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# The Origins of Selective Mutism: Some Strategies in Attachment and Bonding Research

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*Persons extremely reserved and diffident are like the old, enamelled watches which had painted covers that hindered you from seeing what time it was.*

*Horace Walpole, C17th English author*

## Introduction

There have been few substantive studies of the origins of selective mutism. The information about psychological origins derives mainly from single-case studies or information provided by parents of the selective mute subjects. Such studies have provided evidence of an excess of psychiatric disturbance in parents and also an excess of unusual parental personalities. However, as there is usually no direct information from the subjects about their life experiences nor about their relationship with their parents, few conclusions can be drawn about interactive phenomena, about relationships and about life adversities.

The current study offers design strategies developed in an attempt to overcome these latter limitations. It is a follow-up of selectively mute female children into early adulthood, at a stage when they are likely to be more responsive to clinical interview and assessment. One aim was to explore the nature of family functioning, parenting experiences, and attachments, bonding and parent-child relationships. For these purposes a sample of 25 adult females previously selectively mute in their school years, was contrasted with a matched group of female adults who had had a childhood speech or language disorder without mutism.

The main hypothesis was that adult subjects with selective mutism in childhood, as compared with those adults with speech disorders in childhood but without mutism, would show differences, in both degree and kind, in their early life experiences and relationships.

## Relevant literature

*The history and nature of selective mutism*

There are two forms of psychological mutism -

traumatic and selective; both are dramatic and both are rare. The term selective mutism was coined by Tramer (1934) to describe a fascinating group of children, whose talking is confined to familiar situations, usually the home, and to a small group of intimates; whereas traumatic mutism has an acute onset following a psychological or physical shock or injury. The main theme of this paper is an account of selective mutism.

The rarity of selective mutism may be the reason for the lack of a substantial literature on the subject. Following the original classical article by Tramer (1934), over the next half century there were only about half a dozen major contributions to the literature on this subject, culminating in the account of a systematic study by Kolvin and Fundudis (1981). There was one further research report of a controlled study with more than 20 selectively mute children (Wilkins, 1985). In more recent years there has been a sudden surge of papers on this subject, some of which have been discussed by Kolvin and Fundudis (1993).

The literature suggests that the earliest manifestations are in the pre-school years, with the parents being unaware of significant abnormality because there has been a period of relatively normal speech development (Elson, Pearson, Jones et al., 1965; Reed, 1963; Salfield, 1950). Kolvin and Fundudis (1981) report that commonly an inordinate degree of shyness was present from the early years of life in the majority of cases and only in a small percentage were there indications that it had emerged for the first time at a later stage in development.

*Family factors: evidence from the literature*

Of great importance is the nature of the psychological dynamics within the families of selectively mute children. The literature abounds with examples of parents with unusual personalities and psychiatric problems that are often offered as explanations for the selective mutism of their children (Elson, Pearson, Jones, & Schumacher, 1965; Parker, Olsen, & Throckmorton, 1960; Wergeland, 1979). The confidence placed in these findings must be limited by

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the lack of controls and small sample size of the studies upon which the theories are based. Some of the factors that have been viewed as causative include the following: maternal rejection and paternal disinterest (Elson et al., 1965); maternal anxiety, fearfulness and over-protectiveness (Parker et al., 1960; Wergeland, 1979); the influence of 'family secrets' and the child's fear of parental retaliation (Pulstrom & Speers, 1964), abusive behaviour by alcoholic fathers (Adams & Glasner, 1954), and the effects of a symbiotic relationship between parent and child (Browne, Wilson, & Leybourne, 1963). However, most of these notions derive from older publications. More recent publications suggest an over-close mother-child dyad, with the mother over-protective and over-involved (Krohn, Weckstein, & Wright, 1992); inadequate family communication is also a factor (Haydn, 1980).

