

THE COMPARISON OF BIRTH EXPERIENCE AND  
TEMPERAMENT IN PRESCHOOL CHILDREN

by

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#### ABSTRACT

This study compares preschool-aged Day Care children's temperament ratings, with their birth experience.

The specific etiology of temperament is, as yet, unknown. However, its profound influence on human behavioural style has been acknowledged and has been the subject of several research studies (Thomas & Chess, 1977; McDevitt & Carey, 1978; Persson-Blennow & McNeil, 1978; Stott & Latchford, 1976) in recent years. Investigations have shown the close relationship between childrens' temperamental traits and their approach to learning. This study examines the maternal and natal comfort factor during the birth experience, as a possible component in temperament formation.


There is an increasing awareness of the importance of the birth experience on mother and child. This author found no systematic research effort into the effects on development related to the psychological and physical comfort of mother and neonate during birth. This study attempts to systematically measure this comfort factor, in relationship to later temperament development in children.

Two questionnaires were used for this research. The childrens' temperamental style was assessed by Day Care staff, using the Guide to the Child's Learning Skills (Stott, 1976) consisting of Prescreening and Diagnostic subscales. A special Birth Survey was developed specifically for the purposes of collecting data on comfort measures at birth. Information on this Survey was obtained retrospectively from the childrens' mothers.


Correlation analysis on all data indicated a significant relationship ( $p < .01$ ) exists between three of the six subscales derived from the Birth Survey factor analysis and six Birth Survey items, and the Prescreening GCLS score. The Diagnostic GCLS score correlated with three items on the Birth Survey, but none of the Birth Survey comfort subscales.

Results of the study supported the original hypothesis, that there is a relationship between comfort of the mother and neonate during birth, and temperament development in the child.

Examiners:

  
Dr. R. E. Tinney, Chairman, Education.

  
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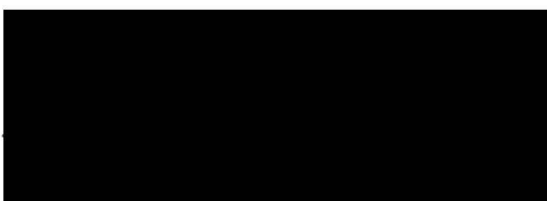
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## DEDICATION

My thesis is dedicated to mothers who so often must have courage and great strength.

I appreciated the mothers who voluntarily participated in my study. They shared with me their inner feelings and gave me a fascinating insight into the birth experience, from a woman's perspective. I learned from them.

One particular mother, my Mom, deserves special acknowledgement in my dedication. If she had not given me the great support she did, in every way, during the period of time I spent preparing my thesis, I might never have completed it. I want to thank my mother for standing by me, just as she has with every challenge I have faced. I have learned from my mother's courage and strength. Thank you, Mom for being the person you are; a daughter couldn't ask for better!



## CHAPTER I

### INTRODUCTION

There is a complex interaction between an individual's inherited characteristics, constitutional differences and experiential factors. A child's personality is developed from this interaction (Fries & Woolf, 1953). Researchers (Rugh et al., 1971) believe that at seven months of fetal development, the physical basis for personality individualization is in place. Temperament is one important concept in this developing personality (McDevitt & Carey, 1978) and resulting behavioural patterns. In fact, Stone, (1979, p. 279) has referred to temperament as "the bottom layer in the composition of the personality". Although specific origins of temperament elude empirical identification (McDevitt & Carey, 1978), there is speculation it is congenital: "originating from birth or before" (Stott, 1972, p. 45).

Temperament is the foundation of an individual's "non-motivational behavioural styles" or simply, the 'how' of behaviour (Thomas & Chess, 1977, p.5). The goodness of fit (Thomas & Chess, 1977), the relationship that exists between a child's temperament and his environment, is of primary

importance in how well that child will adapt to life situations, such as learning. Behavioural patterns have been observed by researchers (Sostek & Anders, 1977; Garside et al., 1975) that reflect temperamental traits in children.

Specifically, children's approaches to learning situations have been measured by Stott (1972) and others (Chess & Whitbread, 1974) in terms of temperamental learning styles. The Guide to the Child's Learning Skills (Stott, 1976) is an attempt to systematically measure and identify these behavioural traits which reflect temperamental patterns.

While studies have examined the effects of prenatal and genetic factors on later temperamental and behavioural traits (Stott, 1976), there has been little exploratory investigation into the effects, if any, of birth experience factors on children's temperament formation. Specifically, Goldstein et al., (1976) included 'maternal discomfort' as a factor in their study of prenatal and perinatal complications and their affect on later development. The researchers noted that they were unable to find other studies which were related to perinatal maternal discomfort, as a correlate to later development.

Greenacre (1945) appears to recognize the importance of each child's individual experience of birth and later behavioural development, in stating that it:

"exerts definite influences on the future psychic and physical patterns of the child, especially on these larger patterns of the distribution of energy and the intensity of drives. . . (p. 31). . . There is. . . in each individual a unique primary organization and level of tension that is determined in some measure, by the birth experience, furnishing an important element in the patterning of the drive and energy distribution of that individual (p. 35). Birth seems to organize the anxiety pattern, setting in motion the genetically determined elements fused with those individually determined ones resulting from the special or unique birth experiences of the given infant (p. 44)."

The more subtle aspects of the primary experience of birth on a person's development, may be factors influencing temperament. To date, such variables have been vastly neglected in child development studies. Retrospective studies allow for the flexibility to uncover new areas of information in their examination of such etiological variables (Stott, 1976).

The writer recognizes that there are possible antecedent variables that may contribute to a mother's and child's experience of birth, and/or ultimately, to the development of the child; such as the mother's prenatal health and habits (e.g. smoking; consumption of alcohol and drugs;

nutritional standards and exercise) (Joseph, 1977). The possible correlation of these factors with both the type of birth experience and/or the physiological determinants of temperament, complicates a definitive interpretation of the relationship of birth experience to temperament.

There has been a paralleled "increased awareness of the importance of the perinatal period in terms of child development" with a noticeable trend in childbirth practices and concepts to make the birth experience beneficial for mothers and their newborns (Joseph, 1977; Kitzinger, 1978; Stephenson & Walker, 1978)<sup>1</sup>. These have led towards a recognition of certain physical and psychological standards facilitating birth.

#### STATEMENT OF THE PROBLEM

The purpose of this study is to examine the relationship between birth experience and temperament in preschool-aged children.

1 Personal communication, March 12, 1980, Basil C. Boulton, M.D., F.R.C.P. (c) F.A.A.; Clinical Assistant Professor of Paediatrics, University of British Columbia.

The events at birth have been shown to have a direct and crucial effect on children's development (McGrade et al., 1965; Fries & Woolf, 1953; Janov, 1973; Umansky, 1976). Information related to childbirth and later developmental factors, suggests that subtle psychological and physical stress and comfort factors at birth may be a fruitful area for further investigation.

The amount of comfort experienced by a child during birth may be measurable by variables related to both his/her own and his/her mother's experience. This comfort factor could be correlated to the child's later temperament.

Temperament has been shown to influence learning style. Certain behavioural traits have been shown to identify children with vulnerabilities of temperament which can result in poor learning strategy. "Behavioral observation techniques may have a higher probability" (than standardized tests) "of pinpointing functional aspects of children's performance which might be used as the basis for instruction" (Keogh & Becker, 1973, p.10) leading to remediation.

This exploratory study measured birth experience by an instrument developed by the researcher for this study, in consultation with experts: the Birth Survey was completed by the preschool Day Care children's mothers. Their children's temperamental learning styles were measured by Day Care staff, using the Guide to the Child's Learning Skills (Stott, 1976).

The study examined the relationship between a range of comfort variables experienced by mother and child during labour, delivery, and the immediate postpartum period; and the child's temperamental learning style by Day Care age, in sufficient strength to be quantifiable.

## CHAPTER II

## REVIEW OF THE RELATED LITERATURE

## A FOCUS ON TEMPERAMENT

Etiology and Definition

There has been a great deal of discussion regarding the origins and description of temperament, as a component of personality (McDevitt & Carey, 1978; Stone, 1979). Heredity, prenatal and perinatal factors have an influence on an individual's constitutional character; the more stable characteristics of reaction patterns (Mussen et al., 1969; Rainer, 1979; Aleksandrowicz & Aleksandrowicz, 1964). These factors may all interact and be the functional determinants of basic temperament (Stott, 1972; Brown, 1973; Thomas & Chess, 1977). Temperament has been termed "the functional aspect of . . . constitutional nature" (Stott, 1967, p.192).

In their extensive research on temperament development, Thomas & Chess (1977) have reviewed studies pertaining to the origins of temperament. Studies using twins have indicated evidence of genetic factors involved. Prenatal anxiety may also effect later temperamental behaviours: "prenatal variations in hormonal activity or other chemical or physiological influences on the developing brain . . .

may play a highly significant role" (p. 152). Birth complications and prematurity may influence temperament development. Possible psychophysiological, biochemical and nutritional prenatal and perinatal influences were included in Thomas's & Chess's (1977) review. Parental influences and other postnatal environmental factors were not overlooked as possible factors which may influence childrens' temperamental traits. Comparative studies between mother and infant temperaments found no significant correlation in relation to 'Difficult' and 'Easy' temperamental patterns in the children. This outcome suggests that other factors apart from heredity may effect temperament formation.

There is evidence that the foundations of temperament are congenital; that is, influenced by hereditary and/or prenatal environmental factors and consisting of unlearned individual differences, present at birth (Mussen et al., 1969). Researchers have observed specific behavioural traits in neonates, during the early postnatal period (Stott, 1972; Sostek & Anders, 1977; McDevitt & Carey, 1978). They allude to temperament as: 'Congenital Activity Types' (Fries & Woolf, 1953); 'Styles of Adaption' (Brazelton, 1961); and 'primary endowment differences' (Korner, 1964):

"the formal characteristics of behavior" observable at birth that influence the style in which a child experiences and develops (Korner, 1964, p. 62; 1971). Carey (1970) has stressed the importance of determining the infant's own 'behavioural-style' by assessing temperamental characteristics. Further research indicates such traits are consistent by the age of two to six months (Thomas & Chess, 1977; Persson-Blennow & McNeil, 1978). Researchers (Thomas & Chess, 1977) have acknowledged that quite probably postnatal factors may interact to reinforce or reduce the intensity of certain temperamental traits.

Prenatal stress and temperamental patterns have been correlated in both animals and humans. Thompson (1960) suggested that stress during pregnancy in animals effects learning ability and temperament. Studies have correlated marital prenatal stress to later temperamental patterns in children (Stott, 1977; Stott, 1973; Stott & Latchford, 1976); predominately indicated by excessive timidity or hyperactivity. Stott (1977) has theorized that prenatal experiences can contribute to the child's vulnerability to postnatal stress.

The type of birth experience that is experienced by the child may be a key factor in establishing basic temperament formation; thus, influencing its entire life

experience. Infants may react differentially to the birth process, according to their innate individual differences (Stone, 1979). This interaction may set the stage for future styles of adaptation to stress, thus, temperamental patterns (Brazelton, 1961; Greenacre, 1945).

Greenacre (1941) further has stated:

"Yet, we raise the question whether variations in the birth trauma are so insignificant in their effect on later anxiety - when birth is indeed the prototype of human anxiety - as we have been assuming." ". . . may not the anxiety-increasing factors of a disturbed birth process combine with or reinforce the constitutional factors in the fashion of multiple determination of symptoms. . ." (pp. 69-70)

Barnes (1975) has theorized that 'poor birth status' children in her study, could have a general difficulty in adapting to the demands of the environment. 'Poor birth status' neonates were defined as those who had Apgar ratings on colour, muscle tone and reflex of seven or less points (best score= nine points). Out of interest, the mean IQ of the poor birth status children at age four was 126.07 while the mean IQ of the good birth status children was 120.45, although the findings suggested that poor birth status childrens' activity was slightly more frequently a problem for their mothers than the good status group.

Barnes suggested that there is a comparison between the poor birth status group in her study and the 'Difficult' tempera-

ment described by other researchers (Thomas & Chess, 1977). Thus, the reaction at birth by the poor birth status group, may, in fact, be the initial expression of a basic difficulty of these individuals to adapt to environmental demands (Barnes, 1975). Whether birth largely determines temperamental reaction patterns in conjunction with constitutional factors present at birth, or whether the type of birth reaction simply exemplifies the temperamental type of an individual is as yet undetermined and very complex (Barnes, 1975; Stone, 1975; Greenacre, 1941).

Temperamental versus characterological components of personality are clearly distinguishable (Stone, 1979); the latter is derived from social learning, whereas the former has a probable inborn, neurophysical basis, which has an effect on behavioural tendencies. Stone (1979) further indicates the resilience of temperamental attributes to psychoanalysis, which suggests a basic permanence in personality, prior to any social conditioning.

Temperament can be viewed as the central factor which dictates how much a child will accomplish in life (Chess & Whitbread, 1978). Thomas and Chess (1977, p.9) refer to temperament as the 'how' of behaviour: "the basis of non-motivational behavioral styles." It has been referred to as

being 'phenomenological'; encompassing how the total person approaches life's situations (Stott, 1972; Thomas & Chess, 1977). Temperament influences a child's development. It dictates the style of behaviour which one uses to approach environmental stresses and tasks. Conversely, the child's environment will react according to this style of approach.

Temperament is qualitative and quantitative (Thomas & Chess, 1977) and traits do not always show consistency over time. Traits do cluster into behavioural styles (Garside et al, 1975; Chess, 1968). Various factors may have more of a transient effect on temperamental development than other more profound factors (Scholom et al, 1979; Thomas & Chess, 1977). Stability in individualized reaction patterns have been documented by Chess et al. (1959). These patterns persist from the neonatal stage to age two years and have been measured by a three point behavioural scale which itemizes descriptive temperamental traits. Difficulty arises when identifying temperamental traits within behavioural observations. The expression of the same temperamental trait can change and traits are increasingly more difficult to isolate as behavioural patterns become more complex as development progresses (Thomas & Chess, 1977): "The factors affecting the identification of continuity over time are so complex

and variable as to create all kinds of permutations in the patterns of correlations." (p. 160). Temperament should be measured at the earliest period in development possible.

Temperament is an important factor in child development. It is important to investigate all possible factors related to its formation. Birth experience may be one such area which warrants further study.

### Role in Child Development

Temperament affects many areas of development as temperamental style and behavioral output are closely aligned (Garside et al., 1975). The 'goodness of fit' (Thomas & Chess, 1977) between a child's style of approach or the 'irritability of his nervous system' (Benedek, 1949), and the environment will be an important factor in his "general functional effectiveness" (Stott, 1976, p. 198). Aspects of a child's temperament assume varying degrees of importance to success in performance, dependent upon his/her age and the relative demands during that period (Thomas & Chess, 1977). Some children have predispositions to temperamental vulnerability at birth (Stott, 1972); functionally defined by 'overreacting' or 'underreacting' behavioural styles (Stott, 1972). Researchers have correlated behavioural disturbances

with certain temperamental traits (Thomas & Chess, 1977; Stott, 1972). Specifically, Loomis & Meyer (1959) allude to temperament in their observational studies with emotionally disturbed children. They focus on 'how' items were approached by the children; the child's "style of relating" (p. 575). Behavioural problems are often reactions to the child's style of approach to life situations; thus, the 'goodness of fit' is poor.

Adjustment and behaviour problems in nursery school and preschool have been shown to predict later adjustment difficulties (Westman et al., 1967). More intense behaviour disturbances at this level result in greater problems in elementary school (Campbell et al., 1977; Thomas & Chess, 1977). Temperament measured at one year of age has been shown to be predictive of later mild behaviour problems (Cameron, 1978). Scholom, Zucker, and Stollak (1979) have indicated that a relationship exists between adjustment at age four years and temperament, as did Barnes (1975). The Day Care Centre has been suggested as an optimal setting for early identification of preschool children's style of approach to learning situations (Thomas & Chess, 1977). Such programs are usually the initial situation where a

child must cope with structured tasks and new demands. The child's behavioural style can either assist or hinder his/her adaptation to this early learning situation (Keogh & Becker, 1973; Stott, 1972). As indicated above, there are certain temperamental traits which are critical to a child's ability to successfully approach learning (Stott, 1972; Chess & Whitbread, 1974; Richman et al., 1975). Blatz (1944) has alluded to this factor. He describes in neurophysical terms, the individual differences in children's 'tonus': "the efficiency of the whole nervous apparatus" (p. 31). He relates this concept to learning behaviours. Thus, temperament, per se, is a factor which influences a child's success in learning and the effect is relatively unrelated to intelligence (Chess, 1968). Peer relations can also be difficult for children with certain temperamental patterns that result in extreme apprehension and withdrawal or aggressiveness. These styles of temperament have been termed respectively, the 'Slow to-Warm-Up' (Thomas & Chess, 1977) or 'Unforthcoming' (Stott, 1972) child; and the 'Difficult' (Thomas & Chess, 1977) or 'Inconsequential' child (Stott, 1972).

The effect of temperament on children's learning ability has been fully outlined in Stott's book, The Parent as Teacher, (1972). He indicates why some children are vulnerable in the learning situation, dependent upon their temperamental learning strategy, which is based on temperament. They can overcome their potential learning difficulties if identified early and given remedial assistance, to modify their learning strategy. Therefore, some children's temperaments are more compatible with the learning situation.

Children with predominately 'Overreacting' (Inconsequential) or 'Underreacting' (Unforthcoming) styles of temperament have difficulty in the learning situation. Stott (1972) has identified specific traits in children that typify the above temperaments in the learning situation. Underreacting children often show fear to begin a task; have solitary or peculiar ways of using play or learning materials; are extremely shy; withdraw and use dullness as a facade so as to avoid the anxiety of giving answers; and are lethargic at times. In contrast, Overreacting patterns of temperament can be seen in children who are hyperactive and fidgety; impulsive; often insist on doing things his/her way; and generally do not give themselves enough time to think, and resort to 'trial and error'.

It is unclear as to whether the interaction between sex and temperament is a significant factor in child development. Although Thomas & Chess (1977) have suggested that sex differences in temperamental patterns are more closely associated with cultural and behavioural influences in the preschool years, modest sex differences were found in their New York Longitudinal Study on temperament. Other research (Stott, 1972) has shown that males are more 'Inconsequent' in their behavioural style than females. Scholom et al. (1979) found sex to be a factor, at age four years, in the relationship between temperament and child adjustment; specifically, females' 'mood' (temperament) and positive adjustment were associated, whereas, males did not correlate in the same manner. Garside et al. (1975) found female infant school children to be significantly more irregular in their behaviour than males, while males were significantly more moody. Whether temperament affects males and females differentially, thus, influencing society's role expectations (Stott, 1972), or conversely, whether temperament is influenced by cultural attitude norms towards sexes has yet to be determined.

### Methods of Measurement

Some experts have believed that there has not been sufficient emphasis placed on individual patterns of temperament (Chess, 1968). Recently, there has been a greater recognition of temperament's role in child development, although objective measurement instruments for research purposes have been scarce (McDevitt & Carey, 1978).

In a review of projects involved with children and adolescent studies, funded by Federal agencies in the United States (Heyneman & Mintz, 1976), obvious temperament scales were few. The authors noted that official instrument names were not always used in the studies and, further, that many had been developed specifically for a particular funded study. Although several preschool behavioural evaluation checklists and rating scales were noted, only four out of 1,086 non-referenced instrument titles were temperament measures: Temperament Scale; Survey of Temperamental Characteristics; the Carey Temperament Scale; and the Personal Style Inventory, which may allude to temperament. The reviewers found that the quality of personality tests did not correlate to the frequency of their use.

Further evidence of the scarcity of temperament measures was found in two other reviews on assessment tools for young children (Technical Assistance Development System, 1973; Frost & Miniski, no date: post 1975). There was a focus on specific tests for the evaluation of child development areas such as visual-motor coordination, language development, auditory and visual memory etc., versus behavioural style or temperament. Some behavioural scales may possibly correlate to temperament patterns (Sostek & Anders, 1977), as temperament is reflected in dimensions of behaviour.

It is relevant to include the extensive research conducted by Schaefer & Aaronson (1973) on "systematically collecting social emotional and task-oriented behavior" from infancy on (p.1795). Their work was in response to the recognized importance of predicting later adjustment from observed behaviours related to learning and general class adjustment. Their efforts yielded two scales: the Classroom Behavior Inventory (1965) for preschool aged children; and the Day Care Behaviour Inventory (1970). Both scales were developed on the basis of three factors measured by appropriate itemized traits: Extroversion versus Introversion; Positive

versus Negative Task Oriented; Hostility. These dimensions are closely aligned with recognized behavioural styles which reflect temperament.

In 1956, a 20 year longitudinal study was initiated, on temperamental individuality in children: the New York Longitudinal Study (NYLS), (Thomas & Chess, 1977). The NYLS Questionnaire was based on nine temperament variables: Activity Level; Rythmicity; Approach/Withdrawal; Adaptability; Intensity of Reaction; Threshold Level; Quality of Mood; Distractibility; and Attention Span - Persistence. A three point rating scale was used for each item. Two condensed versions of the NYLS Questionnaire have since been developed by Thomas and Chess (1977: the Teacher Temperament Questionnaire for Children 3 - 7 Years of Age: comprised of 64 items with an intensity scale of seven degrees; the Parent Questionnaire for 3- 7 Year Old Children: comprised of 72 questions with a seven point intensity scale. Both instruments measure the nine original temperamental variables studied in the NYLS which correlate into three groups of temperamental patterns: the 'Easy Child'; the 'Difficult Child'; and the 'Slow-to-Warm-Up Child'.

A modified version of the NYLS Questionnaire has been developed by Chess and Whitbread (1978). The intent is to

allow mothers to complete the scale, to give them a general indication of their baby's temperament. The nine temperamental variables from the NYLS are included.

Other researchers (Blennow & McNeil, 1978) have based instruments on the NYLS variables of temperament, to study infant temperament at six months of age.

Stott (1976) has developed a temperament survey, the Guide to the Child's Learning Skills (1976) which identifies children with poor learning strategy. It is comprised of descriptive behaviours based on various temperamental traits. This instrument is discussed in more detail in Chapter III (refer to section on Instruments).

The Carey Infant Temperament Questionnaire (Carey, 1970) identifies temperamentally difficult neonates at age four to eight months. This scale is comprised of 70 statements with a three point rating scale. It is also based on the NYLS categories of temperament and can be completed by mothers.

Several other researchers (Garside et al., 1975; Graham et al., 1973; Stone, 1979) have developed temperament rating scales for various investigations into temperament.

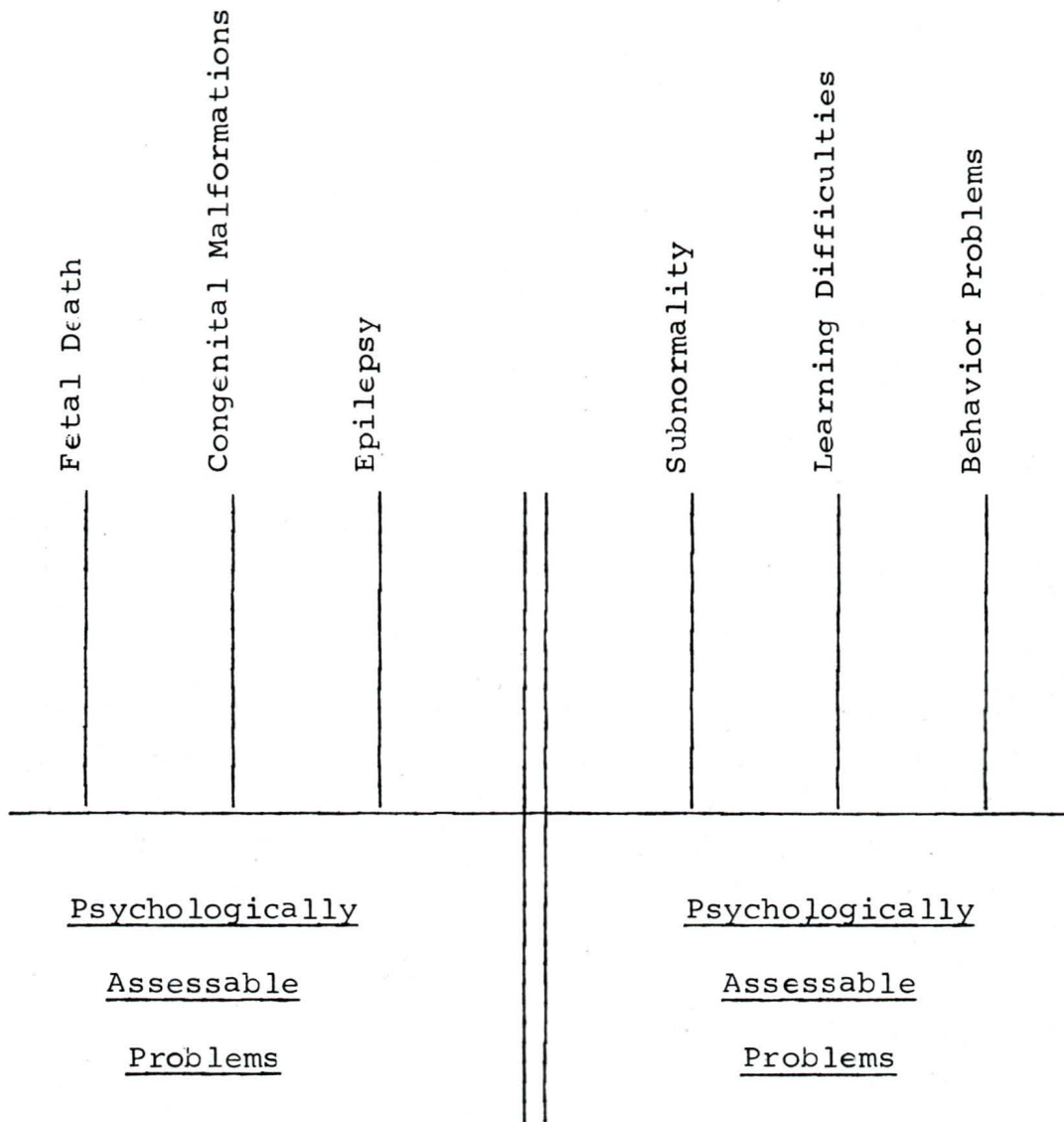
There appears to be general recognition of and increased interest in the systematic observation and measurement of temperament in children, and its role in their development.

