be a lot better than he is. But at least he does try. As far as accepting it, I think he accepted that he, that he's deaf, but again, whether he's accepted it to the level I have, I really wouldn't like to Nicholas did go for a cochlear implant operation before Christmas. Now, I in say. principle was very much against that and I only went for it for the simple reason that I couldn't deny Nicholas the chance of hearing if it was there, but I agonised over it, but my husband was far more for it than I was, but as it turns out, because of Nicholas's cleft of the past, the surgeon was unable to fit it, so Nicholas hasn't got a cochlear, and I have to confess that I am not very disappointed because I feel that he will be better without it. The whole thing frightened me.

**IW:** Yes, I can understand how you feel. It is very scary. Do you feel you have a good communication rapport with Nicholas?

**Mother:** I am still ahead of him in signing at the moment. I have to, or, when I make conversation and I realise I don't know a word, I then have to get my black dictionary out

and thumb through it. (To Nicholas: I'm trying to sign, calm down, you are being silly, now behave). Sorry. So I have to then think, right, OK, I'll learn that word. I try and learn a new word every week and then try and introduce it to Nicholas when it is appropriate.

### 6.4 Selected parental interview transcript: cochlear implanted child

**IW:** Okay. So how did you feel the first time you realised she might be deaf when she was one? How did you feel when your first found out about it?

**Father:** well not very happy really

**Mother:** when she was really ill that time no one told us what the illness is because a lot of them children that ?? of meningitis but we didn't really have a proper check when we took her to the hospital.

**Father:** yes, we went to the GP several times in two or three weeks and not on one occasion were told there was nothing ...

Mother: proper examination, doctor just looked at her and sent us home.

**Father:** I think it builds up. the hearing aids get stronger and stronger and you just know that she must be going deaf

**IW:** What did you feel during the time that you were trying different hearing aids for her? Were you worried, or you know, were you relieved that someone had eventually found what was wrong with her?

Father: I suppose it was some relief to know but...

**Mother:** going deaf, I want to know what happened, the illness or maybe..but then when we heard that it was meningitis..could be fatal it was a little bit..then there were complications, not like brain damage and everything like that. just frightened and angry. You feel like they make like cant even hear you and then they were saying that she was going deaf and, you know, she's not responding. They hadn't done anything until...the specialist that was seeing her at that time they...haven't done anything but I don't know what difference it would make because the earlier that...

**Father:** the local council placed her into a nursery for deaf children who weren't all deaf but some were. She went there for a year. We actually went there for signing lessons and it was okay but I felt she was isolated. Once a week she went to a different school purely for deaf children and she was learning sign language and we weren't happy about the placement because it took about an hour to get there. We had transport but, you know, the poor girl was going out at eight o'clock in the morning and getting home sort of at four o'clock...