Evidence from a controlled and larger study of 24 cases (Kolvin & Fundudis, 1981) does not suggest the presence of a common set of family dynamics; rather, the origins appear multifactorial. In that study, one-third of the parents of selectively mute children were found to have personalities that were characterised by serious or marked reserve and shyness. Taking into account all of the personality problems of the parents, irrespective of type, in two in five of the families one or other of the parents had a personality that could best be described as odd or unusual. As to psychiatric problems, severe neurotic disorder was found in one of the parents in about one-sixth of the families, and depression in one of the parents again in one-sixth, with a combination of these two disorders occurring in a number of the families. When serious psychiatric disturbance or major personality problems were considered in combination with serious marital disharmony, it was found that six in ten of the families were affected. Thus, irrespective of how the disturbance in families is defined, the available evidence points to an excess of psychological morbidity in families of selectively mute children compared with families of normal control children (Kolvin & Fundudis, 1981). For instance, these authors noted that 20% of mothers and 16% of fathers of selective mute children had received specialist psychiatric help, compared with only 8% of mothers and 3% of fathers of normal control children.

In a study of 24 families, Wright (1968) reported a 75% rate of parental psychological disturbance. This higher rate was probably due to the inclusion of the use of a much broader definition of disturbance, for instance including the parental shyness as one of the

criteria. Further, as shyness in parents of selectively mute children appears to be fairly common (Brown, Lloyd 1975; Kolvin, Fundudis 1981; Wright 1968), it raises the interesting possibility of a familial or even a genetic link between shyness of the parents and selective mutism of the child. The latter possibility is supported by the finding of a number of affected siblings (Wright, 1968) or twins (Halpern, Hammond, & Cohen, 1971; Mora, De Vault, & Schopler, 1962) in different series of selectively mute children. On the other hand, the influence of learning/modelling as the basis of the pathological shyness cannot be discounted.

*Theoretical model: the behaviour systems approach*

The behaviour systems approach provides a theoretical model for understanding fearful behaviour, fears and worries in young children. The above concept and relevant themes concerning attachment, wariness and inhibited behaviour are well reviewed in a trilogy of articles by Stevenson-Hinde and colleagues (Stevenson-Hinde & Shouldice, 1993, 1995, 1996). The behaviour system approach refers to a distinct motivational system that nevertheless interacts with other systems. It emphasizes the patterning or organisation of behaviours both within and between individual behaviour systems (Greenberg & Marvin, 1982). Fentress (1991) emphasizes the concept of an interlocking network of organisational approaches rather than being satisfied with simple linear conceptualisations. However, the 'context' in which a behavioural pattern occurs is critical for interpreting the pattern (Stevenson-Hinde, 1989).

For purposes of the current review there is a focus on three behaviour systems - namely, attachment, wariness/fear and inhibited behaviour. The definitions offered by Stevenson-Hinde and Shouldice (1993) are discussed below.

Stevenson-Hinde and Shouldice (1993) state that a 'predictable goal' of attachment behaviour involves gaining or maintaining proximity to an attachment figure. Such proximity may decrease arousal (Ainsworth, Blehar, Walters, & Wall, 1978; Bowlby, 1982, 1988). It is more likely to occur in the context of a strange situation or where there are increased distances from mother (Skarin, 1977; Sroufe, Walters, & Matas, 1974), than at home. Stevenson-Hinde and Shouldice (1993) go on to make two assertions: first, a common function of both fear and an attachment system is thought to be protection from harm; second, fear of the unfamiliar and of being left alone would be essential in the environment in which we evolved.

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Those authors contrast, 'inhibited behaviour', which refers to initial withdrawal from unfamiliar or challenging events (Kagan, 1989), with 'attachment behaviour', which involves gaining or maintaining proximity with an attachment figure (Bowlby, 1988). Such alternative behaviours 'may be employed by different children in the same context, or by the same child in different contexts'.

As with attachment behaviour, 'wary/fearful behaviour' is likely to occur in unfamiliar situations rather than at home (Stevenson-Hinde & Shouldice, 1993). Inevitably, there will be variations in the way wary behaviour presents - for instance, there may be an immediate or a latent response. Further, the child may show different degrees of wariness in different situations.

As well as the context differences in which these behaviours present (e.g. strange situation versus home situation) there are also gender differences. For instance, some mothers appear more tolerant of shyness with girls even when their daughters become older, but shyness becomes less acceptable with boys even as they get older. Some mothers may even encourage such responses in girls (Stevenson-Hinde & Shouldice, 1993).