## THE INFLUENCE OF BIRTH EXPERIENCE ON CHILD DEVELOPMENT

There is considerable support for the theory that birth may be potentially traumatic to an individual. Thus, a person's character and behaviour may be effected in various degrees of severity (Fries & Woolf, 1953; Towbin, 1971; Janov, 1973; Randolph, 1977; Pasamanick, Rogers, & Lilienfeld, 1956). 'Normal' birth may have a decided effect on the individual (McGrade et al., 1965) and should therefore be examined in relation to individual developmental factors and their subtle variations (e.g. temperament). Randolph (1977) has referred to birth as "not a mere psychologic fright, but a total catastrophic assault which the infant's body will never forget " (p. 22). The birth experience may, in itself, be more stressful to some individuals than others, all other factors being equal (Barnes, 1975).

The 'continuum of reproductive casuality' (Pasamanick et al., 1956) suggests that there are many psychological and physical variables acting on the mother which, in turn, effect the growing fetus accordingly in a graduated way (Prince & Adams, 1978, p. 106; refer to Figure 1); birth being the final stage of the reproductive cycle.

Janov (1973) and others (Greenacre, 1945; Hubbard, 1950; Randolph, 1977) have hypothesized that the neonate



Pasamanick's Continuum of Reproductive Casualty

FIGURE 1

has the potential of storing 'memory patterns' or traces based on sensations at the prenatal and birth stages.

These traces could be registered passively by the fetus/neonate in what has been termed as the 'reactive mind'

(Hubbard, 1950):

"The entire physical pain and painful emotion of a lifetime, whether the individual 'knows about it or not, is contained, recorded, in the engram bank. Nothing is forgotten." (p.xiii)

Stored tension is the result of trauma, or "any amount of pain that cannot be smoothly integrated into the system; a quantity of pain that overloads our integrative capacities"

(Janov, 1973, p. 44).

Studies related to birth experience and neonatology have focused on discovering relationships between the more obvious sets of natal data (e.g. Apgar scores and birth complications) and later developmental factors: Learning ability, motor development, psychological and neurological evaluation, and behaviour disorders (Umansky, 1976; Delys, 1975; Smith et al, 1972; Cott, 1974). These variables appear to be easier to measure than temperament.

Montagu (1950) has suggested that birth may be experienced as trauma to some fetuses and that the experience

"may to a more or less important extent influence the later psychic development of the organism" (p. 133).

Greenacre (1945) has pointed to the lack of studies concerning any 'subtler effects' versus gross trauma, related to the "type of birth experience" (pp. 40-41). A review of the current literature suggests that this problem may have been virtually ignored. This author found no systematic research into the specific relationship between psychophysical birth experience and later temperament development.

#### The Effect on Personality, Learning and Behaviour

Personality, learning and behaviour are highly related to temperament. The relationship of birth to these areas of development is relevant to this study.

Results from the Child Development Study (Smith et al., 1972) indicated that normal and abnormal developmental criterion groups of children could be indentified at age four years, 98.4% of the time. Predictor variables employed included: (1) birth labour, stage two (2) labour complications (3) age of first cry of neonate and (4) age of first breath. These birth variables were clearly linked to later development.

Further variations in birth variables result from such general birth factors as mode of delivery (Caesarean versus Vaginal) and the number of previous births of the mother (Primiparous versus Multiparous). Correlations to later developmental factors have been associated to these variables. While studies have indicated that mode of delivery is in itself, not an important factor in maternal attachment (Williams, 1979) other research has indicated that this factor may influence activity patterns in neonates; e.g. Peiper et al., (1964) have noted greater restlessness in Caesarean born versus Vaginal born infants. Brazelton (1970) has documented a correlation between early learning performances of newborns and anesthetics administered during delivery (Caesarean deliveries usually involve anesthetics.).

Some researchers (Benedek, 1949) have suggested that first-born infants generally experience more trauma at birth. The findings of Sameroff and Kelly (unpublished) indicated first-born infants were more active and adaptable than later-borns. Similarly, Benedek (1949) has noted more 'fitful' activity patterns in such children. Mussen et al., (1969) in their review of information on first-borns,

explain that these children tend to more aggressive, conforming and nervous behaviours than others. Further, that a disproportionate number of first-borns are at child guidance centres and on the other hand, attain high scores on intelligence and aptitude tests; a finding also supported by a study conducted by Davie, Butler, Goldstein and Alberman (1972). Length of labour has been shown to be negatively and significantly correlated ( $p < .05$ ) to the number of previous births of mothers (McGrade, Kessen, & Leutzendorff, 1965). This factor, in itself, suggests differential birth experiences for first-borns and later-borns. There are many other birth factors associated to primiparous births which may have a direct effect on the first-born's development of behaviour and personality.

Researchers have studied both physical and psychological events at birth which may correlate to later behaviour and personality development. Randolph (1979) has suggested that the stimulation of chemicals and hormones at birth due to specific infant reactions to the process, may influence his later emotional response to stress. Janov (1973) supports this view and further believes that a child's irritability may result from "repressed birth pain" (p. 44). Whether such registered experience at birth might be influential in

later development, has yet to be determined.

The examination of various birth factors could be a preventative step to later learning problems. Certainly, learning ability has been shown to result from an interplay of endless numbers of etiological factors (Lievens, 1974; Bradley & Caldwell, 1978; Cott, 1974; Aaron, 1979). One factor appears to be temperamental vulnerabilities that are perhaps present at birth (Stott, 1972). Kawi and Pasamanick (1958) showed prenatal hypertension and bleeding to be associated to later reading disorders in children. Lievens (1974) found a correlation between children who had had difficult births but with no evidence of neurological damage, and later learning and/or affective and emotional difficulties. Although he does not allude to temperamental traits, the children's descriptive difficulties appear to parallel Stott's (1972) description of 'temperamentally vulnerable' children who experience related learning problems. Relative to the process of learning, such children's temperamental traits are not congruent. Learning difficulties have been correlated with shortened or prolonged pregnancies and specifically, with the absence of a trained person during labour at birth (Davie et al., 1972). Other

research has indicated an association between prolonged labour and delivery difficulties and learning difficulties in children (Cott, 1974).

Birth factors have been associated with behavioural problems. Specifically, 'complications of labour' was one variable in a study of a group of women whose children showed significantly different ( $p < .05$ ) results to a control group, in correlated behaviour problems. Non-mechanical delivery difficulties were more highly associated to behaviour difficulties than mechanical factors (Pasamanick et al., 1956). McGrade et al., (1965) recognized the need for further investigation into the effect of 'normal' birth on later behavioural variations. The length of labour and the reaction of neonates to forehead stimulation (similar to birth stimulation) were two variables correlated. Results yielded a significant negative correlation ( $p < .01$ ). The researchers concluded that long labour could have produced fatigue and thus, less activity in reaction to stimulation. Alternately, the results may indicate reactivity patterns established during birth related to the amount of stimulation experienced.

Goldstein et al. (1976) have found a significant relationship between delivery and related variables at birth,

and later scores on the Cattell Infant Intelligence Scale.

'Discomfort' during pregnancy, delivery, and 48 hours postpartum significantly correlated to the 'delivery and related variables' scale.

Immediate skin contact between mother and newborn within the first half hour after birth, has been identified by researchers (Peterson & Mehl, 1978; Klaus & Kennell, 1976) as being a critical factor for bonding behaviour between mother and child, as have fear, pain and discomfort. However, it is interesting to observe that William's study (1979) did not support this finding; events at birth and immediate postpartum bonding were correlated to later attachment and were not significantly related. Attachment behaviour logically is a component in temperament development.

It is difficult to separate the influence of birth from prenatal and postnatal events, on children's personality and behavioural patterns. Prenatal factors impinge on the birth process and later developmental factors (Sugarman, 1977; Stott, 1977). Negative prenatal attitudes and personal stress of mothers have been shown to effect behaviour in newborns, and later behavioural patterns (Ferreira, 1960; 1969; Stott, 1977). The mothers' prenatal tension and attitude may have been a factor in the type of birth experience (Crawford, 1969).

It may have been a critical factor in their children's later behavioural patterns.

The importance of birth on development can be summarized in the words of Arms (1977): "The birth experience makes a lasting impression on the minds of both the birthing mother and her infant." (p. 8)

### Traditional Birth Practices Versus Recent Trends

The recognized impact of birth events on child development has caused an increased awareness and re-evaluation of many traditional aspects, and technological advances of child-birthing practices (Randolph, 1977; Willaims & Lancaster, 1976; Kerner & Ferris, 1978; Klaus et al., 1970; Stephenson & Walker, 1978; Kitzinger, 1978). Many experts in the area, advocate changes in childbirth practices (Hardy & Ekbladh, 1978; Starkman, 1977; Bing, 1976; Pascoe, 1977; Sugerman, 1976; Liu, 1979).

Kitzinger (1978) reflects this new birth philosophy when she states: "Birth cannot simply be a matter of techniques for getting a baby out of one's body. It involves one's relationship to life as a whole . . ." (p. 27). While cultural practices influence the process, "convenience may override methods that encourage a spontaneous, effective expulsive

effort" at birth (Newton & Newton, 1972, p. 165) Mothers' feelings and needs have become a focal point for an optimal birth experience. Subtle aspects such as comfort during birth, are being recognized as important for mother and child.

There is a trend towards educating hospital staff and parents to minimize events which increase birth trauma; thus, to enhance the birth experience for mothers and their children (Sugarman, 1976; Barner, 1975; Jackson, 1978; Doering & Entwisle, 1975; Sender, 1977; Klaus & Kennell, 1976; Maynard, 1977; British Columbia Ministry of Health publicity campaign for pregnant women, 1979; 1980; Vancouver Perinatal Health Projects: "Healthiest Babies Possible" & "Parent's Choice", 1976-1978; Stephenson et al., 1978).

Much controversy has arisen over hospital versus home-birth methods of childbirth and all of the associated principles and methods. Despite the variations in how birthing procedures should be carried out, there is a common goal: an optimal birth experience. (Countryman, 1978). The basis of the difference in opinion has been technological routine safety methods, versus the 'natural' family-centered practices (Mehl et al., 1977; Normand, 1978). Recently, the trend is towards a combination of the best aspects of the two schools

of thought: to provide for a comfortable and emotionally supportive birth environment with sensible safety medical precautions (Klaus & Kennel, 1976).

Prepared childbirth through prenatal education has become more prevalent. Both psychological and physical comfort measures are important (Kitzinger, 1978). Medical professionals are more sensitive to birthing procedures and are concerned with the lack of women's participation in their own childbirth (Sugarmen, 1977; Dunn, 1976; Harrison, 1977). Lubic (1977) points to the efforts of mothers and professionals to cooperate on improving the birth event; placing importance on the emotional support of mothers during birth and birth education.

Many communities have established childbirth centres or modified hospital maternity wards to contribute to more positive birth experiences (Sender, 1977; Lubic, 1977; Hardy & Ekbladh, 1978; Kerner & Ferris, 1978; Countryman, 1978). These efforts strive to meet the needs of consumers regarding many psychological and physical birth comfort measures.

The Social Planning and Review Council of British Columbia (SPARC) has conducted surveys to examine hospital obstetric practices related to childbirth (1977; 1979). Such aspects as (1) support persons present during labour and delivery (2) analgesia and anesthetic use (3) the use of fetal monitors (4) participation of mother regarding birth procedures and (5) rooming-in regulations, were overviewed. Specifically, the more recent survey indicated a sensitivity towards comfort measures. All hospitals indicated that fathers are encouraged to attend labour and delivery, except in cases of Caesarean Sections. Immediate holding of the newborn after birth is allowed with feeding, if desired. It was noted that generally, newborns were taken to a nursery one to 24 hours after birth, with parent visitation rights. Rooming-in privileges varied from 24 hours a day to specified modified time schedules. Most hospitals allowed for modified Leboyer methods to be employed: "designed to ease a baby's transition into the new world by eliminating environmental factors which may be upsetting to the infant" (Salter, 1978, p. 84), and may include (1) dimming of delivery room lights (2) low vocal tones of persons in the delivery room (3) placing the baby on the mother's abdomen after birth (4) gentle

massage by the mother and doctor of the baby, prior to cutting the umbilical cord and (5) bathing the baby in warm water.

The increased awareness of the importance of birth is evident. Birth practices are being scrutinized:

"A non violent approach to the new being about to be born must begin before delivery and subject to scrutiny the whole technology of modern obstetrics."  
(Kitzinger, 1978, p.259)

Birth has been recognized as having a critical impact on "the entire future life of the child" (Dunn, 1976, p.791).

## THE COMFORT FACTOR DURING THE BIRTH PROCESS

The Mother-Child Symbiotic Bond and the Mind-Body Connection

A close symbiotic bond exists between mother and child (Ribble, 1965; Prince & Adams, 1978; Benedek, 1949). This relationship must be considered in relation to the events at birth and includes both psychological and physical variables. As Papalia and Wendkos (1978) acknowledge that, generally, what affects the mother during the prenatal period, affects the growing fetus; similarly, Lux Flanagan (1962) states that a baby's condition during birth will be comparable to his/her mother's condition. Comfort is a probable factor affected by the interaction of the mother's and the child's experience at birth.

The mother's birth experience and condition will be relative to the interconnections of their physical and psychological states (Randolph, 1977; Mussen et al., 1969; Dick-Read, 1944). Thus, both of these components must be included when examining the birth experience of the mother; specifically, in relation to birth comfort. A person's feelings and emotions and their physiological and biological reactions appear to be related (Randolph, 1977; Ribble, 1965; Dyer, 1976). Gatz (1970) has described the mind - body connection

in detail, citing both the cerebral cortex and the hypothalamus as being related to emotional expression. He has further determined that the 'state of mind' of an individual, is a key factor in the amount of discomfort felt from pain, even when physiologic thresholds for pain are held constant. Dyer (1976) has described a 'feeling' as being a "physical reaction to a thought" (p. 22). Conversely, other researchers (Mussen et al., 1969; Benedek, 1949) believe that there are variations in individual nervous system's reactivity sensitivities which determine the effect of "disturbing psychological events" (Mussen et al., 1969, p. 49). The human mind and body functions are closely aligned. "The mind - not only the uterus - is an important factor in birth." (Kitzinger, 1978, p. 134)

The mother's birth experience likely has an effect on the neonate's experience, as indicated above. For instance, mothers who are 'emotionally tight'<sup>2</sup> during birth, probably physically affect the neonate. There are many possible psychological and physical variables affecting both the

2 Information from a discussion with Dr. Basil Boulton, November, 1979.

mother and her child at birth, which may affect the child's experience at the time; a factor which may influence congenital temperament development in the child.

### Mother's and Neonate's Psychological and Physical Comfort at Birth

Comfort is a central theme in birth techniques (Lou, 1977; Joseph & Cucco, 1977; Kitzinger, 1978). Ironically, many relaxation comfort methods of primitive cultures are being examined (Dunn, 1976). While American culture has viewed pain as an expectation of childbirth, other cultures use methods to avoid discomfort (Newton & Newton, 1972). Both physical and psychological comfort variables should be examined relative to the type of experience the mother and neonate have at birth, and ultimately, to the child's development:

"A negative birth experience in which fear, pain and discomfort predominate over experiencing birth as a positive emotional event may have far reaching consequences."(Peterson & Mehl, 1977, p. 228)

Kitzinger (1978) has outlined many important birth variables relevant to mother comfort: (1) prenatal preparation (2) emotional support during labour and delivery (3) mother attitude toward birth (4) relaxation techniques (5) general mother 'state of mind' during birth.

Medical devices and active management techniques (e.g. analgesia, forceps, labour inducement; intravenous and fetal monitors) can present some risks and effect comfort at birth (Starkman, 1977; Sugarman, 1977; Kitzinger, 1978; Dunn, 1976) although, the benefits are acknowledged. There is a growing belief that "wherever possible hospital routine should not interfere with the comfort and dignity of a woman giving birth" (Zimmerman et al., 1977, p.36).

Mother 'state of mind' is an important comfort component. Researchers (Crawford, 1969) have indicated that anxiety symptoms often caused by delayed labour (Ferreira, 1965), create uterine dysfunction among other physiological effects (Smart & Smart, 1972), and thus, distress in the newborn. Emotional support by hospital staff and fathers is an important aspect of mother comfort (Kitzinger, 1978; Joseph & Cucco, 1977).

'Couvade', the paternal participation custom in some primitive cultures, at or before birth focuses on male empathy for the mother (Ferreira, 1969, p. xiii). Sometimes in our culture, allowances are not always made for support persons, as in a Caesarean birth (Williams et al., 1979).

Childbirth preparation helps to alleviate mother stress at birth (Smith, 1979). That aspect plus emotional support help to decrease fear, lack of confidence and loneliness which contribute to pain during birth (Dunn, 1976; Joseph & Cucco, 1977), particularly for primiparous mothers. Prenatal classes focus on special breathing and other relaxation techniques conducive to comfort. Specialized methods are advocated by Lamaze, Dick-Read, Leboyer, Bradley, and Kitzinger among others (Joseph & Cucco, 1977; Kitzinger, 1978; Scott & Rose, 1976; Doering & Entwisle, 1975).

The influence of Lamaze training has been a focus in recent research studies on childbirth. Lamaze is perhaps more acceptable to the medical profession than other alternate birthing techniques (Scott & Rose, 1976). One study (Scott & Rose, 1976) compared 129 Lamaze trained primiparae women with a matched control group of women without prepared childbirth training. The results showed more spontaneous deliveries and less analgesia or anesthetic used, for the Lamaze group. The researchers concluded that although they did not measure emotional or comfort factors, the Lamaze

3 Information from a discussion with Dr. H. O. Brown, June, 1980.

group were better able to handle the birth experience than the prepared women. Kirschener (1975) found in her study that 'choosers' of Lamaze techniques showed a significantly more healthy level of bodily concern when compared to 'non-choosers' of the method. 'Nonchoosers' tended to be more anxious or deny concern for their body at birth. Significantly more positive birth experiences were reported by 'choosers' from scores derived on a Postpartum Questionnaire versus 'nonchoosers'. Specifically, 'choosers' had more positive feelings, more satisfaction with the experience, less crying and moaning, and less discomfort and fear. A subgroup of women (12 out of 56) were rated by their attending obstetricians, on their observations of the women's childbirths. These ratings by contrast to the women's evaluations of the experience, did not differ for the two study groups of women. Generally, this finding supports the notion that women are the best judges of their own birth experience regarding the more subtle aspects ( e.g. comfort feelings) of the event.

Both studies suggest that Lamaze training provides women with emotional preparedness for childbirth and reportedly, more positive birth experiences, from the mothers' points of view.

The effect of mother comfort on the neonate during birth has been alluded to earlier in this paper. This factor combined with independent events that impinge on the fetus/neonate will influence the type of birth experience the infant has. The theory that the newborn "eats, breathes and feels with his entire body" (Ribble, 1965, p. 40) suggests that she is vulnerable to the birth experience and related discomforts. Mussen et al. (1969) and others (Smart & Smart, 1972; Ribble, 1965; White, 1975) have indicated that neonates strive to relieve discomfort which causes anxiety (Benedek, 1949). Thus, discomfort during birth may also cause anxiety.

The neonate is thought to experience "enormous amounts of sensory stimulation" during birth (Greenacre, 1945, p. 49). Kitizinger, (1978) has expressed a similar view. Arms (1975) and Dr. Caldeyro Barcia (President of the International Federation of Gynecologists and Obstetricians) in a recent newspaper article (Bateson, 1980) have indicated that induction of labour may cause the neonate to have a difficult trip down the birth canal. Thus, researchers have reviewed the use of labour stimulants (Visscher et al., 1977). Similarly, excessive pushing during labour, by the mother, is felt to be hard on the neonate (Kitizinger, 1978). Barcia

and others (Arms, 1975; Dunn, 1976; Stewart & Stewart, 1977) have further criticized the common and convenient delivery position; the mother flat on her back with her feet in stirrups. They believe this position causes mother tension and possible detrimental effects on the fetus.

Fetal monitors have recorded a decrease in uterine blood flow to the fetus when mothers have felt pain and stress (Switzer, 1977). This indicates that anesthetics administered under these circumstances, may be relatively less harmful to the newborn.

During the immediate postpartum period, skin to skin contact has been said to be comforting to the newborn (Smart & Smart, 1972). Ribble (1965) believes that the mother's touch during this critical bonding period "initiates deeper inspiration" in the newborn (p. 33). She further explains that neonates have a breathing dilemma at birth; the transition from placenta respiration to normal breathing. Lux Flanagan (1962) supports this notion. "A child's subsequent ability to 'take-it' may hang in the balance during this early period" (Ribble, 1965, p. 24).

The mouth has been described as being the "centre of a newborn's universe" (Ribble, 1965, p. 27), which reduces hunger, thirst, and tension through sucking. Researchers

(Smart & Smart, 1972; Ribble, 1965) believe that our society does not place sufficient emphasis on promoting a coordinated sucking reflex. Breastfeeding after birth provides assistance to the neonate in development of this reflex, and thus comfort: "the baby's emotional development is smoothed" (Ribble, 1965, p. 37).

Birth comfort may have a decided effect on children's temperament. Although past study instruments have alluded to birth comfort variables (Stott, 1977), the Birth Survey developed for the purposes of this study, focuses on a wide range of physical and psychological comfort variables at birth.

Birth should happen under conditions of comfort as it is "never easy for the baby" (Lux Flanagan, 1962, p. 85). More care should be taken to place the "physiological needs and comfort of the neonate's internal equilibrium" before the working comfort of obstetrical personnel" (Sugarman, 1977, p. 412). The implications of psychological comfort for the neonate and mother at birth, must not be overlooked. Prince et al. (1978) clearly support this concept: "There is yet much to be discovered about the psychology of partuition . . . although no one doubts the important part

which psychological factors can play." (p. 115). Literature pertaining to birth tends to focus on the physiological and medical factors, rather than women's actual feelings while giving birth (Doering & Entwisle, 1975).

The state of the mother's body and mind should allow the birth of her baby to occur as spontaneously as possible; conditions at birth could play a significant role in temperament formation in the child. "At birth, mother and infant need each other as no two creatures can need each other again." (Stewart, D. & Stewart, L., 1977, p.594)

## CHAPTER III

## THE DESIGN AND PROCEDURES

## THE DESIGN

This study investigated the relationship between birth experience, in terms of measured comfort, and temperament in preschool Day Care children.

Two questionnaires were utilized to collect the required data. The Birth Survey, designed specifically for this study, collected retrospective information from mothers pertaining to their Day Care children's births; specifically, regarding psychological and physical variables present at birth. Present measurement of these children's temperamental patterns was collected utilizing the Guide to the Child's Learning Skills (Stott, 1976). Dual evaluations were obtained, independently, for each preschool child, from two Day Care teachers.

The data analysis comparing the hypothesized relationship between birth comfort variables and temperamental traits was carried out on the basis of the information obtained from the above two questionnaires.

## THE INSTRUMENTS

The previous review of the literature indicates that the degree and interaction of comfort variables experienced by mothers and their newborns around and during the time of birth, may be an important correlate to the development of temperament in children. To study this relationship information was obtained on the type of birth experience Day Care preschool children and their mothers had, based on the mothers' recollections.