Finally, Stevenson-Hinde and Shouldice (1993) point out that the longitudinal studies of Grossmann and colleagues (Grossmann, Grossmann, Spangler, Suess, & Unzner, 1985; Grossmann & Grossmann, 1991) link maternal sensitivity - reflected by affectionate holding of the infant, appropriate reactions to infant crying and frequent responses to vocalisation (often with a tender, warm voice quality) - to a classification of a secure attachment to mother in a strange situation. However, insecure patterns can be viewed as strategies developed by the child in the course of interacting with an attachment figure who is not sensitive (see Main & Weston, 1982; George, Kaplan, & Main, 1985; Egeland & Farber, 1984).

A modern conceptualisation of the psychological origins of selective mutism must consider all the above behaviour systems. First and foremost, the anomalous behaviour is reminiscent of an insecure attachment pattern that persists or even increases with time, rather than decreases. Second, these children may show, as well, inhibited behaviour that may also continue over time. Finally, the above may be complicated by bouts of wary, fearful behaviour, varying according to the context and which also do not decrease with development. Thus, selective mutism can be viewed as an extension of a psychopathological compound of all

three behaviour systems outlined above, and evaluation of the psychopathology in adulthood must consider an exploration of these early life factors.

#### *Infancy: attachment patterns and maternal interactions*

The literature suggests that there are four main correlations between attachment patterns and maternal interactions:

1. Security of attachments at 12 months is associated with interactions with mothers who provide a 'secure base' (Ainsworth, Bell, & Stayton, 1971, 1974; Ainsworth et al., 1978).
2. Mothers of secure infants are more positive and less negative in the expression of affect (Ainsworth et al., 1978; Lyons-Ruth, Connell, Zoll, & Stah, 1987; Tracey & Ainsworth, 1981).
3. Mothers of avoidant infants tend to show rather low quality of physical contact and yet, at times, there may be intense and intrusive interactions (Isabella & Belsky, 1991; Lewis & Feiring, 1989; Smith & Pederson, 1988).
4. Mothers of ambivalent infants are frequently insensitive, but capable of sensitive interactions when prompted by mood; they are also the least involved (Ainsworth et al., 1978; Isabella, 1993). However, two other qualities have been reported: (a) tendency to be intrusive (Bohlin, Hagekull, Germer, Andersson, & Lindberg, 1989); (b) tendency to initiate some inappropriate interactions (Isabella & Belsky, 1991).

#### *Maternal self-reports and patterns of attachments*

There are a number of relevant themes. First, maternal depression is associated with insecurity of attachments (Murray, 1992; Cummings & Davies, 1994). Second, maternal accounts of positive marital functioning are linked to security of attachment (Belsky & Isabella, 1988). Third, with regard to self-reports of temperament, mothers of avoidant infants tend to describe themselves as more reactive than do other mothers (Lerner, Palermo, Spiro, & Nesselroade, 1982; Weber, Levitt, & Clark, 1986). However, some authors consider that these may be merely defensive responses (Cassidy & Kobak, 1988).

#### **The nature of selective mutism**

Some introductory remarks are necessary about the differential diagnosis of selective mutism in order to avoid diagnostic confusion and confounding with other unusual disorders of childhood. Kolvin and Fundudis

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have previously attempted to clarify this issue (Kolvin & Fundudis, 1981, 1993).

#### *Diagnostic confusion*

First, selective mutism has to be distinguished from traumatic mutism, which has an acute onset following a psychological or physical shock or injury. Some consider traumatic mutism to be an hysterical phenomenon as it is not associated with any disorder of the structures subserving speech functioning (lips, tongue, palate or vocal cords) and, furthermore, the patient is able to cough normally. The literature suggests that it is common, but a wide clinical survey has attested to its considerable rarity (Kolvin & Fundudis, 1981). Second, selective mutism needs to be distinguished not only from traumatic mutism but also from the transient inordinate shyness that occurs relatively frequently in reception classes in school (Brown & Lloyd, 1975; Wright, 1968); it can be distinguished from the latter by its severity and persistence. Brown and Lloyd (1975) studied a small group of children who did not speak at school at school entry (7.2 per thousand). This condition proved to be a transient condition as some 12 months later it was found that the mutism had all but disappeared. Some consider it likely to reflect normal separation anxiety compounded by transient adaptation reactions to the usual stresses and unfamiliarity of the new school situations (Kolvin et al., 1981; Cantwell & Baker, 1985). As shyness is not specific to selective mutism, Kolvin and Fundudis (1981) advise that a distinction needs to be made between such transient states and those behaviours that are pathological in both severity and duration. They, have therefore, applied more rigorous criteria when defining selective mutism as persistent, severe and pathological shyness beyond the home situation, that is usually associated with abnormalities of temperament and commonly of relationships of the child with his/her mother. For mutism presenting on school entry to be classed as selective, there had to be no evidence of diminution over that first year.