A questionnaire was developed for this purpose in this study: the Birth Survey. Data was collected from this Survey and was compared to the children's present measured temperamental learning styles within the Day Care setting.

One rating scale has been developed by Stott to measure temperamental learning style: the Guide to the Child's Learning Skills (1976). It has been the "subject of two large follow-up studies in Britain, and two smaller ones in Canada, but the main results are not yet out." This scale appeared to be well suited to the present research. Thus, it was decided to use this temperament scale.

4 Information obtained directly from Dr. D. Stott in correspondence dated, October 12, 1979.

Temperament should ideally be measured in children, as soon after birth as possible, in order to minimize other intervening variables. One of the earliest times available for measuring a child's temperament within a semi-structured environment, is at the preschool Day Care level. Trained persons are able to rate many children in a comparable fashion, allowing for objective observations within a similar age range; particularly, when a structured rating scale such as the Guide to the Child's Learning Skills is used.

#### A. The Birth Survey

The amount of birth comfort experienced by each child and mother in the study, was measured according to the mother's recollections of each birth. This information was independently recorded by the mothers in response to an itemized, structured questionnaire pertaining to the following birth variables:

- a) the measured 'state of mind' (stress) of mothers experienced during the birth process; assumed to effect the fetus's/neonate's experience of birth;
- b) the measured physical comfort of mothers during birth; possibly effecting the fetus's/neonate's experience of birth;

- c) the judged psycho-physical birth experience (birth stress) of the fetus/neonate.

The Birth Survey was developed in the following way: information was compiled from initial discussions with mothers, paediatricians, nurses and others who are directly involved with perinatal programs and obstetrics; a thorough review of the literature related to birth comfort variables. A series of questions were developed from the above materials. Further consultation with content and format specialists in questionnaire layout was obtained. Input from mothers was obtained from a pretest of the third draft of the Survey. The fourth and final draft of the Survey was completed (Refer to Appendix C). Professional letters of content and format approval were obtained (Refer to Appendix A).

Birth comfort scores were obtained for each child from this data, according to the personal reports of the mothers on various birth events and their feelings. The scoring techniques for the Birth Survey were developed with the assistance from a qualified statistician.

- 5 The author was contacted by Dr. Christine Bradley, Dept. of Psychology, U.B.C., who is interested in examining the Birth Survey with regard to her study, "Project Prepare": to evaluate the pregnant woman in the context of her physical, psychological, and obstetric environments to later development of her child, including childbirth.

## B. The Guide to the Child's Learning Skills (GCLS)

The researcher obtained copyright permission from Dr. D. H. Stott to reproduce and utilize his GCLS for the purposes of this study. Minor modifications were made to the GCLS which included: (Refer to Appendix C)

- a new cover page adapted for the use at a Day Care Centre;
- modified instructions to the supervisor and/or teacher adapted for the Day Care preschooler;
- the Preliminary Screening section of the original GCLS was included as items 1 through 7 in the modified version;
- p. 6 of the GCLS was omitted (a checklist of additional physical handicaps etc.)
- three additional items were included:<sup>6</sup>
  - i) Do you feel that the length of time you have known this child allows you to reasonably complete the questions you have just answered on this Guide?
  - ii) Please list the types of situations or tasks that you had in mind with regard to this child's approach to learning
  - iii) Please comment below if you would like to clarify or further explain the learning behaviors of this child

The Preliminary Screening items generally classify children into those with potential learning handicaps of temperament and those whose behavioural traits reflect good

<sup>6</sup> These items were not included in the GCLS scores.

learning strategy; scores range respectively from 21 to 7. The Preliminary Screening section (Prescore) is a more general screening device than the actual GCLS which is diagnostic in nature and tends to identify specific patterns of non-learning behaviours by the descriptive behavioural items (15 in total). Stott intended the GCLS to be used especially for children who indicate potential learning-style difficulties on the Preliminary Screening section. It was decided to include both sections of the Guide in this study, for validation purposes.

Frequency and severity of specific learning habits are measured by individuals who are well acquainted with the childrens' behaviours, on a day to day basis. Day Care supervisors and/or teachers rated the children in this study.

Only items relevant to a child's individual behaviours are scored by the rater and otherwise omitted. Severity of the child's poor learning approach is measured on the basis of the following rank scoring system, for each behavioural item:

- a) SOMEWHAT. . . . . 1
- b) DEFINITE. . . . . 2
- c) SEVERE. . . . . 3
- d) (not applicable). . . . 0

Total scores for the GCLS items range on a continuum of severity of these particular traits: 0 (absence of poor learning traits) to 45 (indicates poor learning strategy). Therefore, composite scores were obtained for the children on this basis. The two teacher ratings for each child were combined for data analysis purposes.

#### POPULATION AND SAMPLE SELECTION

##### Population to be Surveyed

Day Care preschool children were chosen for the following reasons:

1. A large number of children are utilizing Day Care Centres, particularly at the preschool age level. Therefore, this setting provides a practical arena to measure preschool children's temperaments on a large scale.
2. Day Care Centres represent the first structured learning settings which children encounter outside of their homes. These settings provide relatively similar experiences under the control of teachers with similar training.

3. Past investigations into the area of Day Care children with 'special needs'<sup>7</sup> (Robinson, McDermick & Hartwick, 1973; 1974) revealed that the identified 'special needs' group showed a dominant problem in the 'Social-Emotional' category. Detailed descriptions of children in this category included behavioural and/or emotional problems that disrupted the class, and aggressive behaviours. On the basis of behavioural patterns reflecting temperament, the Day Care children are a suitable group of participants for this study, as the earlier research indicates a wide variability of temperament.

7 Definition of 'special needs': "a child perceived by the teacher/supervisor as being different from the other children in the group in any of these areas: Intellectual, Physical, Cultural, Speech and Language, Social-Emotional; to the extent that such differences will decrease the probability of attainment of personal happiness, worldly success or academic achievement." A Survey of the Day Care Child With Special Needs. 1974, p. 1.

The study sample consisted of 13 Day Care Centres, randomly selected from the list of Day Cares in the Vancouver Metropolitan area. All preschool children within these centres, in the general age grouping of three through five years of age, were eligible subjects for the study; conditional on their mothers written permission for participation. In conjunction, all consenting mothers agreed to participate in completing The Birth Survey for each child's respective birth experience.

#### Selection of Sample Day Care Centres

A list of Vancouver Day Care Centres was obtained from the 1979 British Columbia Telephone Directory. Vancouver City was chosen because it represents a good socio-economic population mix. Those Centres having obvious population biases were identified and excluded. This method excluded several church operated Centres and one Chinese Day Care. Fifty-seven entries were left on the Day Care list.

A random selection of Day Care Centres for the study was made in the following manner: a random number, 4, was chosen from a Random Number Table by blindly pointing a pencil on the page; the fourth Day Care Centre on the list of Centres was chosen as the starting point; the equal interval of every fifth Day Care was then chosen; this procedure yielded 11

## RANDOM SAMPLE OF VANCOUVER DAY CARE CENTRES

| DAY CARE                                | ADDRESS                               | PRESCHOOL TOTALS<br>(3 to 6 years) |               |
|---|---------------------------------------|------------------------------------|---------------|
|   |                                       | <u>Population</u>                  | <u>Sample</u> |
| Beach Day Care                          | 1005 Beach Ave.,<br>Vancouver, B.C.   | 21                                 | 8             |
| Broadway Group<br>Day Care              | 2677 E. Broadway,<br>Vancouver, B.C.  | 26                                 | 10            |
| Cat's Meow Day Care                     | 1732 Alberni St.,<br>Vancouver, B.C.  | 18                                 | 8             |
| Cypress House<br>Day Care               | 1904 W. 16th Ave.,<br>Vancouver, B.C. | 24                                 | 13            |
| False Creek Child<br>Care Society       | 910 W. 6th Ave.,<br>Vancouver, B.C.   | 23                                 | 7             |
| Hastings Foursquare<br>Day Care         | 505 Nanaimo St.,<br>Vancouver, B.C.   | 25                                 | 15            |
| Hastings Townsite<br>Child Care Society | 540 N. Penticton,<br>Vancouver, B.C.  | 20                                 | 9             |
| Marpole-Oakridge<br>Day Care            | 990 W. 59th Ave.,<br>Vancouver, B.C.  | 20                                 | 9             |
| Quadra Day Care                         | 2000 Trimble,<br>Vancouver, B.C.      | 21                                 | 9             |
| South Hill Child<br>Care Centre         | 645 E. 47th Ave.,<br>Vancouver, B.C.  | 15                                 | 13            |
| TOTALS . . . . .                        |                                       | 213                                | 101           |

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| DAY CARE                  | ADDRESS                                |                            |
|---------------------------|--|----------------------------|
| City Hall Day Care        | 566 W. 10th. Ave.,<br>Vancouver, B.C.  | declined to<br>participate |
| Learning Tree<br>Day Care | 4103 Brant,<br>Vancouver, B.C.         | declined to<br>participate |
| St. Michaels<br>Day Care  | 2474 Prince Edward,<br>Vancouver, B.C. | declined to<br>participate |

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Centres; after this initial selection, if a selected Day Care had an obvious bias, was an 'After-School-Care' (inferring children aged six years and older), or was an 'Under Three Centre, the Centre immediately below on the list was chosen ( This procedure was used three times.); one University Day Care chosen was omitted as not being population representative; 10 Day Care Centres remained. In order to ensure a large enough sample three additional Centres were selected by starting at the beginning of the list again. Thirteen Centres were included on the final sample list, prior to the official consent of each Centre, to participate in this study. Ten of these agreed to participate (Refer to Table I.). Three Centres declined to participate: one Day Care Board turned down the request; one Supervisor was not cooperative about distributing the questionnaires; and one Centre was too busy at the time, but not opposed to the study.

#### DATA COLLECTION PROCEDURES

##### Pretest Procedure

For purposes of finalizing the procedure for the data collection, a pretest was carried out with a sample of mothers and their children, in early Spring, 1980. Bonnie Bairns Day Care Centre, in North Vancouver was chosen

because it was outside the study population, yet, was representative of the population to be surveyed. The Supervisor agreed to assist the researcher, and pilot test both instruments: The Birth Survey and The Guide to the Child's Learning Skills.

Mothers were given a cover letter (refer to Appendix A), with a copy of the Birth Survey, explaining the intent of the pretest to the participants. The Supervisor distributed the materials and used her own discretion in excluding two children, initially, from the 20 attending her Centre. In the cover letter, mothers were asked to complete the questions and to comment if they wished to do so, on a separate sheet of paper, about the Survey's content in order to assist the researcher in finalizing the Birth Survey for the major study. Birth instruments were returned quickly and with no difficulties by nine participating mothers (one mother had two children in the Day Care Centre) who had agreed to participate. Four of the mothers wrote additional comments regarding specific question content which helped the researcher formulate the final draft of the Birth Survey. It was noted that mothers did not hesitate to put their child's name on the Birth Survey. The researcher had stressed that confidentiality would be ensured after the final collection of all questionnaires. Each child would be assigned a code number after the Birth

Surveys were matched with the corresponding Guide to the Child's Learning Skills (GCLS).

The Supervisor and one other teacher independently rated on the GCLS, each of the 10 children whose mothers had agreed to participate. Feedback from the Supervisor indicated that each rating on the GCLS took about five minutes to complete, with no difficulties in using the instrument. The Supervisor mentioned one minor concern regarding the use of several descriptive words in the GCLS that appeared somewhat negative in connotation; however, this did not seem to be an obstacle for her.

#### The Study Procedure

Final procedural arrangements were made and questionnaire format finalized, after the pretest was completed. The researcher sent a letter of introduction to each of the 13 selected Day Care Centres with a consent form to be signed by the owner or member of the Board of Directors. This consent indicated permission to include the Centre in the study (refer to Appendix B).

A follow-up phone call was made by the researcher to confirm each Centre's agreement to participate. Two Day Cares initially refused participation based on too many other commitments at that time. Arrangements were made

with the remainder of the Centres for the author to visit<sup>60</sup> each one to distribute the study materials. One additional Day Care was excluded. The supervisor showed a lack of cooperation to notify parents of the project. A total of 10 Centres participated in the final study sample.

There is a possible bias effect in the results from three Centres dropping out of the random sample. Table I indicates the Centres were generally located in East Vancouver. The final sample did include Day Cares in this area. However, it is unknown as to whether the mothers and children excluded from these Centres, would have significantly differed in their types of birth experiences and temperament ratings, to the extent of influencing the results.

Each supervisor was left with study materials (refer to Appendix C) and further clarification of the study. The following items were included in the materials:

- instructions on procedure for distribution and completion of the Birth Surveys and the GCLSs;
- mother consent forms and letters of introduction to explain the study to the mothers;
- Birth Surveys for consenting mothers, accompanied by a cover letter and instructions for completion;
- two sets of the GCLS with instructions (for two teachers)

The supervisors were instructed to complete the GCLSs for only those children whose mothers had given written consent for participation. Matched sets of completed GCLSs and Birth Surveys were required for data analysis. Teachers were instructed to rate the children on behaviours prevalent in the more structured activities of the Day Care program. Space was provided on each GCLS to itemize these activities.

The author established with each supervisor that all mothers' Birth Surveys were to be returned to the supervisor, as soon as possible. The supervisors distributed and collected the surveys with the belief that she is best acquainted with the mothers and would therefore, get the best cooperation. Day Care Centres are busy places when parents are delivering and picking up their children. They are usually in a rush to get to work or to return home. An outside person involved with this procedure would only get in the way of routine.

It was agreed that the author would contact each Centre within a few days of delivering the materials, to check on progress. It took about four days to initially visit the Centres, as the random selection of locations were situated from one end of Vancouver to the other. Continued contact was made with the supervisors during questionnaire

completion. The researcher made several repeat visits to each Day Care to gather incoming data and to encourage faster completion of the questionnaires by the teachers and mothers.

As in the pilot study, the supervisors often used their discretion in excluding certain children and their mothers from the sample for the following reasons:

- age of child was not appropriate for the study;
- the assumption that the mother would not or could not (e.g. due to language barrier) complete and/or return the survey.

It was also noted that some supervisors did not include all children and mothers in the Day Care because of their own time constraints within the Day Care program. This could not be avoided, as each Day Care was voluntarily assisting in the project. However, this fact did influence the response rate from mothers giving consent to participate in the study.

The distribution and collection of the data took two weeks (excluding weekends). With the exception of three mothers, all Birth Surveys were collected from the original consenting mothers. These mothers were interested in the study and had agreed to complete the Survey, however, one

mother went on vacation and two others repeatedly forgot to bring the Survey to the Day Care. Due to the author's time limitations, these questionnaires were omitted from the data pool. The corresponding GCLSs were also omitted from the final sample data.

All participants in the study were assured of complete confidentiality. After data collection was completed for the Birth Survey and the two teacher ratings on the GCLS for each child in the study, children were assigned a code number. The code numbers were used henceforth. Mothers were advised that results from the study would be in summary form only; no child's name would be used in the study.

The final sample population consisted of 101 preschool Day Care children and their respective mothers. The sex ratio was 48 males and 53 females.

There was no evidence of any problems regarding the actual completion of the Birth Surveys or the GCLS. Participating mothers showed high interest in their complete and thorough answers to the questions on the Survey; often providing additional detailed recollections of their unique birth experience including emotions, feelings and events that occurred at that time. It appears that the birth event does not escape a mother's memory easily, particularly

with regard to their own feelings of the experience. However, without assessing the reliability of the instrument through test/retest procedures, one cannot be confident of the accuracy of the mothers' memories on the questionnaire. Some mothers relayed positive comments to the supervisor regarding the intent of the Birth Survey. The high rate of return from the consenting mothers also indicates high interest. Corresponding sets of the GCLS were completed for the children, whose mothers completed the Birth Survey, without difficulty by the teachers. In two Day Care Centres the researcher had to clarify the meaning of independent ratings by the two teachers, for each child. This was not a major problem. All participating Day Care Centres were cooperative and expressed interest in receiving the final results of the study.

## DEFINITIONS

1. Temperament: A factor present in an individual's personality; assumed to be congenital in nature and hypothesized to be partially influenced by factors present during the birth experience. Prenatal and postnatal factors may also influence temperament formation. It is measured in terms of behavioural traits observed in the individual's approach to life situations and is commonly labelled 'behavioural style'.
2. Temperamental Learning-Style: A cluster of behavioural traits reflecting an individual's temperament, as they occur in basic learning situations. The specific patterns of traits, depending on the severity, can influence a child's learning potential. Common vulnerabilities in temperament are generally observed in 'overreacting' and 'underreacting' behavioural styles.

3. Birth Experience: The total experience of birth events and feelings occurring during labour, delivery, and the immediate postpartum period after birth. The experience includes the physical and psychological interactions between mother and fetus/neonate.
4. Comfort at Birth: A birth experience factor measured by psycho-physical variables experienced by mothers and their neonates during birth. This study focuses on the measured resulting comfort of the fetus/neonate during birth, according to the following comfort variables on The Birth Survey:
  - a) the measured 'state of mind' (stress) of mothers experienced during the birth process; assumed to effect the fetus/neonate's experience of birth;
  - b) the measured physical experience (birth stress) of the fetus/neonate during birth;
  - c) the measured physical comfort (stress) of mothers experienced during the birth process; this may reflect the neonate's physical comfort at birth.

The above three variables are, in all probability, interdependent. The mother's state of mind and often associated physical comfort, may influence the neonate's experience of psycho-physical comfort and vice versa.

#### STATEMENT OF HYPOTHESIS

It is expected that some measurable relationship exists between birth comfort and temperament as assessed by the instruments: the Guide to the Child's Learning Skills (Stott, 1976) and the Birth Survey. The relationship between birth comfort and temperament will be judged significant, and the null hypothesis will be rejected, if the probability of the correlation coefficient is less than .01.

## ANALYSIS OF DATA AND RESULTS

Data Analysis of the Birth Survey

The Statistical Package for Social Sciences (SPSS) was used in the data analysis. Principal Components factor analysis, followed by Varimax Rotation was used. All factors were selected on the criterion of Eigen values greater than 1, and whose variables were associated in a meaningful way. Six meaningful factors were found in the rotated factor matrix (Refer to Table II). The items loading .35 or higher on these factors were combined into these six subscales and named according to their content. These items are presented in the order of their factor loadings below, obtained from the Birth Survey Factor Analysis: (Refer to Table VII, Appendix F, for clarification of factor loadings.)

Factor I: General Birth Experience

The following items loaded on this factor:

- BS-11 If this child's birth was not what you had expected, did this upset you? (.734)
- BS-33 Did you feel your body and this baby were working well together and were ready for birth, at the moment of delivery? (.727)
- BS-8 Generally, did you feel that this baby had a hard time through labour and delivery? (.707)
- BS-5 Was there any unusual difficulty during the the hours of labour, before birth? (.662)

TABLE II

VARIMAX ROTATED FACTOR MATRIX OF ALL ITEMS IN THE  
BIRTH SURVEY AND GCLS QUESTIONNAIRES

| Item  | Factor |     |     |     |     |     |     |     |     |
|-------|--------|-----|-----|-----|-----|-----|-----|-----|-----|
|       | F1     | F2  | F3  | F4  | F5  | F6  | F7  | F8  | F9  |
| BS-1  | -01    | 13  | 08  | -12 | 19  | 01  | -20 | 02  | -09 |
| BS-2  | -10    | 22  | 18  | 00  | 04  | 19  | -15 | 02  | 09  |
| BS-4  | 08     | 23  | 20  | 23  | 00  | 33  | -11 | -16 | 01  |
| BS-5  | -01    | 63* | 02  | -01 | -05 | 10  | -02 | 09  | 09  |
| BS-6  | 06     | 55* | 15  | -12 | 03  | -03 | -02 | -04 | 12  |
| BS-7  | -23    | -05 | 06  | 03  | -18 | 10  | 03  | -01 | -15 |
| BS-8  | 11     | 74* | -05 | -06 | 16  | 05  | -06 | 09  | -03 |
| BS-9  | 00     | 58* | -11 | 09  | 21  | 10  | -09 | -01 | 05  |
| BS-10 | -08    | 57* | 07  | 17  | 22  | -02 | -14 | 12  | -08 |
| BS-11 | 28     | 73* | -05 | 05  | 23  | -12 | 15  | -13 | -17 |
| BS-12 | -02    | 04  | 38* | -04 | -19 | -02 | 25  | -06 | -05 |
| BS-14 | 09     | 39* | -15 | 09  | 05  | 09  | -13 | 67  | 04  |
| BS-15 | -03    | 51* | -05 | -03 | 03  | 09  | 08  | 60  | 02  |
| BS-16 | 05     | 24  | 08  | 20  | -00 | 25  | 05  | 31  | -01 |
| BS-17 | 14     | 14  | 10  | 15  | 28  | 15  | 35  | 21  | -01 |
| BS-18 | 08     | -03 | 77* | 16  | 04  | 00  | 07  | 06  | 19  |
| BS-19 | 00     | 25  | -07 | 14  | 55* | -03 | 26  | 38  | -24 |
| BS-21 | 15     | 15  | -03 | 14  | 12  | -32 | -08 | -23 | -04 |
| BS-22 | 18     | 12  | 06  | -08 | 59* | 15  | -10 | -05 | 22  |
| BS-23 | 03     | 04  | -03 | 04  | 13  | 55  | 10  | -02 | 03* |
| BS-24 | 22     | 23  | -08 | -12 | 59* | 00  | -06 | -05 | 26  |
| BS-25 | -09    | -01 | -24 | -00 | -10 | -17 | 01  | 03  | 01  |
| BS-26 | 12     | 14  | 74* | 18  | 08  | 18  | 01  | 04  | 05  |
| BS-27 | -14    | 15  | -10 | 10  | 92* | 13  | 02  | 02  | 04  |
| BS-28 | 24     | 28  | 09  | 13  | 06  | 13  | 29  | -05 | 03  |
| BS-29 | 15     | 13  | 60* | -10 | 06  | 26  | 04  | -17 | -08 |
| BS-30 | -01    | 57* | 01  | -02 | 18  | -08 | -00 | 21  | -01 |
| BS-32 | 30     | 07  | 16  | 07  | -13 | 17  | 05  | -00 | 05  |
| BS-33 | 15     | 77* | 07  | -01 | -02 | 19  | 10  | -04 | 11  |
| BS-34 | 04     | 58* | 18  | 14  | -03 | -01 | 02  | -11 | 13  |
| BS-37 | 08     | 33  | 00  | 01  | 05  | 12  | 02  | -14 | -11 |
| BS-38 | 07     | 25  | 28  | 33  | 50* | 30  | 09  | -20 | -05 |
| BS-39 | -04    | -13 | -26 | -06 | -06 | -65 | 07  | -09 | -07 |
| BS-40 | 09     | -07 | 14  | 04  | 23  | 40  | -01 | -02 | 55* |
| BS-41 | -16    | 04  | 13  | 03  | 01  | 40  | 08  | -04 | 56* |
| BS-42 | 04     | 50* | 26  | 11  | -00 | 33  | 06  | -05 | 03  |
| BS-44 | 12     | 11  | 03  | 02  | 12  | 54  | 03  | 11  | 29* |

VARIMAX ROTATED FACTOR MATRIX OF ALL ITEMS IN THE  
BIRTH SURVEY AND GCLS QUESTIONNAIRES cont.

| Item           | Factor |     |     |     |     |     |     |     |     |
|----------------|--------|-----|-----|-----|-----|-----|-----|-----|-----|
|                | F1     | F2  | F3  | F4  | F5  | F6  | F7  | F8  | F9  |
| BS-45          | -01    | 23  | 25  | 11  | 09  | 63  | 09  | 06  | 07* |
| BS-46          | 05     | 16  | 12  | -07 | -04 | 14  | -12 | 11  | -07 |
| BS-47          | -14    | 31  | 24  | 21  | 15  | 28  | 12  | 03  | -03 |
| BS-48          | 15     | -01 | 27  | 65* | 00  | -02 | -02 | 13  | 00  |
| BS-49          | 10     | -04 | 11  | 85* | 14  | 05  | -06 | 02  | 02  |
| BS-50          | 09     | 10  | 00  | 15  | 38* | -35 | -04 | 18  | 16  |
| BS-51          | -04    | 31  | 38  | 05  | -00 | -50 | -08 | 21  | 37* |
| BS-52          | 00     | -07 | -14 | 67* | 03  | 19  | 27  | -00 | 02  |
| BS-53          | -10    | 14  | 21  | 26  | 33  | -02 | 09  | 23  | 05  |
| BS-54          | 02     | 15  | 02  | 38  | -05 | -17 | 08  | 04  | 03  |
| BS-55          | 10     | 20  | 08  | 40  | 01  | 26  | 03  | -07 | 01  |
| BS-56          | -12    | -11 | -01 | -07 | 10  | -17 | 04  | -37 | -28 |
| BS-57          | 03     | 24  | 05  | -15 | 08  | -22 | -15 | 00  | 46  |
| Mom's<br>Age   | -12    | 17  | -26 | -14 | -10 | 09  | -06 | -43 | -12 |
| Child's<br>Sex | -22    | -01 | 05  | 00  | -08 | 22  | -25 | -12 | -14 |
| Child's<br>Age | 19     | 16  | -04 | 25  | -22 | -08 | 15  | -04 | -06 |
| PreGCLS        | 73     | 01  | 13  | 20  | 06  | -05 | 58  | -02 | 07  |
| GCLS           | 97     | 03  | 11  | 01  | 00  | 05  | 05  | 01  | -08 |
| GCLS-1         | 61     | 06  | -07 | -01 | -07 | -05 | 30  | 08  | 03  |
| GCLS-2         | 67     | 08  | 12  | 18  | 11  | -16 | 34  | -03 | 21  |
| GCLS-3         | 23     | -08 | 15  | 06  | 03  | 27  | 52  | -12 | -15 |
| GCLS-4         | 53     | 02  | 18  | 22  | 08  | -22 | 41  | -13 | 03  |
| GCLS-5         | 52     | 07  | 10  | 25  | 02  | 01  | 52  | 01  | 04  |
| GCLS-6         | 43     | -18 | 05  | 10  | 17  | -12 | 30  | 06  | 11  |
| GCLS-7         | 69     | 01  | 11  | 20  | 02  | -01 | 44  | 06  | 04  |
| GCLS-8         | 27     | -10 | 10  | -01 | -19 | 16  | 55  | 08  | -00 |
| GCLS-9         | 57     | -00 | -06 | -09 | 07  | -02 | 14  | -04 | 02  |
| GCLS-10        | 55     | 11  | -02 | 12  | 05  | 08  | -19 | -24 | 05  |
| GCLS-11        | 71     | 10  | -05 | 04  | 00  | 12  | 13  | 09  | -00 |
| GCLS-12        | 80     | 01  | 11  | -04 | 02  | -14 | 11  | 05  | 05  |
| GCLS-13        | 69     | -02 | 16  | -12 | 13  | -07 | 07  | -07 | -01 |
| GCLS-14        | 57     | -06 | 23  | -16 | -14 | -07 | -10 | 19  | -11 |
| GCLS-15        | 69     | 18  | 13  | 01  | 16  | -01 | -03 | -08 | -02 |
| GCLS-16        | 65     | -04 | -03 | -12 | 02  | 08  | -09 | 03  | -06 |
| GCLS-17        | 42     | 04  | 08  | 15  | -03 | 11  | -08 | 04  | -07 |
| GCLS-18        | 55     | 01  | 05  | 21  | -04 | 12  | -30 | 09  | -23 |

VARIMAX ROTATED FACTOR MATRIX OF ALL ITEMS IN THE  
BIRTH SURVEY AND GCLS QUESTIONNAIRES cont.

| Item    | Factor |           |           |           |           |     |     |     |           |
|---------|--------|-----------|-----------|-----------|-----------|-----|-----|-----|-----------|
|         | F1     | F2        | F3        | F4        | F5        | F6  | F7  | F8  | F9        |
| GCLS-19 | 36     | -11       | 26        | -05       | -04       | -04 | 00  | 02  | -27       |
| GCLS-20 | 74     | 05        | -05       | 14        | 16        | 09  | 06  | 03  | -02       |
| GCLS-21 | 68     | 08        | -14       | 10        | -11       | 06  | 03  | 05  | 13        |
| GCLS-22 | 37     | 12        | 11        | 25        | -01       | 06  | 08  | -31 | -06       |
| BS      |        |           |           |           |           |     |     |     |           |
| Scale-1 | 04     | <u>92</u> | 05        | 03        | 10        | 06  | -05 | 21  | 05        |
| BS      |        |           |           |           |           |     |     |     |           |
| Scale-2 | 12     | 07        | <u>91</u> | 09        | 04        | 13  | 11  | 01  | 03        |
| BS      |        |           |           |           |           |     |     |     |           |
| Scale-3 | 10     | -04       | 10        | <u>91</u> | 08        | 10  | 06  | 07  | 04        |
| BS      |        |           |           |           |           |     |     |     |           |
| Scale-4 | 01     | 12        | 06        | 08        | 30        | 05  | 03  | 17  | <u>70</u> |
| BS      |        |           |           |           |           |     |     |     |           |
| Scale-5 | 15     | 19        | 38        | 20        | <u>78</u> | 11  | 04  | 03  | 19        |
| BS      |        |           |           |           |           |     |     |     |           |
| Scale-6 | 01     | 34        | -14       | -03       | 08        | -18 | -05 | 38  | -04       |

KEY

BS-x= Birth Survey Item

PreGCLS=Prescreening Score on GCLS (GCLS-1 to GCLS-7)

GCLS= Score on GCLS (GCLS-8 to GCLS-22)

GCLS-x= GCLS item

BS Scale-x= Birth Survey Scale Score

\*= indicates the Items which comprise the BS Scale Score  
within the Factor (Fx) that the BS Scale-x weights most  
heavily.

1 All Item scores in the above Table are multiplied by 100.

- BS-30 Were any medical machines or tools used on you or this baby during labour and/or delivery? (e.g. fetal monitor; intravenous etc.) (.607)
- BS-34 Did anything change or interfere with the natural timing of the actual birth of this child? (.593)
- BS-9 Did anything frustrate or upset you during the hours before birth (labour), or during this child's birth? (.562)
- BS-10 Did you feel that this child's birth was close to what you had expected it to be like? (.556)
- BS-15 Did this length of time upset you? (length of labour) (.540)
- BS-42 Was this child taken out of the delivery room immediately after birth, for any reason? (.489)
- BS-6 Was there any major birth/delivery difficulty with this child? (.483)
- BS-14 How long was the time between your first labour contraction (stomach cramp) and when your baby was born? (.454)

The items within Factor I all relate to the general birth experience of mother and newborn, including both psychological and physical comfort variables of labour, delivery, and immediate postpartum events.

#### Factor II: Mother's Birth Support Assistance

The following items loaded on this factor:

- BS-18 Did you have a supportive comforting person with you during labour (the hours before the actual delivery of your baby)? (Please answer yes, only if the person was supportive.) (.725)

- BS-26 Did you have a supportive person with you during this baby's birth (actual delivery)? (Please include only if the person was supportive) (.719)
- BS-29 Did you or anyone use a relaxation method during birth? (eg. special breathing, massage and touching) (.629)
- BS-12 Did you take any classes to prepare you for your baby's birth? (.482)

These items in Factor II deal with support variables to mothers in preparation for and during the birth experience.

Factor III: Mother's Attitude to Pregnancy and Birth

The following items loaded on this factor:

- BS-49 Some women feel that they would rather not have the baby at all because of the change they must make in their lifestyle; for example, give up their job and/or stay at home. Did you feel that way during your pregnancy with this child? (.873)
- BS-52 Some women very much want to have a baby and are happy just to be pregnant. Did you feel this way during your pregnancy with this child? (.676)
- BS-48 Some women feel that their pregnancy came at the wrong time. Perhaps they feel that they wanted to have a baby, but not just at the time when it happened. Did you feel that way when you found out you were pregnant with this child? (.668)

These items in Factor III reflect the mother's desire to give birth to her child, which includes the emotional stress related to the possible effects on her life; this emotional stress does not stop at the time of birth.

Factor IV: Psycho-physical Comfort of Neonate During Delivery and Immediate Postnatal Period

The following items loaded on this factor:

- BS-44 Did this baby stay with you from the moment of birth on (rooming-in)? (.742)
- BS-23 Were you allowed to choose your own body position as this baby was being born? (.613)
- BS-45 When did you first feed this child? (.566)
- BS-51 If yes, (mother had major stress or unhappiness during pregnancy) please explain . . . (-.487)
- BS-40 If yes, (mother held child immediately after delivery) were you in a comfortable position to hold this child immediately after birth? (.438)
- BS-41 Did this child seem to enjoy being cuddled and touched immediately after birth? (.392)

One can only assume physical and psychological stress of the fetus/neonate at the time of birth. The above items reflect both emotional and physical aspects of comfort, hypothesized to relate to the fetus/neonate according to the interaction of variables reported by the mothers. The items in Factor IV generally relate to immediate mother-infant bonding.

Factor V: Mother's Emotional State During the Birth Experience

The following items loaded on this factor:

- BS-27 If you didn't have a supportive person with you, (at delivery) did this upset you? (.855)
- BS-24 If no (was not allowed to choose body position at birth) would you have chosen a more comfortable position? (.664)
- BS-22 Did the type and mood of the room where this baby was born help you to feel as relaxed as possible? (.595)
- BS-38 What were your emotional feelings or state of mind at the moment of birth (or just before you were put under anesthesia)? (.460)
- BS-19 If you didn't have a supportive person with you (during labour), did this upset you? (.383)

All of Factor V items relate to mother 'state of mind' during her birth experience.

Factor VI: Birthorder Interaction with Labour Experience

The following items loaded on this factor:

- BS-57 If you had a child born either before or after the birth of this child, how did this birth feel to you in comparison? (.715)
- BS-56 Was this your first child? (-.620)
- BS-14 How long was the time between your first labour contraction (stomach cramp) and when your baby was born? (.503)
- BS-15 Did this length of time upset you? (labour time) (.364)

The items in Factor VI indicate a relationship between birthorder and the mother's physical and psychological comfort during the birth experience.

Scale Scores were calculated for these six subscales from the Birth Survey, by adding the individual item scores from the questionnaire (after appropriate recoding of item responses; refer to Appendix F).

#### Mother's Subjective Responses to the Birth Survey Items

Mothers' responses to open ended items on the survey were included in Appendix E. One section of the Birth Survey allowed for mothers to comment on their overall feelings of their child's particular birth experience. The instructions to mothers in completing the survey, allowed for their additional comments to be written in connection to items whose answer selection did not sufficiently allow for expressing their feelings about that aspect of their birth experience.

#### Data Analysis of the Guide to the Child's Learning Skills

The 22 items included in the GCLS Questionnaire, comprised of seven Preliminary Screening items (GCLS-1 to GCLS-7) and 15 diagnostic items (GCLS-8 to GCLS-22) were factor analyzed to examine their structure in terms of the temperamental dimensions discussed by Stott, reflecting

general tendencies to 'overreacting' and 'underreacting' temperamental learning styles. The results of the factor analysis generally indicated the existence of such a breakdown in the present data.

Certain items on the GCLS define temperament better than others.<sup>8</sup> These items are central to patterns of temperamental learning behaviours and include the following items:

- A) HE/SHE IS AFRAID TO BEGIN OR TO COMMIT HIMSELF TO AN ANSWER (UNDERREACTING)
- C) HE/SHE HAS SOLITARY, PECULIAR WAYS OF USING LEARNING OR PLAY MATERIALS (UNDERREACTING)
- D) HE/SHE ACTS WITHOUT TAKING TIME TO LOOK OR WORK THINGS OUT (OVERREACTING)
- F) HE/SHE IS OVER-ACTIVE AND FIDGETY (OVERREACTING)
- K) HE/SHE SUFFERS AT TIMES (OR CONSTANTLY) FROM A LACK OF ENERGY (UNDERREACTING)
- P) HE/SHE PREFERS HIS OWN WAY OF DOING THINGS, WHICH OFTEN DON'T WORK OUT (OVERREACTING)

The remainder of the items on the GCLS are mainly reactions to poor learning strategy.

8 Identified by Dr. Stott in a private meeting with the author in March, 1980.

The factor analysis yielded seven factors. Only one of the specific temperamental variables listed above, was contained within each of the factors, except Factor 6 which contained only reactions to poor learning strategy. The Varimax Rotated Factor Matrix yielded the following factors: (All items loading high, .35 or higher, were included on these factors)

Factor 1: (O) HE/SHE DOESN'T SEEM AWARE OF WHAT THE TASK CALLS FOR (.719)

(C)\* HE/SHE HAS SOLITARY, PECULIAR WAYS OF USING LEARNING OR PLAY MATERIALS (.507)

(N) HE/SHE SEEMS TO TRY TO ATTEND, AND IS NOT HYPERACTIVE OR DISTRACTIBLE, BUT CANNOT CONCENTRATE (.427)

Factor 2: (E) HE/SHE IS EASILY DISTRACTED (.476)

(H) HE/SHE LOOKS FOR WAYS OF EVADING LEARNING TASKS (.425)

(F)\* HE/SHE IS OVER-ACTIVE AND FIDGETY (.368)

Factor 3: (G) HE/SHE CAN AT TIMES ACT CRAZY OR UNPREDICTABLY (.748)

(M) HE/SHE HAS HOSTILE MOODS WHEN HE REFUSES TO WORK (.719)

(F)\* HE/SHE IS OVER-ACTIVE AND FIDGETY (.615)

(E) HE/SHE IS EASILY DISTRACTED (.585)

9 Item weights indicated in parentheses after each item. Refer to Table III for further details.

- Factor 4: (L) HE/SHE RELIES ON PERSONAL CHARM TO AVOID LEARNING (.715)
- (K)\* HE/SHE SUFFERS AT TIMES (OR CONSTANTLY) FROM A LACK OF ENERGY (.643)
- (H) HE/SHE LOOKS FOR WAYS OF EVADING LEARNING TASKS (.509)
- (N) HE/SHE SEEMS TO TRY TO ATTEND, AND IS NOT HYPERACTIVE OR DISTRACTIBLE, BUT CANNOT CONCENTRATE (.423)
- (J) HE/SHE SETS ABOUT TASKS AS IF HE DOESN'T CARE (.367)
- Factor 5: (A)\* HE/SHE IS AFRAID TO BEGIN OR TO COMMIT HIMSELF TO AN ANSWER (.710)
- Factor 6: (J) HE/SHE SETS ABOUT TASKS AS IF HE DOESN'T CARE (.677)
- (B) DULL OR BRIGHT AS IT PLEASES HIM TO BE (.658)
- Factor 7: (P)\* HE/SHE PREFERS HIS OWN WAY OF DOING THINGS, WHICH OFTEN DON'T WORK OUT (.907)

TABLE III  
1  
VARIMAX ROTATED FACTOR MATRIX OF  
PRESCREENING AND GCLS SCORES

| Item           | Factor |     |     |     |     |     |     |
|----------------|--------|-----|-----|-----|-----|-----|-----|
|                | F1     | F2  | F3  | F4  | F5  | F6  | F7  |
| GCLS-1         | 61     | 32  | 13  | 11  | 20  | 17  | -04 |
| GCLS-2         | 38     | 71  | 23  | 17  | 19  | 04  | 14  |
| GCLS-3         | -10    | 09  | 18  | 05  | 71  | 02  | 19  |
| GCLS-4         | 14     | 51  | 14  | 30  | 42  | 04  | 12  |
| GCLS-5         | 24     | 40  | 06  | 23  | 58  | 09  | 12  |
| GCLS-6         | 18     | 31  | 19  | 16  | 31  | 05  | -07 |
| GCLS-7         | 47     | 46  | 12  | 28  | 42  | 16  | 01  |
| GCLS-8         | 30     | -02 | -06 | -11 | 71  | 28  | -10 |
| GCLS-9         | 19     | 24  | 12  | 08  | 17  | 66  | 01  |
| GCLS-10        | 51     | 02  | 13  | 28  | -07 | 19  | 31  |
| GCLS-11        | 33     | 29  | 26  | 33  | 22  | 28  | 07  |
| GCLS-12        | 31     | 48  | 59  | 14  | 12  | 34  | 04  |
| GCLS-13        | 24     | 37  | 62  | 10  | 07  | 22  | 06  |
| GCLS-14        | 25     | 12  | 75  | 12  | -01 | 08  | -05 |
| GCLS-15        | 11     | 43  | 24  | 51  | 08  | 25  | 11  |
| GCLS-16        | 06     | 09  | 21  | 37  | 11  | 68  | 06  |
| GCLS-17        | 13     | 02  | -13 | 64  | 18  | 16  | 10  |
| GCLS-18        | 20     | 01  | 25  | 72  | -08 | 04  | 05  |
| GCLS-19        | -14    | 10  | 72  | 04  | 17  | 05  | 11  |
| GCLS-20        | 43     | 29  | 26  | 42  | 15  | 18  | 05  |
| GCLS-21        | 72     | 12  | 12  | 28  | 09  | 21  | -01 |
| GCLS-22        | 14     | 16  | 08  | 17  | 14  | 08  | 91  |
| Child's<br>Sex | -02    | -44 | -15 | 16  | -01 | -19 | -10 |
| Child's<br>Age | 42     | 11  | -03 | -02 | 09  | -14 | 28  |

1 All scores should be multiplied by .01

When the data from both questionnaires (The Birth Survey and The GCLS) were pooled, both the Preliminary Screening scores and the diagnostic scores on the GCLS all entered a single factor, with the exception of one pre-score (GCLS-3) and one GCLS score (GCLS-8) (Refer to Table II; Factor 1). These results support the notion that in the present data, these items may be considered to measure the global dimension of temperament. The specific items did not appear to measure differential components of temperamental patterns in this analysis. Therefore, the GCLS was summarized into scores called the Prescore (GCLS) and the diagnostic GCLS score, by adding the individual item scores within each of these sections of the questionnaire

#### Correlation of the Prescore and GCLS Diagnostic Score With The Birth Survey

Next, the Prescore and Diagnostic GCLS score were correlated with all items in the Birth Survey, as well as the six Scale Scores derived from the subscales of the Birth Survey. These correlations are summarized in Table IV. In

this table, those correlations significant at the  $p < .01$  level are marked with a star. This level of significance was selected to minimize the chances of a beta error. The table indicates that six of the 57 items in the Birth Survey and three Scale Scores, correlated with the Prescore (GCLS) at the  $p < .01$  level.

The GCLS diagnostic score, on the other hand, correlated at the  $p .01$  level with only three items from the Birth Survey (three of the six items which also correlated with the Prescore) and none of the Scale Scores.

This was somewhat unexpected. It would appear that the GCLS score measures very highly differentiated behaviours which may be rare in a sample of randomly selected preschool Day Care children (Refer to Table VI, Appendix D.). The Prescore, on the other hand, is intended to be a screening score to show potential temperamental handicaps or vulnerabilities which may be analyzed or differentiated further by the GCLS diagnostic scores. In summary, the GCLS appears to be too highly diagnostic for a sample of normal children, while the Prescore scale seems to have better differentiating characteristics in such a sample. Therefore, it is useful for its intended function of selecting those children requiring further diagnosis with the GCLS.

TABLE IV

PEARSON'S CORRELATIONS OF PRESORE AND GCLS WITH  
ALL OTHER VARIABLES

| Item  | Prescore | GCLS  | Item    | Prescore | GCLS |
|-------|----------|-------|---------|----------|------|
| BS-1  | -125     | 000   | BS-50   | 132      | 049  |
| BS-2  | -086     | -087  | BS-51   | -018     | 005  |
| BS-4  | 082      | 101   | BS-52   | 212      | 056  |
| BS-5  | -009     | 012   | BS-53   | 056      | -078 |
| BS-6  | 078      | 091   | BS-54   | 164      | 016  |
| BS-7  | -216     | -179  | BS-55   | 170      | 118  |
| BS-8  | 057      | 097   | BS-56   | -102     | -110 |
| BS-9  | -067     | 029   | BS-57   | -069     | 004  |
| BS-10 | -063     | -035  | M-Age   | -215     | -122 |
| BS-11 | 317 *    | 318 * | C-Sex   | -267     | -254 |
| BS-12 | 153      | 005   | C-Age   | 268      | 198  |
| BS-14 | -006     | 077   | PreGCLS | 1000     | 727  |
| BS-15 | -033     | 006   | GCLS    | 727      | 1000 |
| BS-16 | 112      | 090   | GCLS-1  | 656      | 574  |
| BS-17 | 341 *    | 188   | GCLS-2  | 807      | 644  |
| BS-18 | 279 *    | 151   | GCLS-3  | 560      | 300  |
| BS-19 | 176      | 143   | GCLS-4  | 777      | 547  |
| BS-21 | 144      | 125   | GCLS-5  | 797      | 542  |
| BS-22 | 121      | 140   | GCLS-6  | 627      | 401  |
| BS-23 | 031      | 062   | GCLS-7  | 852      | 669  |
| BS-24 | 119      | 218   | GCLS-8  | 480      | 345  |
| BS-25 | -077     | -076  | GCLS-9  | 407      | 617  |
| BS-26 | 204      | 208   | GCLS-10 | 319      | 537  |
| BS-27 | -032     | -121  | GCLS-11 | 555      | 736  |
| BS-28 | 367 *    | 269 * | GCLS-12 | 647      | 830  |
| BS-29 | 169      | 218   | GCLS-13 | 541      | 722  |
| BS-30 | 005      | 005   | GCLS-14 | 348      | 627  |
| BS-32 | 256 *    | 327 * | GCLS-15 | 543      | 702  |
| BS-33 | 162      | 170   | GCLS-16 | 380      | 655  |
| BS-34 | 057      | 079   | GCLS-17 | 329      | 428  |

PEARSON'S CORRELATIONS OF PRESCORE AND GCLS WITH  
ALL OTHER VARIABLES cont.

| Item  | Prescore | GCLS | Item       | Prescore | GCLS |
|-------|----------|------|------------|----------|------|
| BS-37 | 149      | 086  | GCLS-18    | 272      | 550  |
| BS-38 | 230      | 122  | GCLS-19    | 252      | 488  |
| BS-39 | -007     | -109 | GCLS-20    | 595      | 725  |
| BS-40 | 108      | 069  | GCLS-21    | 503      | 638  |
| BS-41 | -006     | -154 | GCLS-22    | 386      | 414  |
| BS-42 | 131      | 090  | BS Scale-1 | 032      | 072  |
| BS-44 | 119      | 134  | BS Scale-2 | 272 *    | 218  |
| BS-45 | 107      | 050  | BS Scale-3 | 282 *    | 137  |
| BS-46 | 008      | 079  | BS Scale-4 | 092      | -037 |
| BS-47 | 042      | -056 | BS Scale-5 | 268 *    | 192  |
| BS-48 | 284 *    | 156  | BS Scale-6 | -095     | -021 |
| BS-49 | 227      | 121  |            |          |      |

\*  $p < .01$  (item values are multiplied by 1,000)

Note that there is a positive correlation between the Prescore and the GCLS score ( $r=.73$ ), indicating that both subscales measure aspects of the same domain. However, the Prescore scale appears to measure less severe symptoms of the behavioural traits, in this domain than the GCLS scale.

Due to its better differentiation in a random sample, the Prescore was chosen for further comparison and analysis.

#### The Relationship of Birth Experience Comfort and Temperament

The Birth Survey was intentionally designed to assess as complete a spectrum of variables associated with child-birth comfort, as could be imagined. From the final pool of 57 items included in the questionnaire, the following six items were found to correlate at the  $p < .01$  level with the GCLS Prescore: (Refer to Table IV)

- BS-11 If this child's birth was not what you had expected, did this upset you?
- BS-17 Did you feel afraid when your labour contractions started?
- BS-18 Did you have a supportive comforting person with you during labour (the hours before the actual delivery of your baby)? (Please answer yes only if the person was supportive)
- BS-28 What were your body's physical feelings as this child was being delivered, at birth?
- BS-32 Did you push harder on your labour contractions during birth, only when you felt you should?

BS-48 Some women feel that their pregnancy came at the wrong time. Perhaps they feel that they wanted to have a baby, but not just at the time when it happened. Did you feel that way when you found out you were pregnant with this child?

These six items, correlating to the Prescore GCLS, clearly reflect psychological and physical comfort variables associated with the mother at birth. Two items specifically focus on the mother's physical feelings during delivery; the remainder and majority of the items, deals with the mother's state of mind during birth.

Also, three of the six Scale Scores derived from the Birth Survey correlated at the  $p < .01$  level. This serves to substantiate the validity of pooling the items identified by the factor analysis. These three factors were:

BS Scale-2 Mother's Birth Support Assistance

BS Scale-3 Mother's Attitude to Pregnancy  
and Birth

BS Scale-5 Mother's Emotional State During the  
Birth Experience

These three Scales which significantly correlated with the Prescore GCLS, focus on the importance of the mother's emotional comfort (state of mind) during the birth event.

The results from the correlation analysis between scores from The Birth Survey and The Guide to the Child's Learning Skills, indicated that there is some relationship between birth comfort measures and temperament in children.

The composite GCLS Prescore significantly correlated with six individual items reflecting physical and psychological comfort variables during birth, and three birth comfort subscales (Scale Scores) derived from factors related to mothers' emotional state of mind during the birth experience. Correlations were significant at the  $p < .01$  level.

The Null Hypothesis was rejected and therefore the study hypothesis was supported.