#### **Design and method**

##### *Unusual children: some design strategies in attachment/bonding research*

Some research starts with 'unusual' children and then studies their parenting; other research starts with 'unusual' parents and then studies their children; some use a laboratory approach in order to observe mother-

child interaction directly; a fourth type of study starts with 'unusual' children that have grown up, and uses techniques devised to help these adults to describe their original family experiences in terms of the family functioning, parenting experiences, attachments and bonding, and parent-child relationships. The latter was the model chosen for this research.

Previously, information about the nature of the family context and parenting and its impact on the child in selective mutism was inferred, because there was little possibility of obtaining direct information about this from the subject in the school years. However, the last of the above strategies provided a way forward by taking a group of children who were selectively mute in childhood, meeting them again in adulthood and obtaining their perceptions of their early life experiences within their families; there was also an indirect attempt to obtain some information about their attachment/bonding experiences. For these purposes a 'catch-up longitudinal design' has been used to assess these subjects (Robins, 1980) using some self-report measures, such as the Parental Bonding Instrument (Parker, 1983) and the Family Assessment Device (Epstein & Baldwin, 1983; Miller & Epstein, 1985) (described below). They have also been assessed using Adult Attachment Inventory (Main) but these data are reported elsewhere (Trowell, 1997).

Because such subjects present with both shyness and selective mutism in childhood and because also as the literature records, a high proportion of selective mutes have speech problems, it was decided to seek a matched control group of female subjects who previously had a speech disorder for which they had attended speech and language clinics. This design allows the controlling of speech and language disorder; hence, any differences between the groups are likely to be determined by factors associated with any selective mutism rather than any associated speech problem.

#### *Methods*

A review of the above literature provides guides as to the nature of the assessments that need to be employed and two areas emerge as meriting special attention: the first relates to attachments and bonding; the second relates to family functioning. Measures were sought that could provide an insight into aberrant processes with psychopathological implications. Three main measures were selected. These concern (1) bonding, (2) attachments (Trowell, 1997) and (3) family patterns; the first and third are described here.

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1. *Parental Bonding Instrument - the PBI (Parker, 1983)*

The literature is replete with suggestions from theorists (Bowlby, 1977) and empirical research (Parker, 1983) about two aspects of parental style or management that have major implications for a range of psychological conditions: these two aspects comprise 'poor care' and 'overprotection'. Parker therefore developed the Parent Bonding Instrument, which he defines as a refined self-report measure of fundamental parental dimensions of care and overprotection.

Parker describes the 'care variable' as defining a parental style that may range from one of 'affection, emotional warmth, empathy and reciprocity to one of coldness, indifference and neglect' (Parker 1983); this dimension proved to be homogeneous. The 'protection variable' ranges from 'parental control, overprotection, intrusion and infantilisation' to 'allowance of independence and development of autonomy' (Parker, 1983). Whereas Parker sees 'control' as one component in a wider dimension of protection, those working in clinical child practice would prefer the overall term 'control' as being more appropriate than protection.

In this study the PBI can be used to answer two separate questions. First, whether parental overcontrol is over-represented in a condition such as selective mutism and whether parental overcontrol can be related to the personality and behaviour with which these children present. Second, whether any demonstrated parental overprotection is merely a parental reaction to the early expression of a speech or language disorder in a child. It is for this reason that we have sought a comparison group of children who had an identified speech and/or language disorder in childhood.

This design allows an assessment of the relevance of parental overcontrol as a risk factor for the emergence of this strange condition. However, evidence of an association between selective mutism in childhood and retrospective accounts of parental bonding in terms of care and overcontrol do not necessarily mean that these styles of parental care will determine the behavioural condition; it could well be that these traits elicit higher levels of parental overcontrol.

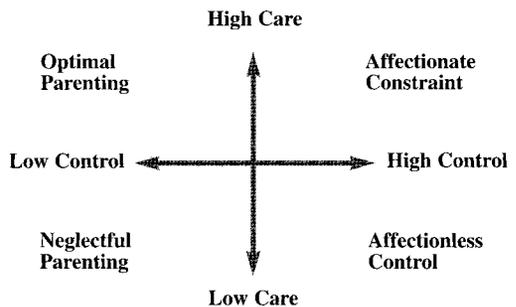
Parker (1989) asserts that the instrument is of limited utility in addressing causal propositions. However, if research data can demonstrate that associations exist, then it is reasonable to speculate about causal mechanisms.

Psychometric studies of the PBI have established

impressive test and retest reliability over brief and extended intervals in clinical samples (Parker, 1983) (.87 for care and .92 for protection); and also high levels of internal consistency. The studies available (Parker, 1983) suggest that the PBI scores are not significantly influenced by social desirability nor a depressed mood. Furthermore, there is acceptable validity not only for it being a measure of 'perceived' parental characteristics but also for the notion that it is an acceptable measure of 'actual' parental characteristics (Parker 1989).

Can the two dimensions of care and control be used simultaneously? First, there is evidence that the scores on the two dimensions are negatively associated. Thus, when addressing the quality of overcontrol by mothers, it needs to be accepted that 'overcontrol involves some deficiency of care as well as high protection' (Parker, 1983). Hence, Parker asserts that the scales may be used together as a 'bonding' instrument with four broad styles of parenting as represented in the quadrants of the diagram below (Figure 1).

**Figure 1: Quadrants of the PBI**



1. high care - low control, reflecting optimal parenting;
2. high care - high control, reflecting 'affectionate constraint';
3. low care - high control, reflecting 'affectionless control';
4. Low care - low control, reflecting 'neglectful parenting'.

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Parker also points out that there has been speculation that inadequate parental care could lead to a sense of insecurity and to a deficiency of self-esteem in the child (Parker, 1983). Further, parental overcontrol may slow or restrict the usual separations-individuation process, thus creating socialisation difficulties (Parker, 1989). He also points out that causal processes are difficult to prove and that it is worth considering non-causal explanations, such as (a) the possibility of a common genetic determinant that might influence both the parental style; personality and mood state in these parents, (b) the type of behaviour in the offspring, (c) with a response bias in the offspring, (Parker, 1989). Although such caveats should be accepted, the links between parental style and psychosocial disorders cannot be discounted, especially if the association proves robust.

## 2. *Family functioning: The Family Assessment Device (FAD)*

The Family Assessment Device is also a self-report scale, developed by Epstein and Baldwin (1983); and by Miller and Epstein (1985). It contains of 60 items divided into seven sub- scales. The subject completes the questionnaire by choosing an answer, graded on a four-point scale, that reflects the extent to which the statement describes the subject's own family, currently or in relation to his/her family of origin. The FAD takes into account the complexity of family functioning and the transactional and systemic properties of the family. It is aimed at collecting information by measuring a particular family member's perceptions of their current family or original. The items monitor both healthy and unhealthy styles of family functioning. The seven subscales are briefly as follows:

1. **Problem solving:** the family's ability to resolve problems, e.g. 'We confront problems involving feelings'.
2. **Family roles:** the recurrent patterns of behaviour necessary to fulfill needs of family members.
3. **Communication:** whether the content of verbal communication within the family is clear, or indirect and vague, e.g. 'When one family member is upset, another knows why'.
4. **Affective responsiveness:** the ability of individual family members to respond to a family experience with the appropriate quality and quantity of emotions.
5. **Affective involvement:** assesses the degree to

which family members are involved and interested in the activities of other family members. The healthiest families have an intermediate level of involvement - neither too little nor too much, e.g. 'You only get the interest of others when something is important to them'.

6. **Behaviour roles:** ways in which family members express and maintain standards of behaviour, e.g. 'we have no clear expectations about toilet habits'.
7. **General functioning:** assesses the overall health and pathology of a family.