## CHAPTER V

## SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This study correlated 101 preschool children's temperament ratings based on the Guide to the Child's Learning Skills, with their birth experiences, as reported by their mothers on the Birth Survey; comfort variables, pertinent to birth, were examined. Although temperament is recognized as being a factor in children's learning, its etiological roots have yet to be clearly defined. Psycho-physical birth experiences of the mother and neonate were selected as possible factors contributing to temperament development in children.

The results of this exploratory research indicated that there is a significant relationship between comfort of the mother and neonate during birth, and the child's later temperamental style, as measured by the above instruments. This supports the original hypothesis. The relationship is not necessarily a causal one. A more rigorous study would further define this relationship.

It is important to examine the results of this study in the light of implications associated to retrospective

versus prospective research designs. A retrospective design was appropriate in researching further possible etiological factors associated with temperament development; as they are as yet, not fully determined. Stott (1976; 1957) has utilized retrospective designs in his studies related to temperament and behaviour. He acknowledges retrospective design problems and limitations, but also recognizes the positive aspects. He has indicated that retrospective research allows for the possibility of uncovering new areas of information, that have previously been overlooked or not considered.<sup>10</sup> Retrospective designs are investigative in nature; 'hypothesis-forming' versus 'hypothesis-testing'. Prospective designs are not as flexible as retrospective studies regarding the selection of variables to be examined; often it is too late to include an important variable in a prospective study if initially overlooked. Retrospective research can be an important preliminary step to future

10 Retrospective research was discussed with Dr. Stott at the private meeting with the author in March, 1980.

prospective studies which focus on specific aspects of the retrospective study's results. "The methodological value of retrospective research" (studies) "in child development has been overshadowed by their inherent risks of unreliability." (Stott, 1976, p. 164).

Indeed, because retrospective interview information often relies on human memory, there are varying degrees of unreliability, dependent on the nature of the information and the conditions of the interview (Stott, 1976).

The Birth Survey data was based on retrospective data. However, it can be argued that because of the very nature of the birth experience, its meaning to and total involvement by the women involved, their recollections of the event are probably more reliable than for other circumstances. Also, the mothers completed their Surveys independently, without the researcher present. Therefore, they were not under any interview stress which has been shown to effect the reliability of the information obtained (Stott, 1976).

There is a possibility that the mothers' recollections of their birth experiences were contaminated or influenced by intervening factors. A mother may unconsciously view the birth in retrospect, in relation to her child's

behaviour since, which may bias her memory of the event. Therefore, mothers who have handicapped or more difficult children, may in retrospect, view their children's births more negatively and/or remember adverse events in more detail than mothers whose children have fewer difficulties. On the other hand, Stott and Latchford (1976) have found in their retrospective research, that mothers generally did not seem to readily associate pregnancy conditions as an explanation for their children's behaviour problems or chronic diseases, when directly asked as to what they attributed the condition.

The high percentage of return on the Birth Surveys from consenting mothers, combined with their open, detailed recorded recollections of birth, tend to indicate that birth is an important event in a woman's life; an experience that is hers and hers alone, with the exception of her child. This study supports a belief that women are an excellent source of information on birth and its possible influence on their children and themselves. This study also supports other findings (Doering & Entwisle, 1975) that indicate that women are eager to discuss their birth experiences and give accurate accounts of the event particularly when they realize they are participating in important research (Stott & Latchford, 1976).

A mother's state of mind or emotional comfort, was shown to be an important correlate to her child's later temperament attributes. It is a highly subjective factor, one that is difficult to quantify. However, the author believes that there should be a continuing and increased awareness of mothers' feelings prior to and during birth, so as to create as positive an experience as possible. A mother's needs during this period are special. They may have a critical effect on her child's development in areas that have yet to be determined. It is imperative for all persons concerned with a mother's birth experience, from labour through delivery, to listen and be sensitive to her 'sixth sense' regarding her body's functioning and psychological comfort.

The three subscales derived from the original data on the Birth Survey that were significantly correlated with the GCLS Prescore temperament ratings were all highly related to the mothers' cumulative psychological comfort at birth. Similarly, four of the six separate Birth Survey item variables were all contributory to the mothers' states of mind.

The results yielded a positive significant relationship of Factor II, Mother's Birth Support, to later

temperament measures. This suggests that there should be a focused effort to ensure women obtain optimal amounts of physical and emotional preparation and support for birth. This aspect is particularly important for inexperienced, primiparous women. Such measures contribute to a more relaxed, positive, state of mind for the mother during birth. A positive state of mind is a good basis for a mother to have a happy birth experience; a good beginning for mother and child.

The birth experience cannot realistically be viewed in isolation to the rest of a woman's life. A woman's total attitude to the impact of having a child in her life, is interrelated to her experience at birth. The subscale Factor III, Mother's Attitude to Pregnancy and Birth, significantly correlated with the child's temperament. It is recognized that her attitude to pregnancy may also influence her postnatal behaviour towards her child; e.g. over-indulgence or resentment. This postnatal factor may be another significant environmental factor in the child's temperament development. Certainly the state of the mother's marital situation, has been previously shown to be a significant factor in pregnancy outcome and child development

studies. Factor III from the Birth Survey would be inclusive of this stress factor. The author acknowledges that birth events may not necessarily have a causal relationship to later temperament development in children. There may be tertiary prenatal and postnatal factors which influence birth experience, and thus, temperament; or have independent effects on temperament formation.

The Birth Survey subscale, Factor V, the Mother's Emotional State During the Birth Experience, clearly indicates a significant relationship to the child's later temperament. Her feelings of control of outside factors that are present or absent at birth (e.g. choice of body position during delivery; mood of the room; absence of a support person) are contributory to her reaction to the overall birth experience. This may be influential to the child's experience of birth, and thus, his/her later approach to life situations.

Some of the results were somewhat unexpected. Factor I subscale on the Birth Survey, would include any obvious physical trauma to the child during birth; yet, the correlation to measured temperament was weak. Approximately 67% of the mothers in the study felt that there had been no

major problem with their labour and approximately 55% felt there had been no major birth/delivery difficulties (close to 20% did report forceps were used during the delivery). Perhaps the sample was not large enough to correlate the incidence of physical problems with temperament; or the physical stress of birth on children may not be a significant factor in temperament formation.

Factor IV reflected variables of birth which are closely aligned to mother/infant bonding. No significant correlation was found to later temperament measures at the preschool age level. This may imply that there is too much emphasis placed on certain aspects of bonding at birth. Alternatively, the Birth Survey instrument may not have been sensitive enough to measure this factor.

The use of analgesia at birth did not appear to be a significant factor in temperament development, as assessed by the GCLS. Approximately 75% of the mothers reported that they had been fully awake at birth. The use of analgesias is related to prenatal preparation. Approximately 29% of the mothers had had previous births and at least 66% of the women in the study reported having taken

prenatal classes for this specific birth. A larger sample of women may prove to yield different results with respect to the effect(s) of analgesia on later temperament in children.

There was a negative correlation between the mother's age at birth (range: 15 years to 40 years) and the history of previous childbirth experiences, to later measured temperamental behaviours on the Guide to the Child's Learning Skills, although not at the  $p < .01$  level of significance. Factor VI tended to reflect birth order on the Birth Survey and similarly, did not show a significant correlation to the Guide to the Child's Learning Skills ratings. This is not a conclusive finding regarding birth order related to birth experience because approximately 71% of the children studied were firstborns. Thus, there was not a large enough comparative group of laterborns. The results imply that younger mothers' children are inclined to be judged as having more probable 'at-risk' temperamental traits related to learning style, as do older

mothers' children. Similarly, primary childbirth experiences ( therefore, firstborns) tend to show a greater relationship to temperamental traits which make them more vulnerable to poor learning strategy.

Theoretically, these findings may imply that a different birth experience exists for younger versus older women and for primiparae versus multiparae mothers; thus, differential experiences for the neonates. Logically, as mothers' psychological comfort at birth was shown to be highly related to their childrens' later temperament traits, both young mothers and/or initial birth experiences are the most likely targets for emotional and educational childbirth support.

The mother's personality may be an operating factor in the type of birth experience she and her child have. This study does not address itself to this possibility.

The child's age and sex was shown to have a positive and significant correlation to the GCLS Prescore. This may be the result of a difficulty in observing the GCLS items in the younger children (age ranged from approximately three years to five years). Both of these factors have been shown to be associated to temperament, in other research.

The author divided the mothers' overall subjective birth experiences into three degrees of feelings: positive; neutral or mixed feelings; and negative. Happy births were described in terms of personal growth and almost ecstatic feelings. Negative experiences revolved around fear and stress. The subgroup of women who spontaneously reported their feelings totalled over 50% of the total number in the study. Their comments are found in Appendix E.

The results of this study suggest that the emotional factor at birth was evidently more significantly associated to temperament in the children, than physical experiences. This finding validates the reported belief of professionals who place a great importance on mothers' states of mind for a good birth experience. Perhaps comfort is important as a factor in how women perceive their birth experience which may effect their attitude toward the child or the child's actual experience of birth. While birth comfort may not be a causative factor in temperament formation, the results of this study demonstrated a relationship between these two factors of birth comfort and temperament.

Birth experiences may also reflect or indirectly measure other major circumstances in a mother's life which directly influence the child's temperament prenatally or postnatally. Further studies will shed more light on this relationship.

This study generally supported the theory that birth experience is associated to the temperamental attributes of children. Towbin (1971) has stated that the very nature of the disruptive existence, imposed on the fetus during the trip down the birth canal and during birth parturition, suggests that "hypoxia and mechanical injury to the Central Nervous System, in some measure is inescapable"; that gestation and birth is an unalterable "leveling mechanism" to the individual's endowment (p. 1214). The overall result may be that individuals' potentials of performance are automatically reduced or altered by varying degrees (Towbin, 1971). The birth comfort factor encompassing both physical and psychological variables of mother and neonate, may be one factor of the birth experience associated to temperamental variations in childrens' personalities.

The author suggests the following recommendations for future research on the demonstrated relationship between mother and child comfort at birth and later temperament traits in children, as defined by the Guide to the Child's Learning Skills:

- a repeat study of this design using a modified version of the Birth Survey based on the significant subscales derived from the factor analysis, and a modified version of the Guide to the Child's Learning Skills adapted for use in a Day Care Centre;
- a larger sample of children would allow for a subgroup of children to be derived from the GCLS Prescore section of the questionnaire: those who score in the higher end of the preliminary screening section would be considered to be more 'at-risk' for potentially poor learning strategy. This group alone, would then be scored on the diagnostic section of the GCLS. This procedure would allow for a more indepth investigation into specific temperamental behavioural patterns in relation to birth comfort measures.

- a narrower age range within the children studied, preferably, aged four to five years, as learning behaviours may be more readily assessed at this age level;
- a specific preschool learning task could also be employed; the GCLS could be utilized to measure their temperamental learning styles in relation to one specific task.

REFERENCES

- Aaron, P. G. A neuropsychological key approach to diagnosis and remediation of learning disabilities. Journal of Clinical Psychology, 1979, 35, 2, 326-335.
- Aleksandrowicz, M. K., & Aleksandrowicz, D. R. The molding of personality: a newborn's innate characteristics in interaction with parent's personalities. Child Psychiatry and Human Development, 1974, 5, 1, 231-241.
- Arms, S. Immaculate Deception. Boston: Houghton Mifflin, 1975.
- Arms, S. Why women must be in control of childbirth and feminine health services. In L. Stewart & D. Stewart (Eds.), 21st Century Obstetrics Now!, (2nd ed.) Vol. 1 Chapel Hill: NAPSAC Inc., 1977.
- Avery, M. Does delivery by section matter to the infant? The New England Journal of Medicine, 285, 16, 917-918.
- Barnes, F. Accidents in the first three years of life. Child: Care, Health and Development, 1975, 1, 421-433.
- Bateson, H. Birth speed-ups criticized. The Province, 1980, April, B5.
- Benedek T. The psychosomatic implications of the primary unit: mother-child. American Journal of Orthopsychiatry, 1949, 19, 642-654.
- Bing, E. Childbirth: liberated labor. Harper's Bazaar, 1976, November, 103; 187.
- Blatz, W. Understanding the Young Child. Toronto: Clarke, Irwin, 1944.
- Bradley, R. H., & Caldwell, B. M. Screening the environment. American Journal of Orthopsychiatry, 1978, 48, 1, 114-130.
- Brazelton, T. B. Psychophysiologic reactions in the neonate, 1. The value of observation of the neonate. Journal of Pediatrics, 1961, 58, 4, 508-512.
- Brazelton, T. B. Effects of prenatal drugs on the behavior of the neonate. American Journal of Psychiatry, 1970, 126, 9, 95-100.

Brown, G. W. Temperament and child development. Journal of Learning Disabilities, 1973, 6, 9, 557-561.

Cameron, J. R. Parental treatment, children's temperament, and the risk of childhood behavioral problems: 2. Initial temperament, parental attitudes, and the incidence and form of behavioral problems. American Journal of Orthopsychiatry, 1978, 48, 1, 140-147.

Campbell, S. B., Endman, M. W., & Bernfeld, G. A three-year follow-up of hyperactive preschoolers, into elementary school. Journal of Child Psychology and Psychiatry, 1977, 18, 3, 239-249.

Carey, W. B. A simplified method for measuring infant temperament. Journal of Pediatrics, 1970, 77, 2, 188-194

Chess, S., Thomas, A., & Birch, H. The individual child's response to the environment. American Journal of Orthopsychiatry, 1959, 29, 4, 791-802.

✓ Chess, S. Temperament and learning ability of school children. American Journal of Public Health, 1968, 58, 12, 2231-2239.

✓ Chess, S., & Whitbread, J. How to Help Your Child Get The Most Out of School. New York: Dell Publishing Co. Inc., 1974.

Coleman, L. Problem kids and preventive medicine: the making of an odd couple. American Journal of Orthopsychiatry, 1978, 48, 1, 56-70.

Cott, A. Treatment of learning disorders. Orthomolecular Psychiatry, 1974, 3, 4, 343-355.

Countryman, B. Alternative styles for childbirth, Part I: Why parents aren't satisfied with the status qua. The Journal of Nursing Care, 1978, 11, 8,

Countryman, B. Alternative styles for childbirth, Part II: Options for expectant parents. Journal of Nursing Care, 1978, 11, 9, 8-10.

Crawford, M. I. Physiological and behavioral cues to disturbances in childbirth. Bulletin of the American College of Nurse-Midwifery, 1969, XIV, 1, 13-24.

- Davie, R., Butler, N., Goldstein, H., & Alberman, E. et al.  
(In association with the National Children's Bureau)  
From Birth to seven, 1972.
- Delys, P. A study to investigate various factors that influence infant development prior to six months of age.  
Disser. Abstracts Intn., 1976, 37, (3-B), 1428-B.
- Dick-Read, G. Childbirth Without Fear. New York: Harper & Row, 1944.
- Doering, S. G., & Entwisle, D. R. Preparation during pregnancy and ability to cope with labor and delivery.  
American Journal of Orthopsychiatry, 1975, 45, 5, 825-837.
- Dunn, P. M. Obstetric delivery today: for better or for worse? The Lancet, 1976, 1, April 10, 790-793.
- Dyer, W. W. Your Erroneous Zones. New York: Avon Books, 1976.
- Engelhart, M. D. Methods of Educational Research. Chicago: Rand McNally, 1972.
- Ferreira, A. J. Emotional factors in the prenatal environment. Journal of Nervous and Mental Disorders, 1965, 141, 108-118.
- Fries, M. E., & Woolf, P. J. Some hypotheses on the role of the congenital activity type in personality development.  
The Psychoanalytic Study of the Child, 1953, VIII, 48-62.
- Frost, J., & Minisi, R. Early Childhood Assessment List. New Jersey State Dept. of Education, Reg. 9, New Jersey. Contract OEC-0-74-7904, the U.S. Office of Educ.: Bureau of Education for the Handicapped, U.S. Dept. of Health, Education & Welfare.
- Garside, R. R., Birch, H., Scott, D. Mc., Chambers, S., Kolvin, I., Tweddle, E. G., & Barber, L. M. Dimensions of temperament in infant school children. Journal of Child Psychology and Psychiatry, 1975, 16, 3, 219-231.
- Gatz, A. J. Manter's Essentials of Clinical Neuroanatomy and Neurophysiology. (4th ed.) Philadelphia: F. A. Davis Co., 1970.

- Goldstein, K. M., Caputo, D., & Taub, H. B. The effects of prenatal and perinatal complications on development at one year of age. Child Development, 1976, 47, 613-621.
- Graham, P., Rutter, M., & George, S. Temperamental characteristics as predictors of behavior disorders in children. American Journal of Orthopsychiatry, 1973, 43, 3, 328-339.
- Greenacre, P. The predisposition to anxiety. Psychoanalytic Quarterly, 1941, 10, 66-94.
- Greenacre, P. The biological economy of birth. Psychoanalytic Study of the Child, 1945, I, 31-51.
- Hardy, C. T., & Edbladh, L. Hospital meets patient demand for 'home-style' childbirth. Hospitals: Journal of the American Hospital Association, 1978, 52, March 1, 73-80.
- Harrison, M. Birth as the first experience of mothering. In L. Stewart, & D. Stewart (Eds.), 21st Century Obstetrics Now! (2nd ed.). Vol. I. Chapel Hill: NAPSAC Inc., 1977.
- Heyneman, S., & Mintz, P. C. The Frequency and Quality of Measures Utilized in Federally-sponsored Research on Children and Adolescents (draft). Contract HEW 105-76-1120, Dept. of Health, Education & Welfare, Spring, 1976.
- Hubbard, L. R. Dianetics: The Modern Science of Mental Health. Leicester: Lonsdale & Bartholomew Ltd., 1950.
- Jackson, M. All in the family: The quiet revolution in the Canadian way of birth. The Canadian: The Province, 1978, August 12, 5-8.
- Janov, A. Preventing Neurosis in Children, The Feeling Child. New York: Simon & Schuster, 1973.
- Joseph, L., & Cucco, U. P. a doctor discusses Natural Childbirth. Chicago, Budlong Press Co., 1977.
- Keogh, B. K., & Becker, L. D. Early detection of learning problems: questions, cautions and guidelines. Exceptional Children, 1973, 40, 1, 5-11.

- Kerner, J., & Ferris, C. B. Alternate birth center in a community teaching hospital. Obstetrics and Gynecology, 1978, 51, 3, 371-373.
- Kirschner, D. A. Personality characteristics of choosers versus nonchoosers of lamaze training and factors affecting reported childbirth experience. Disser. Abstracts Intn., 1976, 36, (12-B) Pt. I, 6386-B.
- Kitzinger, S. The Experience of Childbirth. (4th ed.). Markham: Penguin Books Canada Ltd., 1978.
- Klaus, M. H. & Kennell, J. H. Maternal-infant bonding. St. Louis: C. V. Mosby Co., 1976.
- Klaus, M. H., Kennell, J. H., Plumb, N., & Zuehlke, S. Human maternal behavior at the first contact with her young. Pediatrics, 1970, 46, August, 187-191.
- Korner, A. F. Some hypotheses regarding the significance of individual differences at birth for later development. Psychoanalytic Study of the Child, 1964, XIX, 58-72.
- Korner, A. F. Individual differences at birth: Implications for early experience and later development. American Journal of Orthopsychiatry, 1971, 41, 4, 608-619.
- Lievens, P. The organic psychosyndrome of early childhood and its effects on learning. Journal of Learning Disabilities, 1974, 7, 10, 626-631.
- Liu, Yuen Chou. Position during labor and delivery: History and perspective. Journal of Nurse-Midwifery, 1979, 24, 3, 23-26.
- Loomis, E. A. Jr. & Meyer, L. R. Observational research with emotionally disturbed children: Session II symposium, 1958: 2. Observation and recording - a simultaneous process. American Journal of Orthopsychiatry, 1959, 29, 3, 574-582.
- Lubic, R. W. The maternity center association's childbearing center. The Journal of Reproductive Medicine, 1977, 19, 5, 293-294.

Lubic, R. W. Comprehensive maternity care as an ambulatory service - maternity center association's birth alternative. Journal of N.Y.S.N.A., 1977, 8, 4, 19-24,

Lux Flanagan, G. The First Nine Months of Life. New York: Simon & Schuster, 1962.

MacBeth Williams, T. The Development of Maternal Attachment: A Longitudinal Study. Symposium presented at the biennial meeting of the Society for Research in Child Development, San Francisco, March, 1979.

Maternal Health Society. The Local Hospitals: Compare the car. Maternal Health News, 1979, 4, 1, 8-9.

Maynard, F. The joy of having your baby at home. Chatelaine, 1977, August,

✓ McDevitt, S. C., & Carey, W. B. The measurement of temperament in 3-7 year old children. Journal of Child Psychology and Psychiatry and Allied Disciplines, 1978, 19, 3, 245-253.

- McGrade, B., Kessen, W., & Leutzendorff, A. Activity in the human newborn as related to delivery difficulty. Child Development, 1965, 36, 1, 73-79.

Mehl, L. E., Peterson, G. H., Whitt, M., & Hawes, W. E. Outcomes of elective home births: A series of 1,146 cases. The Journal of Reproductive Medicine, 1977, 19, 5, 281-290.

Montagu, A. Constitutional and prenatal factors in infant and child health. In M. Haimowitz & N. R. Haimowitz (Eds.), Human Development: Selected Readings. New York: Thomas Y. Crowell Co., 1960.

Mussen, P. H., Conger, J., & Kagan, J. Child Development and Personality. (2nd ed.) New York: Harper & Row, 1969.

- Newton, N., & Newton, M. Childbirth in crosscultural perspectives. In J. G. Howells (Ed.), Modern Perspectives in Psycho-Obstetrics, Edinburgh) Oliver & Boyd, 1972.
- Normand, I. C. Dilemmas in neonatal care. Midwives' Chronicle and Nursing Notes, 1978, October, 285.
- Papalia, D. E. & Olds, S. W. Human Development. U.S.A.: McGraw-Hill Inc., 1978.
- Pasamanick, B., Rogers, M. E., & Lilienfeld, A. M. Pregnancy experience and the development of behavior disorder in children. American Journal of Psychiatry, 1956, 112, 7, 613-617.
- Pascoe, E. J. How women want to have their babies. McCall's, New York: McCall Publishing Co., 1977, 109-110.
- ✓ Persson-Blennow, I, & McNeil, T. F. A questionnaire for measurement of temperament in six-month-old infants: development and standardization. Journal of Child Psychology, 1978, 20, 1, 1-13.
- Peterson, G. H., & Mehl, L. W. Psychological outcome. In L. Stewart, & D. Stewart (Eds.), 21st Century Obstetrics Now!, (2nd ed.) Vol. 1. Chapel Hill: NAPSAC Inc., 1977.
- Peterson, G. H., & Mehl, L. E. Some determinants of maternal attachment. American Journal of Psychology, 1978, 135, 10, 1168-1172.
- Pieper, W. J., Lessing, E. E., & Greenberg, H. A. Personality traits in cesarean-normally delivered children. American Medical Association Archives of General Psychiatry, 1964, 11, November, 466-471.
- Prince, J., & Adams, M. E. Minds, Mothers, and Midwives. Edinburgh, London & New York: Churchill Livingstone, 1978.
- Rainer, J. D. Heredity and character disorder. American Journal of Psychotherapy, 1979, XXXIII, 1, 6-16.
- Randolph, B. M. Birth and its effects on human behavior. Perspectives in Psychiatric Care, 1977, XV, 1, 20-26.

- Ribble, M. A. The Rights of Infants. (2nd ed.) New York: Columbia University Press, 1965.
- Richman, N., Stevenson, J. E., & Graham, P. J. Prevalence of behavior problems in 3-year-old children. An epidemiological study in a London borough. Journal of Child Psychology and Psychiatry, 1975, 19, 5, 295-297.
- Robinson, G. C., McDermick, P., & Hartwick, D. D. A survey of the day care child with special needs. Unpublished report funded jointly by the Department of Paediatrics, university of British Columbia and the Ministry of Human Resources, Government of British Columbia, 1973; 1974.
- Rugh, R., Shettles, L. B., & Einhorn, R. N. From Conception to Birth: The Drama of Life's Beginnings. New York, Hagerstown, San Francisco, London: Harper & Row Publishers, 1971.
- Salter, A. Birth without violence: A medical controversy. Nursing Research, 1978, 27, 2, 84-88.
- Sameroff, A. J., & Kelly, P. Socio-economic status, racial and mental health factors in infant temperament. Unpublished manuscript. no date.
- Schaeffer, E. S., & Aaronson, M. R. Summary of research for Schaeffer-Aaronson Systems. In E. G. Boyer, A. Simon, & G. Karatin (Eds.), Measures of Maturation, An Anthology of Early Childhood Observation Instruments. Philadelphia: Research for Better Schools Inc., 1973.
- Scholom, A., Zucker, R., & Stollak, G. Relating early child adjustment to infant and parent temperament. Journal of Abnormal Child Psychology, 1979, 7, 3, 297-308.
- Scott, J., & Rose, N. Effect the psychoprophylaxis (Lamaze preparation) on labor and delivery in primiparas. The New England Journal of Medicine, 1976, 294, 22, 1205-1207.
- Sender, N. Changing from orthodox to family-centred obstetrics. The Journal of Reproductive Medicine, 1977, 19, 5, 295-297.