Higher scores reflect pathological functioning. The FAD significantly differentiates between healthy and unhealthy families; further, the cut-off scores also differentiate health and pathology in each domain. The sub-scales tend to inter- correlate; accordingly, problems in one area of family functioning will be likely to have ramifications in others. The test-retest reliability ranges between 0.66 and 0.75; validity is considered adequate; there is a high rate of diagnostic confidence at 68-89%, which is similar to that of other assessment instruments, including laboratory tests. However, a percentage of non-clinical families will have scores within the unhealthy range. Further, even those families with some difficulties can also show healthy functioning on some dimensions.

However, Miller and Epstein (1985) see the Family Assessment Device as a research instrument. They assert that, for proper use, the investigator should be familiar with the McMaster Model of family functioning, psychometric test development, and the limitations of such approaches. Clinical ranges are available for all the subtests, but the authors state that these are based on small samples and, therefore, should be considered tentative. Nevertheless, usually clinicians report that the subtests scores are meaningful and have immediate face validity when assessing family functioning in clinical situations.

Why was the FAD chosen? For the purposes of the current study it provides a reliable means of assessing the adults' perceptions of the family functioning of their family of origin. Further the data complements the information obtained using the PBI and gives a fuller picture of each subject's perceptions of their family relationships in childhood and the nature and quality of care they experienced. Such methods will allow hypotheses about psychological origins in childhood to be confirmed or refuted.

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## Comment

This paper outlines some design and method strategies for use when exploring, in adulthood the psychodynamic origins in their childhood of a complex long-standing psychopathological disorder. Such strategies can be summarised as follows:

- a. The diagnostic concept: this should provide a clear description of the disorder by specifying diagnostic criteria, including an account of possible confounding disorders that need to be excluded.
- b. Theoretical basis: a review of the literature that examines theories of psychological origins especially those which have some empirical basis.
- c. Design: (i) the use of a catch-up longitudinal design; (ii) the use of a control group to control for possible confounding features; (iii) decisions about measures that can be administered in adulthood and that will provide information to help unravel the psychopathological origins, such as self-rating (e.g. the PBI) or analysis of narratives (e.g. Adult Attachment Inventory).

## References

- Adams, H. & Glasner, P. (1954). Emotional involvement in some forms of mutism. *Journal of Speech and Hearing Disorders*, 19, 59-69.
- Ainsworth, M., Bell, S., & Stayton, D. (1971). Individual differences in strange situation behaviour of one-year-olds. In H.R. Schaffer (Ed.), *The origins of human social relations* (pp. 17-57). New York: Academic Press.
- Ainsworth, M., Bell, S., & Stayton, D. (1974). Infant-mother attachment and social development: Socialisation as a product of reciprocal responsiveness to signals. In M.P. Richards (Ed), *The integrations of a child into a social world* (pp. 99-135). Cambridge: Cambridge University Press.
- Ainsworth, M., Blehar, M., Walters, E., & Wall, S. (1978). *Patterns of attachment*. Hillsdale, NJ: Erlbaum.
- Belsky, J., & Isabella, R. (1988). Maternal, infant and social-contextual determinants of attachment security. In J. Belsky & T. Nezworski (Eds.), *Clinical implications of attachment* (pp. 41-94). Hillsdale, NJ: Erlbaum.
- Bohlin, G., Hagekull, B., Germer, M., Andersson, K., & Lindberg, L. (1989). Avoidant and resistant reunion behaviors as predicted by maternal interactive behaviour and infant temperament. *Infant Behaviour and Development*, 12, 105-117.
- Bowlby, J. (1969/82). *Attachment and loss, Vol. 1: Attachment*. London: Hogarth.
- Bowlby, J. (1977). The making and breaking of affectional bonds. *British Journal of Psychiatry*, 130, 201-210.
- Bowlby, J. (1988). *A secure base: Clinical applications of attachment theory*. London: Hogarth.
- Brown, J. & Lloyd, H. (1975). A controlled study of children not speaking at school. *Journal of the Association of Workers with Maladjusted Children*, 3, 49-63.
- Browne, E., Wilson, V. & Leybourne, P. (1963). Diagnosis and treatment of elective mutism in children. *Journal American Academic Child Psychiatry*, 2, 605-617.
- Cantwell, D., & Baker, L. (1985). Speech and Language: Development and Disorders. In M. Rutter & L. Hersov (Eds.), *Child and adolescent psychiatry: Modern approaches*. Oxford: Blackwell Publications.
- Cassidy, J., & Kobak, R. (1988). Avoidance and its relations to other defensive processes. In J. Belsky & T. Nezworski (Eds.), *Clinical implications of attachment* (pp. 300-323). Hillsdale, NJ: Erlbaum.
- Cummings, E.M. & Davies, P.T. (1994). Maternal depression and child development. *Journal of Child Psychology and Psychiatry*, 35, 73-112.
- Egeland, B., & Farber, E.A. (1984). Infant-mother attachment; Factors related to its development and changes over time. *Child Development*, 55, 753-771.
- Elson, A., Pearson, C., Jones, C. & Schumacher, E. (1965). Follow-up study of childhood elective mutism. *Archives of General Psychiatry*, 13, 182-187.
- Epstein, N., & Baldwin, L. (1983) The McMaster Family Devise. *Journal of Marital and Family Therapy*, 9(2), 171-180.
- Fentress, J. (1991). Analytical ethology and synthetic neuroscience. In P. Bateson (Ed.), *The development and integration of behaviour* (pp. 77-120). Cambridge: Cambridge University Press.
- George, C., Kaplan, N., & Main, M. (1985). *The Berkeley Adult Attachment Interview*. Unpublished protocol. Department of Psychology, Berkeley, University of California.
- Greenberg, M. & Marvin, R. (1982). Reactions of preschool children to an adult stranger: A behavioral system approach. *Child Development*, 53, 481-490.