- Smart M. S. & Smart, R. C. Children: Development and Relationships. (2nd ed.) New York: The MacMillan Co., 1972.
- Smith, A. C., Flick, G. L., Ferriss, G. S., & Sellamann, A. H. Prediction of developmental outcome at seven years from prenatal, perinatal, and postnatal events. Child Development, 1972, 43, 495-507.
- Sostek, A. M. & Anders, T. F. Relationships among the Brazelton neonatal scale, Bayley infant scales, and early temperament. Child Development, 1977, 48, 1, 320-323.
- Social Planning and Review Council of British Columbia. Report on the Hospital Survey, 1977.
- Srommen, M. P., Brekke, M. L., Underwager, R. C., & Johnson, A. L. A Study of Generations. Minneapolis: Augsburg Publishing House, 1972.
- Starkman, M. N. Fetal monitoring: Psychologic consequences and management recommendations. Obstetrics and Gynecology, 1977, 50, 4, 500-504.
- Stephenson, S. & Walker, G. Pregnancy and infancy. Canada's Mental Health, 1978, 26, 4, 5-7.
- Stewart, D., & Stewart, L. (Eds.) 21st Century Obstetrics Now! Vol. 2 (2nd ed.), Chapel Hill: NAPSAC, Inc., 1977.
- Stone, M. H. A Psychoanalytic approach to abnormalities of temperament. American Journal of Psychotherapy, 1979, XXXIII, 2, 263-280.
- Stott, D. H. Physical and mental handicaps following a disturbed pregnancy. The Lancet, 1957, 1, May, 1006-1012.
- Stott, D. H. The Parent as Teacher. Don Mills: New Press, 1972.
- Stott, D. H. Follow-up study from birth of the effects of prenatal stresses. Developmental Medicine and Child Neurology, 1973, 15, 6, 770-787.

- Stott, D. H. Children in the womb: The effects of stress. New Society, 1977, 19, May, 329-331.
- Stott, D. H. Systematic Interview Guide No. 1: Birth to five years. (2nd ed.), 1977
- Stott, D. H. Systematic Interview Guide No. 2: Prenatal. (2nd ed.), 1977.
- Stott, D. H. & Latchford, S. A. Prenatal antecedents of child health, development, and behavior: An epidemiological report of incidence and association. Journal of the American Academy of Child Psychiatry, 1976, 15, 1, (reprint: New Haven and London: Yale University Press.)
- ✓ Stott, L. H. Factors in the achievement of general functional effectiveness. In L. H. Stott, Child Development: An Individual Longitudinal Approach. New York, Chicago, San Francisco, Toronto, London: Holt Rinehart & Winston Inc., 1967.
- Sugarman, M. Paranatal influences on maternal-infant attachment. American Journal of Orthopsychiatry, 1977, 47, 3, 407-421.
- Switzer, E. Questions every pregnant woman should have the answers to. Glamour, 1977, July.
- Thomas, A. & Chess, S. Temperament and Development. New York: Brunner/Mazel, Inc., 1977.
- Thompson, W. R. Brain and Behavior: Session II, symposium, 1959. 3. Early environmental influences on behavioral development. American Journal of Orthopsychiatry, 1960, 30, April, 306-314.
- Towbin, A. Organic causes of minimal brain dysfunction: perinatal origin of minimal cerebral lesions. Journal of the American Medical Association, 1971. 217, 9, 1207-1214.

- Umansky, W. Prediction of preschool performance in selected areas from perinatal factors. Dissertation Abstracts International, 1977, 37, (3-B), 3859-B-3860-B.
- Vancouver Perinatal Health Project. In cooperation with St. Pauls's Hospital, Vancouver, B.C. Jointly funded by the Ministry of Health, British Columbia Govt. and the City of Vancouver, Metropolitan Health Dept., "Healthiest Babies Possible" and "Parents' Choice". Two year program: initiated November, 1976.
- Westman, J. C., Rice, D. L., & Bermann, E. Nursery school behavior and later school adjustment. American Journal of Orthopsychiatry, 1967, 37, 725-731.
- White, B. L. The First Three Years of Life. Englewood Cliffs, New Jersey: Prentice-Hall, 1975.
- Williams, J. K., & Lancaster, J. Thermoregulation of the newborn. Maternal-Child Nursing, 1976, November/December, 355-360.
- Zimmerman, H. S., Turrini, T., Weiss, S., & Slepian, L. The mothers' center: Women work for social change. Children Today, 1977, March/April, 11; 12; 36.

APPENDIX A

BIRTH SURVEY CONTENT AND FORMAT LETTERS  
OF VALIDITY

THE UNIVERSITY OF BRITISH COLUMBIA

2075 WESBROOK MALL

VANCOUVER, B.C., CANADA

V6T 1W5

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FACULTY OF EDUCATION

December 11, 1979

Miss Dianne Hartwick  
Graduate Student  
Department of Psychology  
The University of Victoria

Dear Miss Hartwick:

This letter confirms that you have consulted with me about the content and format of your questionnaire assessing birth experience. I feel that through these consultations with myself, as well as those with medical experts at the University Hospital and elsewhere, your questionnaire has reached a stage where only a field test may indicate areas for modification.

As a former director of Canada's largest academic survey research centre at York University, I have had the opportunity to participate in the World Fertility Survey conducted under the auspices of the United Nations. This survey asked for more sensitive questions (e.g., frequency of intercourse, and details of birth control practiced by respondents) than your survey. Based on this experience, please let me assure you that your concern about possible subject resistance to the content of your questionnaire is unfounded for Canadian women.

While I feel unqualified to pass judgement on the content of your questions, my common sense indicates that they assess the domain of birth problems with which you are concerned. A readability test performed on the wording indicates that the questionnaire is appropriate for persons with grade 10 education. The format has been properly laid out to facilitate coding and transcription for analysis, and, finally, the questionnaire is within the ethical guidelines specified by the Social Science and Humanities Council of Canada.

We have briefly discussed some appropriate methods of analyzing your questionnaire data, and I will be available for further consultation on this matter once your data is collected and transcribed.

Yours sincerely,



Peter Braun, Ph.D.  
Assistant Professor  
Business Education

/mc

BASIL C. BOULTON  
M.D., F.R.C.P. (C), F.A.A.P.  
GENERAL PAEDIATRICS

JAMES S. POPKIN  
M.Sc., M.D., C.M., F.R.C.P. (C)  
MEDICAL GENETICS  
GENERAL PAEDIATRICS

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1958 FORT STREET, VICTORIA, B.C. V8R 1K3  
TELEPHONE (24 HRS) 595-5011

March 12, 1980

Miss Dianne Hartwick  
1009 - 235 Keith Road  
West Vancouver, British Columbia  
V7T 1M6


Dear Miss Hartwick:

I have reviewed the questionnaire attached to your birth survey. I find that the questions are pertinent and do relate to both maternal stress and infant stress. In the course of analyzing your data, I am sure you will find which questions best correlate with measures of these variables. I think that it is important to screen out those infants who have obviously had a traumatic delivery based on an abnormal labour and delivery such as the infant who might reasonably be expected to have had a severe asphyxial insult. Obviously, in this instance, measures of the child's behaviour may reflect brain damage rather than the effects of the birth experience per se. I also feel that it is important to try and screen out those instances in which the mother was under some obvious emotional trauma apart from the birth experience. Such situations as severe mental depression, or any other psychiatric condition will naturally affect the answers that you get on the questionnaire. It would, however, be interesting to know to what degree the conduct of the labour and delivery might further exacerbate an already present psychiatric or emotional problem.

I think that your study is pertinent in view of our increased awareness of the importance of the perinatal period in the terms of child development. The results of your study may turn out to be either negative or positive, but regardless, this will be a useful piece of research.

Please let me know if there are other ways in which I can help or advise.

Yours sincerely,

  
Basil C. Boulton, M.D., F.R.C.P. (c) F.A.A.P.  
Clinical Asst. Professor of Paediatrics  
University of British Columbia

BCB/cb

THE UNIVERSITY OF BRITISH COLUMBIA

2075 WESBROOK MALL  
VANCOUVER, B.C., CANADA  
V6T 1W5

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FACULTY OF MEDICINE  
DEPARTMENT OF PAEDIATRICS  
DIVISION OF POPULATION PAEDIATRICS  
250 WEST 59th AVENUE  
VANCOUVER, B.C., CANADA  
V5X 1X2  
TELEPHONE: 327-9222

March 5, 1980

TO WHOM IT MAY CONCERN

Ms. Dianne Hartwick has provided me with an outline of her experiment to determine the relationship, if any, between a mother-child birth experience in terms of birth comfort or stress, and the child's later approach to a learning situation in a day care setting. She has provided me with the Birth Survey Questionnaire, which will serve as the instrument to measure birth comfort or stress. I have reviewed this questionnaire carefully and I do not have any further additions. I think that the questions will provide valid answers to address the basic question being examined.

Yours sincerely,

  
Geoffrey C. Robinson, M.D.  
Professor and Head  
Division of Population Paediatrics.

GCR/jm

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May 27, 90

Dianne Hartwick  
#I009 - 235 Keith Road,  
West Vancouver, B.C.

Re: Birth Survey

Dear Dianne,

Please accept my apologies for the late reply to your request. Since returning from my vacation I have been inundated with numerous tasks, and I wished to take some time in reviewing your questionnaire.

I am very excited about your thesis and have been impressed from my nine years in General Practice that there is a definite co-relation between labour, delivery and maternal attitudes during pregnancy that have far reaching effects on the infant and child. All physicians share this impression, but, have no substantial studies for comparative purposes. It is gratifying to see a study of this nature originating at U.B.C.

I have given considerable thought to the questionnaire and have attempted to correlate it with my experience of, approximately, five hundred personal deliveries.

I feel your questions will cover most of the important variabilities of a case room situation from a physician point of view. I have a few suggestions that may assist you with interpreting your results.

A great deal of the maternal attitude is governed by the father's feelings toward pregnancy. A supportive father who attends prenatal classes with the future mother and coaches her through the late stages of labour assists tremendously in a trauma free delivery.

Mothers who have not attended prenatal classes or who do not have a supportive partner through labour are often distraught with pain and anxiety and require more analgesia than their more fortunate counterparts. The distress slows labour as contractions are not as effective without proper breathing techniques. Prolonged labour and medications tend to cause fetal distress and produce babies with lower apgar scores.

Regular Doctor visitations and counselling dispel a lot of the anxieties of delivery and help prevent a lot of the complications of labour and delivery. Proper diet and exercise and counselling are essential to routine delivery.

It would be of interest to correlate normally developed, healthy and well adjusted children with the response of mothers to your study. Patients are more apt to correlate that, which can be demonstrated to them in statistical or report form. The same applies to the practicing physician. Your survey, not only reflects the outlined purpose of measuring birth comfort (birth stress), but offers the prospect of valuable, statistical information for the medical community.

I look forward to the reports that come out of your survey. Thank you for the privilege of reviewing same. Good luck with your Thesis.

Yours sincerely,

# St. Paul's Hospital

VANCOUVER 1, B.C.

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October 10, 1979

Ms. Dianne Hartwick  
#1009  
235 Keith Road  
West Vancouver, B.C.  
V7T 1L5

Dear Ms. Hartwick:

I have perused the questionnaire you sent me. I cannot comment on the effectiveness of the questionnaire design but I have commented upon content and the intent of some questions. I gather from your letter that you have competent assistance with design which must be a great relief.

I hope my comments will be of assistance to you and good luck.

Sincerely

M. Bernadet Ratsoy  
Director of Nursing

MBR:w

## BIRTH SURVEY PRETEST LETTER

The following letter was given to 10 mothers to obtain their input on the questionnaire content prior to the completion of the fourth and final draft of The Birth Survey. All 10 mothers completed the Survey and submitted comments on modifications, where necessary.



## UNIVERSITY OF VICTORIA

P.O. BOX 1700, VICTORIA, BRITISH COLUMBIA, CANADA V8W 2Y2  
TELEPHONE (604) 477-6911, TELEX 049-7222

*Faculty of Education*

Dear Mother:

I am presently involved with a special project. I am interested in finding out more about helping children to learn. I want to compare a group of healthy preschool children's behavior with information about their birth. I am developing a Birth Survey to obtain this information and would greatly appreciate your input, before I complete the final draft of this questionnaire.


If you would please answer the questions about how you felt about your child's birth, and then, if you wouldn't mind making a few notes on the paper attached, regarding how you felt about the questions asked. For instance, were there any questions that were especially important to you, or any that you found were difficult to recall? Were there any questions that you felt were worded incorrectly, or difficult to understand? This type of information will help me a great deal.

I feel that it is so important to bring an awareness of the needs expressed by mothers, to the attention of other mothers and professionals. There is also room for improvement to make the birth experience most favourable for mothers and infants.

As I have a very short amount of time to gather this information, I would really appreciate your return of this set of questions with your comments, within a day or two, to Mrs. Erickson.

Again, thank you for your help.

Sincerely,

  
Dianne Hartwick, (phone: 922-1150).

APPENDIX B

ITEMS RELATED TO DAY CARE PARTICIPATION

IN THE STUDY



YOUR FILE .....

OUR FILE .....

February 28, 1980

Miss Diane Hartwick  
1009 - 235 Keith Road  
West Vancouver, B. C.  
V7T 1L5

Dear Miss Hartwick:

Since all of the child day care facilities in British Columbia are operated by either non-profit societies or individual owners, permission to visit a Centre would have to be obtained from the Society or owner of the facility.

The Ministry of Human Resources' participation in child day care is through the parental subsidy program. There are no government (provincial or municipal) operated centres in the province.

I am certain the Ministry staff in the Vancouver Regions will be pleased to assist you in establishing contact with the Societies and owners of the centres you wish to visit.

Yours sincerely

[Redacted signature]

Betty Bryant(Mrs.)  
Society Worker (Day Care)  
Family and Children's Services

BB:pm



## UNIVERSITY OF VICTORIA

P.O. BOX 1700, VICTORIA, BRITISH COLUMBIA, CANADA V8W 2Y2  
TELEPHONE (604) 477-6911, TELEX 049-7222

*Faculty of Education*

Dear Supervisor:

Several years ago, I participated in a survey undertaken by the Children's Hospital Diagnostic Centre and the Department of Paediatrics, University of British Columbia. This survey focused on children in Day Care Centres with 'special needs'. From this experience I appreciate the fact that Day Care Supervisors and Teachers are in a tremendous position to understand and observe the children's day to day behaviours.

I am presently involved with another study to compare preschool-aged Day Care children's temperaments with their birth experiences. I would like to ask you for your cooperation and assistance in comparing children's approaches to learning situations from a short behavioural checklist; with events surrounding their births, according to information obtained from a mother questionnaire.

In order to proceed with the study, I must have the attached consent form signed by the owner or the Board of Directors from your Day Care Centre. Each mother will also be asked to kindly give her written consent to allow her child to be observed and included in this project. I should stress that the children will not actively be involved: their behaviours will only be judged by Day Care staff, since they know the children best.

I look forward to speaking with you on the phone, within a few days, and I thank you for giving this your consideration.

Sincerely,



Dianne Hartwick,  
Principal Researcher.

DAY CARE CENTRE CONSENT FORM

This is to confirm that we (I) have granted permission to Dianne Hartwick to include our Day Care Centre in her project. Each child's mother will also give her written consent to have her child included in the study. Children's behaviors will only be observed and categorized on a behavioral checklist by two Day Care Teachers. Children will not actively be involved in any way. All information collected will be strictly confidential and no names will be used in the final study results. Information will be used in summary form only.

NAME OF DAY CARE CENTRE \_\_\_\_\_

NAME OF OWNER OR CHAIRMAN OF  
BOARD OF DIRECTORS \_\_\_\_\_

DATE OF APPROVAL \_\_\_\_\_

APPENDIX C

DAY CARE SURVEY PACKAGE



UNIVERSITY OF VICTORIA

P.O. BOX 1700, VICTORIA, BRITISH COLUMBIA, CANADA V8W 2Y2  
TELEPHONE (604) 477-6911, TELEX 049-7222

Faculty of Education

Dear Mother:

We have spoken to the Day Care Centre where your child is attending, to ask them to help us with a special project. We are interested in finding out more about helping children to learn. We want to compare a group of healthy preschool children's behavior with information about their birth.

We would greatly appreciate your permission to allow us to include your child in this project. Children's play and learning behavior will only be observed. Teachers will be asked to use a behavior checklist for each child. Children's names will not be used in the final results. Each child will be given a number, after the information is collected. The children's behaviors will be used in summary form only.

Your feelings about this child's birth experience are most important to us. We are interested in learning about how you, personally, felt during the birth of your child, and in particular, whether you and your child's needs were met during that time. The sharing of your knowledge and opinions will perhaps help to meet the needs of other mothers and their babies in the future. After the project is complete, we will be more than pleased to share the results with you.

If you wish your child to be part of this project, please return this letter as soon as you can to the Day Care Supervisor, with your signature and child's name below. Thank you for giving your consent.

Sincerely

[Redacted signature]

Dianne Hartwick, Principal Researcher.

-----  
SIGNATURE OF PARENT \_\_\_\_\_

NAME OF CHILD \_\_\_\_\_



## UNIVERSITY OF VICTORIA

P.O. BOX 1700, VICTORIA, BRITISH COLUMBIA, CANADA V8W 2Y2  
TELEPHONE (604) 477-6911, TELEX 049-7222


*Faculty of Education*

Dear Mother:

Thank you so much for your cooperation and agreement to help us with this project. We hope that you will find the enclosed questions interesting to answer. They will not take more than a few minutes of your time to complete, however, the information on how you, personally, felt about your child's birth, will help us a great deal. We also believe that it is important to bring an awareness of the needs expressed by mothers, to the attention of other mothers and professionals. There is also room for improvement in order to make the birth experience most favourable for mothers and infants. Women sharing information about their own experiences, most certainly helps to increase everyone's knowledge and understanding about birth.

We would really appreciate your return of this set of questions within a day or two, to the Day Care Supervisor. Again, thank you for your time and assistance.

Sincerely,



Dianne Hartwick,  
(Principal Researcher)

Phone: 922-1150

BIRTH SURVEY

THE FOLLOWING QUESTIONS WILL ASK YOU ABOUT THE BIRTH OF YOUR CHILD WHO IS PRESENTLY ENROLLED IN THE DAY CARE CENTRE. YOUR CAREFUL THOUGHT TO THE FOLLOWING QUESTIONS WILL HELP US TO LEARN MORE ABOUT THE POSSIBLE INFLUENCES OF BIRTH ON CHILDRENS' EARLY LEARNING BEHAVIORS. ONLY A MOTHER REALLY UNDERSTANDS WHAT SHE AND HER BABY EXPERIENCE AT THE SPECIAL TIME OF BIRTH. EACH MOTHER AND CHILD, TOGETHER, UNDERGO BIRTH IN THEIR OWN SPECIAL WAY. SIMILARLY, EACH CHILD APPROACHES LEARNING IN THEIR OWN WAY.

PLEASE PRINT YOUR CHILD'S NAME ON THE TAG ATTACHED TO THE UPPER RIGHT HAND CORNER OF THIS PAGE. WE WOULD APPRECIATE IF YOU WOULD ANSWER QUESTIONS ONLY WITH THIS DAY CARE CHILD OF YOURS IN MIND. AFTER THE INFORMATION HAS BEEN GATHERED FOR ALL CHILDREN IN THE DAY CARE CENTRE, YOUR CHILD'S NAME WILL BE TAKEN OFF, TO ASSURE CONFIDENTIALITY.

THE CHOICE OF ANSWERS FOR EACH QUESTION ARE NUMBERED. PLEASE CIRCLE THE NUMBER BESIDE THE BEST ANSWER FOR EACH QUESTION. FEEL FREE TO MAKE YOUR OWN COMMENTS BESIDE THOSE QUESTIONS THAT DO NOT ALLOW FOR YOUR OWN FEELINGS IN THE ANSWER CHOICES PROVIDED. IT SHOULD TAKE ONLY ABOUT TEN MINUTES FOR YOU TO ANSWER THE QUESTIONS.

ALL INFORMATION COLLECTED WILL BE STRICTLY CONFIDENTIAL AND WILL BE USED ONLY IN SUMMARY FORM. YOUR PARTICIPATION IS VOLUNTARY. IF YOU COMPLETE THIS SURVEY, WE ASSUME THAT YOU WILL ALLOW YOUR ANSWERS TO BE SUMMARIZED WITH THOSE OF THE OTHER MOTHERS TAKING PART IN THE PROJECT WITH YOU.

THANK YOU VERY MUCH FOR YOUR ASSISTANCE!

I WOULD APPRECIATE KNOWING THE MAIN REASON WHY THIS CHILD IS ENROLLED IN A DAY CARE PROGRAM:

1. This child is in Day Care because:

- 1 I believe Day Care is a good thing for children
- 2 I work outside of my home
- 3 this child needs help with his development
- 4 I feel I cannot cope with child at home
- 5 for two or more of the above reasons: #'s\_\_\_\_\_

NOW, I WOULD LIKE TO ASK YOU A FEW GENERAL THINGS ABOUT THIS CHILD'S BIRTH:

2. Was this baby born after the full nine months of pregnancy?

- 1 Yes, this baby was born on time
- 2 No, this baby was born more than three weeks before the expected date of birth
- 3 Yes, this baby was born more than three weeks after the expected date of birth
- 4 I don't know

3. Where was this child born?

- 1 in hospital
- 2 at home
- 3 in a special childbirth centre
- 4 in unusual circumstances (please explain):  
\_\_\_\_\_

4. How awake were you during this baby's birth?

- 1 I was fully awake
- 2 I was drowsy because sedative drugs were used
- 3 I was asleep because general anesthesia was used

5. Was there any unusual difficulty during the hours of labour, before birth?

- 1 No, there were no major problems during labour
- 2 My labour needed to be brought on with drugs
- 3 My waters had to be broken to start labour
- 4 The baby had trouble with lack of oxygen or some other problem, before birth

6. Was there any major birth/delivery difficulty with this child?

- 1 No
- 2 Yes, this baby was born by an operation on my stomach (Caesarean section)
- 3 Yes, forceps were used to pull this baby out
- 4 Yes, this baby's feet came out first at birth
- 5 This baby had great difficulty breathing
- 6 another difficulty (please explain):\_\_\_\_\_

\*PLEASE REMEMBER TO ANSWER FOR THIS CHILD'S BIRTH ONLY

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7. Did this baby have any major physical problem seen at birth? (for example: cerebral palsy; Down's syndrome; malnutrition)..