- 
- Grossmann, K., Grossmann, K., Spangler, G., Suess, G., & Unzner, L. (1985). Maternal sensitivity and newborns' orientation responses as related to quality of attachment in Northern Germany. In I. Bretherton & E. Waters (Eds.), *Growing points of attachment theory and research*. Monographs of the Society for Research in Child Development, Serial No. 209, 50 (1-2).
- Grossmann, K. & Grossmann, K. (1991). Attachment quality as an organizer of emotional and behavioral responses in a longitudinal perspective. In C. Parkes, J. Stevenson-Hinde & P. Marris (Eds.), *Attachment across the life cycle* (pp. 93-114). New York: Routledge.
- Halpern, W., Hammond, J., & Cohen, R. (1971). A therapeutic approach to speech phobia: Elective mutism re-examined. *Journal of the American Academy of Child Psychiatry*, 10, 94-107.
- Haydn, T. (1980). Classification of elective mutism. *Journal of American Academic Child Psychiatry*, 19, 118-133.
- Isabella, R.A. (1993). Origins of attachment: Maternal interactive behavior across the first year. *Child Development*, 64, 605-621.
- Isabella, R. & Belsky, J. (1991). Interactional synchrony and the origins of infant-mother attachment: A replication study. *Child Development*, 62, 373-384.
- Kagan, J. (1971). *Change and continuity in infancy*. New York: Wiley.
- Kagan, J. (1989). The concept of behavioral inhibition to the unfamiliar. In J. Reznick (Ed.), *Perspectives on behavioral inhibition* (pp. 1-23). Chicago: University of Chicago Press.
- Kolvin, I. & Fundudis, T. (1981). Elective mute children - psychological development and background factors. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 22, 219-232.
- Kolvin, I. & Fundudis, T. (1993). Elective mutism. In G. Blanken, G. Hannelore & C. Wallesch, (Eds.), *Linguistic disorders and pathologies*. New York: Walter de Gruyter.
- Krohn D., Weckstein, S., & Wright, H. (1992). A study of the effectiveness of a specific treatment for elective mutism. *Journal of the American Academy of Child and Adolescent Psychiatry*, 31(4), 711-718.
- Lerner, R., Palermo, M., Spiro, A., III, & Nesselroade, J. (1982). Assessing the dimensions of temperamental individuality across the life span: The dimensions of temperament survey (DOTS). *Child Development*, 53, 149-159.
- Lewis, M., & Feiring, C. (1989). Infant, mother and mother- infant interactions behavior and subsequent attachment: An examination of interactional synchrony during the infant's first year. *Child Development*, 60, 831-837.
- Lyons-Ruth, K., Connell, D, Zoll, D., & Stah, J. (1987). Infants at social risk: Relations among infant maltreatment, maternal behavior and infant attachment behavior. *Developmental Psychology*, 23, 223-232.
- Main, M., & Weston, D., (1982). Avoidance of the attachment figure in infancy: Descriptions and interpretations. In C. Parkes & J. Stevenson-Hinde (Eds.), *The place of attachment in human behaviour* (pp. 31-59). New York: Basic Books.
- Miller, I., & Epstein, N. (1985) The McMaster Device: Reliability and validity. *Journal of Marital and Family Therapy*, 11, 345 - 3561.
- Mora G., De Vaults, S., & Schopler, E. (1962). Dynamics and psychotherapy of identical twins with elective mutism. *Journal of Child Psychology and Psychiatry*, 3, 41-52.