- 1 Yes (please explain): \_\_\_\_\_
- 2 No

8. Generally, did you feel that this baby had a hard time through labour and delivery?

- 1 No, this baby's birth went smoothly
- 2 This baby had a few but not serious troubles
- 3 Yes, very difficult because I had a hard time
- 4 Yes, very difficult because of my baby's problems
- 5 Yes, because both of us had a hard time
- 6 I have no idea

9. Did anything frustrate or upset you during the hours before birth (labour), or during this child's birth?

- 1 No
- 2 Yes (please explain): \_\_\_\_\_

10. Did you feel that this child's birth was close to what you had expected it to be like?

- 1 Yes, exactly
- 2 Only in some ways
- 3 No, many things happened that were unexpected
- 4 I don't know because I was not aware at birth

11. If this child's birth was not what you had expected, did this upset you?

- 1 No
- 2 I was slightly bothered
- 3 Yes, I was extremely upset

12. Did you take any classes to prepare you for your baby's birth?

- 1 Yes
- 2 No

13. If yes, who gave you the classes?

- 3 the Public Health Centre
- 4 the hospital where this baby was born
- 5 a special Lamaze, Read, or Leboyer group
- 6 other (please explain): \_\_\_\_\_

I WOULD ALSO LIKE TO KNOW SOME OF YOUR OWN FEELINGS DURING THIS BABY'S BIRTH:

14. How long was the time between your first labour contraction (stomach cramp) and when your baby was born?

- 1 less than 4 hours
- 2 4 to 10 hours
- 3 10 to 24 hours
- 4 over 24 hours

15. Did this length of time upset you?

- 1 No
- 2 Yes

16. How did your body's labour contractions feel to you before birth?

- 1 I rather enjoyed the feeling
- 2 I was uncomfortable but accepted the pain
- 3 I felt the pain was so bad that I still have very bad feelings about them
- 4 I can't remember

17. Did you feel afraid when your labour contractions started?

- 1 No, I was quite calm and happy
- 2 I was a little nervous
- 3 Yes, I was quite frightened
- 4 Yes, I was extremely upset and frightened

18. Did you have a supportive comforting person with you during labour (the hours before the actual delivery of your baby)? (Please answer yes, only if the person was supportive)

- 1 Yes (please specify): \_\_\_\_\_
- 2 No

19. If you didn't have a supportive person with you, did this upset you?

- 1 No
- 2 Yes

20. Did your hours of labour and the birth of this child take place in the same room?

- 1 Yes
- 2 No

21. If they were in different rooms, did changing rooms upset you?

- 3 No
- 4 Yes, a little
- 5 Yes, it bothered me a lot

22. Did the type and mood of the room where this baby was born help you to feel as relaxed as possible?
- 1 Yes, it helped me
  - 2 I didn't think about it
  - 3 No, it made me feel uneasy
23. Were you allowed to choose your own body position as this baby was being born?
- 1 Yes
  - 2 No
24. If no, would you have chosen a more comfortable position?
- 1 No, that position was fine for me
  - 2 Yes, I would have chosen another position
25. What position were you mostly in during the birth (actual delivery) of this child?
- 1 on the bed; flat on my back
  - 2 lying down on the bed with my feet in the air, held with stirrups and straps
  - 3 partly sitting up in bed with my shoulders and head held up with pillows or by another person
  - 4 sitting on a bed or chair
  - 5 lying on my side in bed
  - 6 another position (please explain):
- 
26. Did you have a supportive person with you during this baby's birth (the actual delivery)? (include only if the person was supportive)
- 1 Yes (please specify) \_\_\_\_\_
  - 2 No
27. If you didn't have a supportive person with you, did this upset you?
- 1 No
  - 2 Yes
28. What were your body's physical feelings as this child was being delivered, at birth?
- 1 my body seemed to take over; I felt good
  - 2 painful, but I accepted this pain
  - 3 I felt the pain was so bad, that I still have very bad feelings about this birth
  - 4 I can't remember how my body felt
  - 5 I was unable to feel anything at the time

29. Did you or anyone use a relaxation method during birth? (for example: special breathing; massage and touching)

- 1 No
- 2 Yes (please explain) \_\_\_\_\_

30. Were any medical machines or tools used on you or this baby during labour and/or delivery? (for example: fetal monitor; intravenous etc.)

- 1 No
- 2 Yes (please explain) \_\_\_\_\_
- 3 I don't know

31. If yes, how did this make you feel?

- 3 I felt comforted because it was for my baby's and my own good
- 4 I didn't care one way or the other
- 5 I felt uncomfortable because my body rhythms and movements were limited
- 6 I was very upset and afraid by this

32. Did you push harder on your labour contractions during birth, only when you felt you should?

- 1 Yes, I did so only when it felt natural for for my body
- 2 No, I was told to keep pushing harder even when it didn't feel right to me to push
- 3 I was asleep during this birth

33. Did you feel your body and this baby were working well together and were ready for birth, at the moment of delivery?

- 1 Yes, this baby's delivery out of my body, felt natural and smooth
- 2 My body and this baby didn't feel quite ready
- 3 No, my body and this baby definitely didn't seem ready for birth, at that moment
- 4 I can't remember; I was asleep

34. Did anything change or interfere with the natural timing of the actual birth of this child?

- 1 No, labour and delivery went ahead naturally
- 2 Yes, the actual delivery was speeded up
- 3 Yes, the actual delivery was delayed

35. If yes, please explain what happened: \_\_\_\_\_

\_\_\_\_\_

36. If yes, did this upset you?

- 1 No
- 2 Yes

\*PLEASE REMEMBER TO ANSWER FOR THIS CHILD'S BIRTH ONLY

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37. Did this baby need help to start breathing after birth?
- 1 No
  - 2 Yes (please explain): \_\_\_\_\_
  - 3 I don't know
38. What were your emotional feelings or state of mind at the moment of birth (or just before you were put under anesthesia)?
- 1 I was calm and happy
  - 2 I was a little nervous, but happy
  - 3 I was quite frightened
  - 4 I was extremely upset
39. Did you hold your child immediately (within 5 minutes after delivery)?
- 1 Yes, for less than 5 minutes
  - 2 Yes, for 5 to 10 minutes
  - 3 Yes, for 10 to 30 minutes
  - 4 Yes, for more than 30 minutes
  - 5 No
  - 6 I can't remember
40. If yes, were you in a comfortable position to hold this child immediately after birth?
- 1 Yes
  - 2 No
41. Did this child seem to enjoy being cuddled and touched immediately after birth?
- 1 Yes
  - 2 No
  - 3 I don't know
42. Was this child taken out of the delivery room immediately after birth, for any reason?
- 1 No
  - 2 Yes, for a few minutes.
  - 3 Yes, for a long time
43. If yes, was there a necessary or urgent reason?
- 1 No
  - 2 Yes (please explain) \_\_\_\_\_
- 
44. Did this baby stay with you from the moment of birth on (rooming-in)?
- 1 Yes
  - 2 Yes, except for a few minutes
  - 3 Yes, except for a day or so
  - 4 Yes, except for short periods of time
  - 5 No, this baby was kept in another room

45. When did you first feed this child?

- 1 immediately after birth
- 2 a short period after birth
- 3 hours after birth
- 4 days after birth

46. How was this baby first fed?

- 1 I bottle fed this baby
- 2 I breast fed this baby
- 3 This baby was bottle fed by someone else

47. What did you generally feel immediately after this child's birth?

- 1 I had good proud feelings
- 2 I was just glad to have it over
- 3 I had bad feelings
- 4 I can't remember or I was asleep

FURTHER, I HAVE DESCRIBED SOME FEELINGS WHICH WOMEN FEEL ABOUT THEIR BABIES AND THEMSELVES DURING PREGNANCY. COULD YOU PLEASE TELL US HOW OFTEN OR HOW STRONGLY YOU EXPERIENCED THE FOLLOWING FEELINGS DURING THE TIME OF YOUR PREGNANCY, WITH THIS CHILD? YOU MAY FEEL DIFFERENTLY NOW, BUT I WOULD LIKE TO KNOW HOW YOU FELT THEN.

48. Some women feel that their pregnancy came at the wrong time. Perhaps they feel that they wanted to have a baby, but not just at the time when it happened. Did you feel that way when you found out you were pregnant with this child?

- 1 No
- 2 only in a small way
- 3 Yes, definitely

49. Some women feel that they would rather not have the baby at all because of the change they must make in their lifestyle; for example, give up their job and/or stay at home. Did you feel that way during your pregnancy with this child?

- 1 No
- 2 Rarely
- 3 some of the time
- 4 most of the time

50. Some women have major worries or unhappiness which upset them during their pregnancy. Did you feel this way up to the birth of this child?

- 1 No; never
- 2 only for a short time
- 3 Yes; for most of my pregnancy

51. If yes, please explain \_\_\_\_\_

\*PLEASE REMEMBER TO ANSWER FOR THIS CHILD'S BIRTH ONLY

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52. Some women very much want to have a baby and are happy just to be pregnant. Did you feel this way during your pregnancy with this child?
- 1 No
  - 2 Rarely
  - 3 Sometimes
  - 4 Yes, almost always
53. Some women want to have their baby but they are afraid of all the things that will happen to them during pregnancy. They change between feeling happy about the baby and feeling depressed about the future. Did you feel this way with this child?
- 1 No, never
  - 2 I had several months feeling like this
  - 3 Yes, almost always
54. Some women really dislike the last month of pregnancy and at times dislike the unborn baby for making them so uncomfortable. Did you feel that way during your last month of pregnancy with this child?
- 1 No
  - 2 Rarely
  - 3 Sometimes
  - 4 Yes, almost always
55. Some women feel that giving birth is something very special for them and they are glad to have the chance to experience giving birth to a child. Did you feel this way at the birth of this child?
- 1 Yes
  - 2 only in a small way
  - 3 No, not at all

FINALLY, I HAVE THREE GENERAL QUESTIONS:

56. What was your age when this child was born? \_\_\_\_\_ yrs.
57. Was this your first child?
- 1 Yes
  - 2 No
58. If you had a child born either before or after the birth of this child, how did this birth feel to you in comparison?
- 1 this birth was easier
  - 2 this birth was about the same
  - 3 this birth was more difficult

THANK YOU AGAIN, FOR YOUR TIME AND ASSISTANCE. YOU HAVE BEEN A GREAT HELP TO THIS PROJECT.

INSTRUCTIONS TO DAY CARE SUPERVISOR

In this study, we are trying to relate the concept of 'birth comfort' to children's temperamental learning-style. For this reason, the survey has two sets of questionnaires: one set to assess children's temperament related to learning situations, and another to assess their mothers' birth experience: in particular, the amount of comfort experienced by mother and child at birth.

In order to get independent ratings for each child, we are asking all teachers involved in the project, to rate the children on the 22 item questionnaire of Learning Skills. Please rate only those children whose mothers signed the consent form.

In order to have the same procedure in each Day Care Centre, we suggest the following steps:

1. PLEASE GIVE EACH MOTHER THE LETTER OF INTRODUCTION WITH THE CONSENT FORM ATTACHED. IF SHE AGREES TO HAVE HER CHILD INCLUDED IN THE PROJECT, PLEASE ASK HER TO SIGN THE FORM AT THAT TIME. THEN HAND THE MOTHER A COPY OF THE BIRTH SURVEY (INSTRUCTIONS FOR HER TO FOLLOW ARE ENCLOSED). THE MOTHERS ARE ASKED IN THEIR INSTRUCTIONS, TO RETURN THE QUESTIONNAIRES TO YOU, AS SOON AS POSSIBLE. PLEASE ENCOURAGE THEM TO DO SO THE NEXT DAY. COMPLETION ONLY TAKES ABOUT TEN MINUTES.
2. WHILE THE MOTHERS ARE COMPLETING THE BIRTH SURVEYS, EACH CHILD, WHOSE MOTHER HAS GIVEN HER CONSENT, CAN BE INDEPENDENTLY RATED ON THE GUIDE TO THE CHILD'S LEARNING SKILLS. BY TWO TEACHERS/SUPERVISORS. THE SAME TWO PEOPLE RATE ALL OF THE CHILDREN IN THE STUDY AT THIS DAY CARE CENTRE.
3. THE TWO SETS OF COMPLETED QUESTIONNAIRES (FROM THE MOTHERS AND THE TEACHERS) WILL BE PICKED UP AFTER THREE DAYS. PLEASE TRY TO HAVE ALL QUESTIONNAIRES RETURNED AND COMPLETED WITHIN THIS TIME.

THANK YOU!

# Guide to the Child's Learning Skills

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## A SCHEDULE FOR THE SYSTEMATIC OBSERVATION OF LEARNING BEHAVIOR

COMPILED BY D.H. STOTT, PH.D.

Name of child \_\_\_\_\_ Code No. \_\_\_\_\_

Date of birth \_\_\_\_/\_\_\_\_/\_\_\_\_  
Day Month Year

Sex: (circle 0 or 1) Male= 0 Female= 1 Code No. \_\_\_\_\_

Teacher's (Rater's) name \_\_\_\_\_ Code No. \_\_\_\_\_

Day Care Centre \_\_\_\_\_ Code No. \_\_\_\_\_

Date Guide completed \_\_\_\_/\_\_\_\_/\_\_\_\_  
Day/Month/Year

Length of time teacher has known this child: Code No. \_\_\_\_\_

- 1 one week or less
- 2 about two weeks
- 3 about one month
- 4 about two months
- 5 longer than three months

### IDENTIFICATION OF LEARNING HABITS

#### INSTRUCTIONS

WHEN COMPLETING THE QUESTIONS IN THIS GUIDE, IT IS BEST TO READ EACH QUESTION FIRST AND THEN COMPLETE THAT QUESTION WITH A PARTICULAR CHILD IN MIND. SOME QUESTIONS HAVE DETAILED DESCRIPTIONS OF POSSIBLE BEHAVIORS. FOR THESE, PLEASE READ FIRST THE TITLE STATEMENT. IF THE CHILD DEMONSTRATES THE DESCRIBED BEHAVIOR, READ THE THREE STATEMENTS BELOW IT, AND PUT A CHECK MARK IN THE RIGHT HAND SPACE BESIDE THE MOST APPROPRIATE ANSWER CHOICE: SOMEWHAT, DEFINITE, OR SEVERE. PLEASE MARK ALL OF THOSE QUESTIONS WHICH YOU CONSIDER FIT THIS CHILD.

THANK YOU VERY MUCH FOR YOUR ASSISTANCE!

PLEASE MARK THE MOST APPROPRIATE SPACE (1, 2, or 3) AGAINST QUESTIONS 1 THROUGH 7.

|    | <u>Certainly<br/>applies</u>                                    | <u>Applies<br/>sometimes</u> | <u>Doesn't<br/>apply</u> |            |    |
|----|---|------------------------------|--------------------------|------------|----|
| 1. | Shows by his answers that he is giving attention.               | .....<br>1                   | .....<br>2               | .....<br>3 | 21 |
| 2. | Settles down well at an activity that needs some concentration. | .....<br>1                   | .....<br>2               | .....<br>3 | 22 |
| 3. | Copes with something new without getting nervous or upset.      | .....<br>1                   | .....<br>2               | .....<br>3 | 23 |
| 4. | Is willing to fall in with the general activities of the class. | .....<br>1                   | .....<br>2               | .....<br>3 | 24 |
| 5. | Is willing to try on his own.                                   | .....<br>1                   | .....<br>2               | .....<br>3 | 25 |
| 6. | Accepts help when he cannot manage a task.                      | .....<br>1                   | .....<br>2               | .....<br>3 | 26 |
| 7. | Is an alert child who enters into activities with interest.     | .....<br>1                   | .....<br>2               | .....<br>3 | 27 |

(A) HE/SHE IS AFRAID TO BEGIN OR TO COMMIT HIMSELF TO AN ANSWER

- 28
- SOMEWHAT: Is afraid of a new task, inclined to make hesitant, nervous guesses.  1
- DEFINITE: You have to coax every answer out of him; you almost have to tell him before he will commit himself.  2
- SEVERE: 'Freezes' and you can hardly get an answer out of him. Very frightened of anything new or supposedly difficult.  3

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(B) DULL OR BRIGHT AS IT PLEASES HIM TO BE

- 29
- SOMEWHAT: Is very slow when expected to give an answer, but can be sensible in everyday life.  1
- DEFINITE: The more individual help you give him the more stupid he becomes, but he is by no means so stupid in real life.  2
- SEVERE: Adopts an attitude of extreme helplessness and dependence, but close observation shows that he arranges things to his liking.  3

GCLS cont.

## (C) HE/SHE HAS SOLITARY, PECULIAR WAYS OF USING LEARNING OR PLAY MATERIALS

- SOMEWHAT: Follows some solitary procedure that seldom varies.  1 30
- DEFINITE: Insists despite coaxing upon following his own queer procedure in exactly the same way each time and refuses to vary it.  2
- SEVERE: Reacts against the materials, or against anything novel, as an interference with his own 'private world.'  3

## (D) HE/SHE ACTS WITHOUT TAKING TIME TO LOOK OR WORK THINGS OUT

- SOMEWHAT: Often 'doesn't use his eyes' and answers without thinking.  1 31
- DEFINITE: Will guess lightheartedly unless pointedly reminded to take time to think.  2
- SEVERE: Never takes time to look properly or to think out an answer.  3

## (E) HE/SHE IS EASILY DISTRACTED

- SOMEWHAT: Allows himself to be distracted by what is going on around him.  1 32
- DEFINITE: Creates frequent distractions for himself and others; behaves in a silly clowning way or creates disturbances.  2
- SEVERE: Has a 'butterfly' mind, flits rapidly from one momentary interest to another without ever concentrating on anything.  3

## (F) HE/SHE IS OVER-ACTIVE AND FIDGETY

- SOMEWHAT: Seems to find sitting still uncomfortable, nearly always moving some part of his body.  1 33
- DEFINITE: Fidgets and squirms, constantly changes his position or wanders around.  2
- SEVERE: Won't keep his seat, runs around the room or charges off unless closely watched.  3

- (G) HE/SHE CAN AT TIMES ACT CRAZY OR UNPREDICTABLY 34
- SOMEWHAT: Has been known occasionally to have a wild outburst for no particular reason.  1
- DEFINITE: Works well at times and not constantly hyper-active, but without warning shouts out, jostles or strikes other children, upsets the learning materials.  2
- SEVERE: Has frequent violent outbursts, such as attacking adults or other children or running off without apparent reason.  3
- 
- (H) HE/SHE LOOKS FOR WAYS OF EVADING LEARNING TASKS 35
- SOMEWHAT: Shies off the task at first or soon says he doesn't want to do any more, but can be persuaded.  1
- DEFINITE: Seeks excuses to get away from the task; complains of being tired or bored.  2
- SEVERE: Objects strongly when faced with any task.  3
- 
- (J) HE/SHE SETS ABOUT TASKS AS IF HE DOESN'T CARE 36
- SOMEWHAT: Has low standards and doesn't try very hard.  1
- DEFINITE: Adopts a don't care attitude to success or failure.  2
- SEVERE: Seems to take a pride in giving answers which he knows must be wrong, just to show he doesn't care.  3
- 
- (K) HE/SHE SUFFERS AT TIMES (OR CONSTANTLY) FROM A LACK OF ENERGY. 37
- SOMEWHAT: Sometimes has a lazy mood, and doesn't notice or think things out.  1
- DEFINITE: It is hard to stir him to take an interest or to make any effort.  2
- SEVERE: Is permanently so lethargic and tired that he hardly accomplishes anything.  3

(L) HE/SHE RELIES ON PERSONAL CHARM TO AVOID LEARNING

- SOMEWHAT: Gets along by appealing ways or helpfulness but tends to avoid work.  1 38
  - DEFINITE: Uses his/her personal charm to get individual help, but makes little effort to learn.  2
  - SEVERE: Relies entirely on individual charm and doesn't mind how badly he does or how retarded he appears.  3
- 

(M) HE/SHE HAS HOSTILE MOODS WHEN HE REFUSES TO WORK

- SOMEWHAT: Pouts and refuses to begin at first.  1 39
  - DEFINITE: Gets antagonistic when things go against him or he fails, and threatens to quit.  2
  - SEVERE: Shrugs off help angrily, refuses to work or quits the scene.  3
- 

(N) HE/SHE SEEMS TO TRY TO ATTEND, AND IS NOT HYPERACTIVE OR DISTRACTIBLE, BUT CANNOT CONCENTRATE.

- SOMEWHAT: Seems to try hard but cannot keep his mind on the task, and gets things wrong that he was getting right.  1 40
  - DEFINITE: As soon as he is asked anything his mind flies off at a tangent.  2
  - SEVERE: Cannot be induced to focus his attention on anything.  3
- 

(O) HE/SHE DOESN'T SEEM AWARE OF WHAT THE TASK CALLS FOR

- SOMEWHAT: Difficult to get him to understand what to do.  1 41
- DEFINITE: Attends to the task but doesn't seem aware that something is required of him.  2
- SEVERE: Disregards the task soon after noticing the materials.  3

GCLS cont.

(P) HE/SHE PREFERS HIS OWN WAY OF DOING THINGS,  
WHICH OFTEN DON'T WORK OUT

- SOMEWHAT: Is not interested in regular learning activities but talks intelligently and finds his own interests.  1 42
- DEFINITE: Gets behind because he insists on trying to do things his own way.  2
- SEVERE Is creative and imaginative, but is impatient of the routines of learning, so that his achievement is very poor.  3

\* \* \*

Do you feel that the length of time you have known this child allows you to reasonably complete the questions you have just answered on this Guide?

- 1 Yes
- 2 No

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Please list the types of situations or tasks that you had in mind with regard to this child's approach to learning:

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44

Please comment below if you would like to clarify or further explain the learning behaviors of this child:

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APPENDIX D

FREQUENCIES OF THE BIRTH SURVEY AND GCLS ITEM RESPONSES  
AND GCLS SUBSCORES

### THE BIRTH SURVEY

The frequencies for the individual item responses, are based on the total sample of 101 mothers, unless otherwise specified (n=x). Adjusted frequency counts were used in cases where item sample responses are based on  $n \neq 101$ .

Additional response categories were added to certain items, according to mothers' written comments, where necessary. Reorganization and recoding of item responses was then completed for final data analysis.

I WOULD APPRECIATE KNOWING THE MAIN REASON WHY THIS CHILD IS ENROLLED IN A DAY CARE PROGRAM:

- |    |   |       |
|----|---|-------|
| 1. | This child is in Day Care because:                        |       |
| 1  | I believe Day Care is a good thing for children . . . . . | 10.9% |
| 2  | I work outside of my home . . . . .                       | 23.8% |
| 3  | this child needs help with his development                | 0.0%  |
| 4  | I feel I cannot cope with child at home. .                | 0.0%  |
| 5  | for two or more of the above reasons: <u>#'s</u>          | 65.3% |

NOW, I WOULD LIKE TO ASK YOU A FEW GENERAL THINGS ABOUT THIS CHILD'S BIRTH:

- |       |   |       |
|-------|---|-------|
| 2.    | Was this baby born after the full nine months of pregnancy?                               |       |
| 1     | Yes, this baby was born on time. . . . .  | 73.3% |
| 2     | No, this baby was born more than three weeks <u>before</u> the expected date of birth. .  | 12.9% |
| 3     | Yes, this baby was born more than three weeks <u>after</u> the expected date of birth . . | 13.9% |
| 4     | I don't know . . . . .  | 0.0%  |
| 3.    | Where was this child born?  |       |
| 1     | in hospital. . . . .  | 98.0% |
| 2     | at home . . . . .   | 1.0%  |
| 3     | in a special childbirth centre . . . . .  | 1.0%  |
| 4     | in unusual circumstances (please explain):  | 0.0%  |
| <hr/> |   |       |
| 4.    | How awake were you during this baby's birth?  |       |
| 1     | I was fully awake . . . . .   | 75.2% |
| 2     | I was drowsy because sedative drugs were used . . . . .                                   | 8.9%  |
| 3     | I was asleep because general anesthesia was used . . . . .                                | 12.9% |
| 4     | I was awake for only part of the birth . .  | 3.0%  |

|    |   |        |
|----|---|--------|
| 5. | Was there any unusual difficulty during the hours of labour, before birth?  | (n=99) |
| 1  | No, there were no major problems during labour . . . . .  | 66.7%  |
| 2  | My labour needed to be brought on with drugs  | 6.1%   |
| 3  | My waters had to be broken to start labour (or during labour) . . . . .   | 9.1%   |
| 4  | The baby had trouble with lack of oxygen or some other problem, before birth. . . . .                                     | 9.1%   |
| 5  | There was more than one difficulty . . . . .  | 6.1%   |
| 6  | I had a physical barrier to birth . . . . .   | 2.0%   |
| 7  | My labour extended over days . . . . .  | 1.0%   |
| 6. | Was there any major birth/delivery difficulty with this child?  |        |
| 1  | No . . . . .  | 55.4%  |
| 2  | Yes, this baby was born by an operation on my stomach (Caesarean section). . . . .  | 9.9%   |
| 3  | Yes, forceps were used to pull this baby out  | 19.8%  |
| 4  | Yes, this baby's feet came out first at birth   | 3.0%   |
| 5  | This baby had great difficulty breathing . .  | 2.0%   |
| 6  | another difficulty (please explain): _____<br>(includes vacuum and posterior birth). . . .                                | 5.9%   |
| 7  | There were more than two difficulties. . . .  | 4.0%   |
| 7. | Did this baby have any major physical problem seen at birth? (for example: cerebral palsy; Down's syndrome; malnutrition) |        |
| 1  | Yes (please explain): _____   | 5.0%   |
| 2  | No . . . . .  | 95.0%  |
| 8. | Generally, did you feel that this baby had a hard time through labour and delivery?                                       |        |
| 1  | No, this baby's birth went smoothly. . . . .  | 63.4%  |
| 2  | This baby had a few but not serious troubles  | 12.9%  |
| 3  | Yes, very difficult because <u>I</u> had a hard time  | 8.9%   |
| 4  | Yes, very difficult because of <u>my baby's</u> problems . . . . .  | 3.0%   |
| 5  | Yes, because <u>both</u> of us had a hard time . .  | 5.9%   |
| 6  | I have no idea . . . . .  | 5.9%   |

|     |   |        |
|-----|---|--------|
| 9.  | Did anything frustrate or upset you during the hours before birth (labour), or during this child's birth? |        |
| 1   | No . . . . .  | 61.4%  |
| 2   | Yes (please explain) . . . . .  | 38.6%  |
| 10. | Did you feel that this child's birth was close to what you had expected it to be like?                    |        |
| 1   | Yes, exactly . . . . .  | 43.6%  |
| 2   | Only in some ways. . . . .  | 26.7%  |
| 3   | No, many things happened that were unexpected   | 20.8%  |
| 4   | I don't know because I was not aware at birth   | 5.0%   |
| 5   | It was easier than expected. . . . .  | 2.0%   |
| 6   | It was easier, but many things happened that were unexpected. . . . .                                     | 2.0%   |
| 11. | If this child's birth was <u>not</u> what you had expected, did this upset you?                           | (n=62) |
| 1   | No . . . . .  | 54.8%  |
| 2   | I was slightly bothered. . . . .  | 27.4%  |
| 3   | Yes, I was extremely upset . . . . .  | 17.7%  |
| 12. | Did you take any classes to prepare you for your baby's birth?  |        |
| 1   | Yes. . . . .  | 66.3%  |
| 2   | No . . . . .  | 33.7%  |
| 13. | If yes, who gave you the classes?   | (n=67) |
| 3   | the Public Health Centre . . . . .  | 64.2%  |
| 4   | the hospital where this baby was born. . . . .  | 1.5%   |
| 5   | a special Lamaze, Read, or Leboyer group . . . . .  | 20.9%  |
| 6   | other (please explain): _____   | 11.9%  |
| 7   | more than one type of class. . . . .  | 1.5%   |