- Murray, L. (1992). The impact of postnatal depression on infant development. *Journal of Child Psychology and Psychiatry*, 33, 543-561.
- Parker, G. (1983). *Parental overprotection: A risk factor in psychosocial development*. New York: Grune & Stratton.
- Parker, G. (1989). The Parental Bonding Instrument: Psychometric properties reviewed. *Psychiatric Development*, 4, 317-335.
- Parker, E., Olsen, T., & Throckmorton, M. (1960). Social casework with elementary schoolchildren who do not talk in school. *Social Work*, 5, 64-70.
- Pulstrum, E. & Speers, R. (1964), Elective mutism in children. *Journal of American Academic Child Psychiatry*, 3, 287-297.
- Reed, G. (1963). Elective mutism in children. *Journal of Child Psychology and Psychiatry*, 14, 99-107.
- Robins, L. (1980). Longitudinal methods in the study of normal and pathological development. In F. Earls, (Ed.), *Studies of children*. New York: Prodist.
- Salfield, D. (1950). Observations of elective mutism in children. *Journal of Mental Science*, 6, 1024-1032.
- Skarin, K. (1977). Cognitive and contextual determinants of stranger fear in six and eleven-month-old infants. *Child Development*, 48, 537-544.
- Smith, P., & Pederson, D. (1988). Maternal sensitivity and patterns of infant-mother attachment. *Child Development*, 59, 1097-1101.
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- Stevenson-Hinde, J. (1989). Behavioral inhibition: Issues of context. In J. Reznick (Ed.), *Perspectives on behavioral inhibition* (pp. 125-138). Chicago: University of Chicago Press.
- Stevenson-Hinde, J. & Shouldice, A. (1993). Wariness to strangers: A behavior systems perspective revisited. In K. Rubin & J. Asendorpf (Eds.), *Social withdrawal, inhibition and shyness in childhood* (pp. 101-116). New Jersey: Erlbaum.
- Stevenson-Hinde, J. & Shouldice, A. (1995). Maternal interactions and self-reports related to attachment classifications at 4.5 years. *Child Development*, 66, 583-596.
- Stevenson-Hinde, J. & Shouldice, A. (1996). Fearfulness: Developmental consistency. In A. J. Sameroff & M. Haith (Eds.), *The five to seven year shift: The age of reason and responsibility* (pp.237-252). Chicago: University of Chicago Press.
- Sroufe, L., Walters, E., & Matas, L. (1974). Contextual determinants of infant affective response. In M. Lewis & L. Rosenblum (Eds.), *The origins of fear* (pp. 49-72). New York: Wiley.
- Tracey, R. & Ainsworth, M. (1981). Maternal affectionate behavior and infant-mother attachment patterns. *Child Development*, 52, 1341-1343.
- Tramer, M. (1934). Elektiver Mutismus. *Zeitschrift für Kinderpsychiatrie*, 1, 30-35.
- Trowell, J. (1997). Attachment in children: Developments from a study with sexually abused girls. In *Bonding and attachment: Current issues in research and practice* (pp. 11-15). London: ACPP Occasional Papers No. 14.
- Weber, R., Levitt, J., & Clark, M. (1986). Individual variation in attachment security and strange situation behaviour: The role of maternal and infant temperament. *Child Development*, 57, 56-65.
- Wergeland, H. (1979). Elective mutism. *Acta Psychiatrica Scandinavia*, 59, 218-228.
- Wilkins, R. (1985). A comparison of elective mutism and emotional disorders in children. *British Journal of Psychiatry*, 146, 198-203.
- Wright, H. (1968). A clinical study of children who refuse to talk. *Journal American Academic Child Psychiatry*, 7, 603- 617.