I WOULD ALSO LIKE TO KNOW SOME OF YOUR OWN FEELINGS  
DURING THIS BABY'S BIRTH:

|     |   |        |
|-----|---|--------|
| 14. | How long was the time between your first labour contraction (stomach cramp) and when your baby was born?  | (n=98) |
|     | 1 less than 4 hours . . . . .   | 24.5%  |
|     | 2 4 to 10 hours . . . . .   | 29.6%  |
|     | 3 10 to 24 hours . . . . .  | 27.6%  |
|     | 4 over 24 hours . . . . .   | 18.4%  |
| 15. | Did this length of time upset you?  | (n=98) |
|     | 1 No . . . . .  | 73.5%  |
|     | 2 Yes . . . . .   | 26.5%  |
| 16. | How did your body's labour contractions feel to you before birth?   | (n=95) |
|     | 1 I rather enjoyed the feeling . . . . .  | 12.6%  |
|     | 2 I was uncomfortable but accepted the pain . . . . .   | 66.3%  |
|     | 3 I felt the pain was so bad that I still have very bad feelings about them . . . . .   | 13.7%  |
|     | 4 I can't remember . . . . .  | 3.2%   |
|     | 5 The first half of labour was fine; the second half was uncomfortable . . . . .  | 4.2%   |
| 17. | Did you feel afraid when your labour contractions started?  | (n=98) |
|     | 1 No, I was quite calm and happy . . . . .  | 44.9%  |
|     | 2 I was a little nervous . . . . .  | 49.0%  |
|     | 3 Yes, I was quite frightened . . . . .   | 5.1%   |
|     | 4 Yes, I was extremely upset and frightened . . . . .   | 1.0%   |
| 18. | Did you have a <u>supportive</u> comforting person with you during labour (the hours before the actual delivery of your baby)? (Please answer <u>yes</u> , only if the person was <u>supportive</u> ) | (n=99) |
|     | 1 Yes (please specify): _____   | 69.7%  |
|     | 2 No . . . . .  | 29.3%  |
|     | 3 only for part of the time . . . . .   | 1.0%   |

|     |  |        |
|-----|--|--------|
| 19. | If you <u>didn't</u> have a supportive person with you<br>did this upset you?                                      | (n=30) |
| 1   | No . . . . .   | 60.0%  |
| 2   | Yes . . . . .  | 40.0%  |
| 20. | Did your hours of labour and the birth of this<br>child take place in the same room?                               | (n=98) |
| 1   | Yes . . . . .  | 4.1%   |
| 2   | No . . . . .   | 95.9%  |
| 21. | If they were in different rooms, did changing<br>rooms upset you?  | (n=93) |
| 3   | No . . . . .   | 79.6%  |
| 4   | Yes, a little . . . . .  | 16.1%  |
| 5   | Yes, it bothered me a lot . . . . .  | 4.1%   |
| 22. | Did the type and mood of the room where this<br>baby was born help you to feel as relaxed as<br>possible . . . . . | (n=98) |
| 1   | Yes, it helped me . . . . .  | 13.3%  |
| 2   | I didn't think about it . . . . .  | 64.3%  |
| 3   | No, it made me feel uneasy . . . . .   | 22.4%  |
| 23. | Were you allowed to choose your own body position<br>as this baby was being born?                                  | (n=95) |
| 1   | Yes . . . . .  | 10.5%  |
| 2   | No . . . . .   | 89.5%  |
| 24. | If <u>no</u> , would you have chosen a more comfortable<br>position?   | (n=82) |
| 1   | No, that position was fine for me . . . . .  | 70.7%  |
| 2   | Yes, I would have chosen another position . . . . .  | 25.6%  |
| 3   | Perhaps I would have chosen differently . . . . .  | 3.7%   |

|     |  |        |
|-----|--|--------|
| 25. | What position were you mostly in during the birth (actual delivery) of this child?   | (n=98) |
| 1   | on the bed; flat on my back . . . . .  | 16.3%  |
| 2   | lying down on the bed with my feet in the air, held with stirrups and straps . . . . .   | 49.0%  |
| 3   | partly sitting up in bed with my shoulders and head held up with pillows or by another person. . . . .   | 21.4%  |
| 4   | sitting on a bed or chair . . . . .  | 1.0%   |
| 5   | lying on my side in bed . . . . .  | 2.0%   |
| 6   | another position (please explain): _____<br>(includes combinations of above) . . . . .   | 10.2%  |
| 26. | Did you have a <u>supportive</u> person with you during this baby's birth (the actual delivery)? (include only if the person was <u>supportive</u> ) | (n=98) |
| 1   | Yes (please specify) _____   | 58.2%  |
| 2   | No . . . . .   | 40.8%  |
| 3   | Yes, except asked to leave for a short time . . . . .  | 1.0%   |
| 27. | If you <u>didn't</u> have a <u>supportive</u> person with you did this upset you?  | (n=40) |
| 1   | No . . . . .   | 65.0%  |
| 2   | Yes . . . . .  | 30.0%  |
| 28. | What were your body's physical feelings as this child was being delivered, at birth?   | (n=99) |
| 1   | my body seemed to take over; I felt good . . . . .   | 35.4%  |
| 2   | painful, but I accepted this pain . . . . .  | 25.3%  |
| 3   | I felt the pain was so bad, that I still have very bad feelings about this birth . . . . .   | 4.0%   |
| 4   | I can't remember how my body felt . . . . .  | 6.1%   |
| 5   | I was unable to feel anything at the time . . . . .  | 25.3%  |
| 6   | I felt pain combined with other emotions; some good feelings . . . . .   | 3.0%   |
| 7   | (other negative circumstances at the time that prevailed . . . . .   | 1.0%   |

|     |   |         |
|-----|---|---------|
| 29. | Did you or anyone use a relaxation method during birth? (for example: special breathing; massage and touching)                            | (n=100) |
| 1   | No . . . . .  | 33.0%   |
| 2   | Yes (please explain)  | 64.0%   |
| 3   | Yes, but it didn't work . . . . .   | 3.0%    |
| 30. | Were any medical machines or tools used on you or this baby during labour and/or delivery? (for example: fetal monitor; intravenous etc.) | (n=100) |
| 1   | No . . . . .  | 48.0%   |
| 2   | Yes (please specify) . . . . .  | 47.0%   |
| 3   | I don't know . . . . .  | 5.0%    |
| 31. | If <u>yes</u> , how did this make you feel?   | (n=47)  |
| 3   | I felt comforted because it was for my baby's and my own good . . . . .   | 51.1%   |
| 4   | I didn't care one way or the other . . . . .  | 14.9%   |
| 5   | I felt uncomfortable because my body rhythms and movements were limited . . . . .   | 10.6%   |
| 6   | I was very upset and afraid by this . . . . .   | 19.1%   |
| 7   | I had a combination of good and bad feelings . . . . .  | 2.1%    |
| 8   | I was extremely upset and uncomfortable . . . . .   | 2.1%    |
| 32. | Did you push harder on your labour contractions during birth, only when <u>you</u> felt you should?                                       | (n=97)  |
| 1   | Yes, I did so only when it felt natural for my body . . . . .   | 61.9%   |
| 2   | No, I was told to keep pushing harder even when it didn't feel right to me to push . . . . .  | 18.6%   |
| 3   | I was asleep during this birth . . . . .  | 13.4%   |
| 4   | I was told not to push at times . . . . .   | 4.1%    |
| 5   | I did not have the urge to push, so I pushed when I was told to do so . . . . .   | 2.1%    |

|     |   |        |
|-----|---|--------|
| 33. | Did you feel your body and this baby were working well together and were <u>ready</u> for birth, at the moment of delivery? | (n=98) |
| 1   | Yes, this baby's delivery out of my body, felt natural and smooth . . . . .   | 65.3%  |
| 2   | My body and this baby didn't feel quite ready   | 7.1%   |
| 3   | No, my body and this baby definitely didn't seem ready for birth, at that moment . . . .                                    | 7.1%   |
| 4   | I can't remember; I was asleep . . . . .  | 16.3%  |
| 5   | I was numb at the time . . . . .  | 4.1%   |
| 34. | Did anything change or interfere with the natural timing of the actual birth of this child?                                 | (n=96) |
| 1   | No, labour and delivery went ahead naturally  | 64.6%  |
| 2   | Yes, the actual delivery was speeded up . . .   | 20.8%  |
| 3   | Yes, the actual delivery was delayed . . . .  | 14.6%  |
| 35. | If <u>yes</u> , please explain what happened: _____   | (n=34) |
| 1   | for outside reasons, e.g. Dr. not present   | 20.6%  |
| 2   | for specific physical reasons . . . . .   | 58.8%  |
| 3   | specifically, forceps or drugs used . . . . .   | 20.6%  |
| 36. | If <u>yes</u> , did this upset you?   | (n=31) |
| 1   | No . . . . .  | 38.7%  |
| 2   | Yes . . . . .   | 61.3%  |
| 37. | Did this baby need help to start breathing after birth?   | (n=91) |
| 1   | No . . . . .  | 81.2%  |
| 2   | Yes (please explain): _____   | 8.9%   |
| 3   | I don't know . . . . .  | 9.9%   |

|     |   |         |
|-----|---|---------|
| 38. | What were your emotional feelings or state of mind at the moment of birth (or just before you were put under anesthesia)? | (n=100) |
| 1   | I was calm and happy . . . . .  | 39.0%   |
| 2   | I was a little nervous, but happy . . . . .   | 36.0%   |
| 3   | I was quite frightened . . . . .  | 11.0%   |
| 4   | I was extremely upset . . . . .   | 3.0%    |
| 5   | I was calm but irritated and/or had a lot of pain . . . . .   | 2.0%    |
| 6   | I was very tired . . . . .  | 2.0%    |
| 7   | I was extremely happy . . . . .   | 7.0%    |
| 39. | Did you hold your child <u>immediately</u> (within 5 minutes after delivery)?   | (n=100) |
| 1   | Yes, for less than 5 minutes . . . . .  | 17.8%   |
| 2   | Yes, for 5 to 10 minutes . . . . .  | 24.8%   |
| 3   | Yes, for 10 to 30 minutes . . . . .   | 9.9%    |
| 4   | Yes, for more than 30 minutes . . . . .   | 7.9%    |
| 5   | No . . . . .  | 38.6%   |
| 6   | I can't remember . . . . .  | 0.0%    |
| 7   | I had restraints on my hands; baby was placed on my stomach . . . . .   | 1.0%    |
| 40. | If <u>yes</u> , were you in a comfortable position to hold this child <u>immediately</u> after birth?                     | (n=63)  |
| 1   | Yes . . . . .   | 68.3%   |
| 2   | No . . . . .  | 31.7%   |
| 41. | Did this child seem to enjoy being cuddled and touched <u>immediately</u> after birth?                                    | (n=75)  |
| 1   | Yes . . . . .   | 62.7%   |
| 2   | No . . . . .  | 4.0%    |
| 3   | I don't know . . . . .  | 33.3%   |
| 42. | Was this child taken out of the delivery room <u>immediately</u> after birth, for any reason?                             | (n=98)  |
| 1   | No . . . . .  | 76.5%   |
| 2   | Yes, for a few minutes . . . . .  | 3.1%    |
| 3   | Yes, for a long time . . . . .  | 19.4%   |
| 4   | No, but yes after 15 minutes. . . . .   | 1.0%    |

|     |   |         |
|-----|---|---------|
| 43. | If <u>yes</u> , was there a necessary or urgent reason?                                 | (n=25)  |
| 1   | No . . . . .  | 52.0%   |
| 2   | Yes (please explain) _____  | 40.0%   |
| 3   | I cannot remember or it was not explained<br>to me . . . . .                            | 8.0%    |
| 44. | Did this baby stay with you from the moment of<br>birth on (rooming-in)?                |         |
| 1   | Yes . . . . .   | 5.0%    |
| 2   | Yes, except for a few minutes . . . . .   | 4.0%    |
| 3   | Yes, except for a day or so . . . . .   | 9.9%    |
| 4   | Yes, except for short periods of time . . . . .   | 13.9%   |
| 5   | No, this baby was kept in another room<br>(includes those mothers who had free access). | 67.3%   |
| 45. | When did <u>you</u> first feed this child?  | (n=100) |
| 1   | <u>immediately</u> after birth . . . . .  | 22.0%   |
| 2   | a short period after birth . . . . .  | 13.0%   |
| 3   | hours after birth . . . . .   | 44.0%   |
| 4   | days after birth . . . . .  | 20.0%   |
| 5   | months after birth . . . . .  | 1.0%    |
| 46. | How was this baby first fed?  | (n=100) |
| 1   | I bottle fed this baby . . . . .  | 13.0%   |
| 2   | I breast fed this baby . . . . .  | 65.0%   |
| 3   | This baby was bottle fed by someone else . . . . .                                      | 19.0%   |
| 4   | I don't know . . . . .  | 1.0%    |
| 5   | This baby was fed through a tube or injection   | 2.0%    |
| 47. | What did you generally feel <u>immediately</u> after<br>this child's birth?             | (n=100) |
| 1   | I had good proud feelings . . . . .   | 68.0%   |
| 2   | I was just glad to have it over . . . . .   | 11.0%   |
| 3   | I had bad feelings . . . . .  | 2.0%    |
| 4   | I can't remember or I was asleep . . . . .  | 9.0%    |
| 5   | I was euphoric . . . . .  | 3.0%    |
| 6   | I had a combination of proud feelings and just<br>glad to have it over . . . . .        | 7.0%    |

FURTHER, I HAVE DESCRIBED SOME FEELINGS WHICH WOMEN FEEL ABOUT THEIR BABIES AND THEMSELVES DURING PREGNANCY. COULD YOU PLEASE TELL US HOW OFTEN OR HOW STRONGLY YOU EXPERIENCED THE FOLLOWING FEELINGS DURING THE TIME OF YOUR PREGNANCY, WITH THIS CHILD? YOU MAY FEEL DIFFERENTLY NOW, BUT I WOULD LIKE TO KNOW HOW YOU FELT THEN.

48. Some women feel that their pregnancy came at the wrong time. Perhaps they feel that they wanted to have a baby, but not just at the time when it happened. Did you feel that way when you found out you were pregnant with this child? (n=100)
- |   |                               |       |
|---|-------------------------------|-------|
| 1 | No . . . . .                  | 63.0% |
| 2 | only in a small way . . . . . | 15.0% |
| 3 | Yes, definitely . . . . .     | 22.0% |
49. Some women feel that they would rather not have the baby at all because of the change they must make in their lifestyle; for example, give up their job and/or stay at home. Did you feel that way during your pregnancy with this child? (n=100)
- |   |                            |       |
|---|----------------------------|-------|
| 1 | No . . . . .               | 77.0% |
| 2 | Rarely . . . . .           | 7.0%  |
| 3 | some of the time . . . . . | 14.0% |
| 4 | most of the time . . . . . | 2.0%  |
50. Some women have major worries or unhappiness which upset them during their pregnancy. Did you feel this way up to the birth of this child? (n=100)
- |   |   |       |
|---|---|-------|
| 1 | No; never . . . . .                     | 42.0% |
| 2 | only for a short time . . . . .         | 36.0% |
| 3 | Yes; for most of my pregnancy . . . . . | 22.0% |
51. If yes, please explain: \_\_\_\_\_ (n=36)
- |   |   |       |
|---|---|-------|
| 1 | marital or partner problems . . . . .           | 33.3% |
| 2 | financial problems . . . . .                    | 2.8%  |
| 3 | other personal stresses . . . . .               | 25.0% |
| 4 | physical problems of mother . . . . .           | 0.0%  |
| 5 | fear for child's health or well being . . . . . | 8.3%  |
| 6 | combination of above stresses . . . . .         | 30.6% |

52. Some women very much want to have a baby and are happy just to be pregnant. Did you feel this way during your pregnancy with this child?
- |                                |       |
|--------------------------------|-------|
| 1 No . . . . .                 | 9.9%  |
| 2 Rarely . . . . .             | 1.0%  |
| 3 Sometimes . . . . .          | 26.7% |
| 4 Yes, almost always . . . . . | 62.4% |
53. Some women want to have their baby but they are afraid of all the things that will happen to them during pregnancy. They change between feeling happy about the baby and feeling depressed about the future. Did you feel this way with this child?
- |  |       |
|--|-------|
| 1 No, never . . . . .                              | 67.3% |
| 2 I had several months feeling like this . . . . . | 25.7% |
| 3 Yes, almost always . . . . .                     | 3.0%  |
| 4 Sometimes . . . . .                              | 4.0%  |
54. Some women really dislike the last month of pregnancy and at times, dislike the unborn baby for making them so uncomfortable. Did you feel that way during your last month of pregnancy with this child? (n=100)
- |   |       |
|---|-------|
| 1 No . . . . .                                    | 71.0% |
| 2 Rarely . . . . .                                | 12.0% |
| 3 Sometimes (but not towards the child) . . . . . | 16.0% |
| 4 Yes, almost always . . . . .                    | 1.0%  |
55. Some women feel that giving birth is something very special for them and they are glad to have the chance to experience giving birth to a child. Did you feel this way at the birth of this child? (n=98)
- |                                     |       |
|-------------------------------------|-------|
| 1 Yes . . . . .                     | 79.6% |
| 2 only in a small way . . . . .     | 15.3% |
| 3 No, not at all . . . . .          | 4.1%  |
| 4 Only after the epidural . . . . . | 1.0%  |

FINALLY, I HAVE THREE GENERAL QUESTIONS:

|   |  |         |
|---|--|---------|
| What was your age when this child was born?   |  | (n=100) |
| 15 years . . . . .  |  | 1.0%    |
| 17 years . . . . .  |  | 1.0%    |
| 18 years . . . . .  |  | 1.0%    |
| 19 years . . . . .  |  | 3.0%    |
| 20 years . . . . .  |  | 4.0%    |
| 21 years . . . . .  |  | 6.0%    |
| 22 years . . . . .  |  | 5.0%    |
| 23 years . . . . .  |  | 11.0%   |
| 24 years . . . . .  |  | 5.0%    |
| 25 years . . . . .  |  | 3.0%    |
| 26 years . . . . .  |  | 15.0%   |
| 27 years . . . . .  |  | 12.0%   |
| 28 years . . . . .  |  | 5.0%    |
| 29 years . . . . .  |  | 6.0%    |
| 30 years . . . . .  |  | 9.0%    |
| 32 years . . . . .  |  | 5.0%    |
| 33 years . . . . .  |  | 4.0%    |
| 34 years . . . . .  |  | 2.0%    |
| 35 years . . . . .  |  | 1.0%    |
| 40 years . . . . .  |  | 1.0%    |
| 56. Was this your first child?  |  |         |
| 1 Yes . . . . .   |  | 71.3%   |
| 2 No . . . . .  |  | 28.7%   |
| 57. If you had a child born either before or after the birth of this child, how did this birth feel to you in comparison? |  | (n=36)  |
| 1 this birth was easier . . . . .   |  | 58.3%   |
| 2 this birth was about the same . . . . .   |  | 19.4%   |
| 3 this birth was more difficult . . . . .   |  | 22.2%   |

THANK YOU AGAIN, FOR YOUR TIME AND ASSISTANCE. YOU HAVE BEEN A GREAT HELP TO THIS PROJECT.

THE GUIDE TO THE CHILD'S LEARNING SKILLS

The frequency counts for the items in the GCLS are based on two teacher ratings for all 101 children in the study. The Subscore frequency counts in Table V and Table VI are also based on two teacher ratings for all children in the study.

PLEASE MARK THE MOST APPROPRIATE SPACE (1, 2, or 3) AGAINST QUESTIONS 1 THROUGH 7.

|                                  |   | <u>Certainly</u><br><u>applies</u> → |      |      | <u>Doesn't</u><br><u>apply</u> |     |     |
|----------------------------------|---|--------------------------------------|------|------|--------------------------------|-----|-----|
| Average Ratings of Two Teachers: |   | .5                                   | 1    | 1.5  | 2                              | 2.5 | 3   |
| 1.                               | Shows by his answers that he is giving attention. . . . (%)           | 25.7                                 | 32.7 | 37.6 | 3.0                            | 1.0 |     |
| 2.                               | Settles down well at an activity that needs some concentration. (%)   | 25.7                                 | 24.8 | 41.6 | 4.0                            | 4.0 |     |
| 3.                               | Copes with something new without getting nervous or upset. . . . (%)  | 2.0                                  | 18.8 | 32.7 | 40.6                           | 4.0 | 2.0 |
| 4.                               | Is willing to fall in with the general activities of the class. (%)   | 1.0                                  | 44.6 | 29.7 | 21.8                           | 1.0 | 2.0 |
| 5.                               | Is willing to try on his own. . (%)                                   | 35.6                                 | 25.7 | 32.7 | 4.0                            | 2.0 |     |
| 6.                               | Accepts help when he cannot manage a task. . . . . (%)                | 60.4                                 | 27.7 | 10.9 | 1.0                            | 0.0 |     |
| 7.                               | Is an alert child who enters into activities with interest. . . . (%) | 47.5                                 | 23.8 | 23.8 | 2.0                            | 3.0 |     |

Average (%)  
Ratings

A) HE/SHE IS AFRAID TO BEGIN OR TO COMMIT HIMSELF TO AN ANSWER

|           |   |     |      |
|-----------|---|-----|------|
| SOMEWHAT: | Is afraid of a new task, inclined to make hesitant, nervous guesses. . . . .  | 0.0 | 41.6 |
|           |   | .5  | 22.8 |
|           |   | 1.0 | 21.8 |
| DEFINITE: | You have to coax every answer out of him; you almost have to tell him before he will commit himself. . . . .            | 1.5 | 5.9  |
|           |   | 2.0 | 5.9  |
| SEVERE:   | 'Freezes' and you can hardly get an answer out of him. Very frightened of anything new or supposedly difficult. . . . . | 2.5 | 2.0  |
|           |   | 3.0 | 0.0  |

GCLS cont.

|     |   |     |      |
|-----|---|-----|------|
| (B) | DULL OR BRIGHT AS IT PLEASES HIM TO BE  |     |      |
|     |   | 0.0 | 50.5 |
|     | SOMEWHAT: Is very slow when expected to give an answer, but can be sensible in everyday life. . . . .   | .5  | 22.8 |
|     |   | 1.0 | 16.8 |
|     | DEFINITE: The more individual help you give him the more stupid he becomes, but he is by no means so stupid in real life. . . . .             | 1.5 | 3.0  |
|     |   | 2.0 | 5.9  |
|     | SEVERE: Adopts an attitude of extreme helplessness and dependence, but close observation shows that he arranges things to his liking. . . . . | 2.5 | 0.0  |
|     |   | 3.0 | 1.0  |
| (C) | HE/SHE HAS SOLITARY, PECULIAR WAYS OF USING LEARNING OR PLAY MATERIALS  |     |      |
|     |   | 0.0 | 71.3 |
|     | SOMEWHAT: Follows some solitary procedure that seldom varies. . . . .   | .5  | 17.8 |
|     |   | 1.0 | 5.9  |
|     | DEFINITE: Insists despite coaxing upon following his own queer procedure in exactly the same way each time and refuses to vary it. . . . .    | 1.5 | 2.0  |
|     |   | 2.0 | 3.0  |
|     | SEVERE: Reacts against the materials, or against anything novel, as an interference with his own 'private world.' . . . .                     | 2.5 | 0.0  |
|     |   | 3.0 | 0.0  |
| (D) | HE/SHE ACTS WITHOUT TAKING TIME TO LOOK OR WORK THINGS OUT  |     |      |
|     |   | 0.0 | 39.6 |
|     | SOMEWHAT: Often 'doesn't use his eyes' and answers without thinking. . . . .  | .5  | 22.8 |
|     |   | 1.0 | 17.8 |
|     | DEFINITE: Will guess lightheartedly unless pointedly reminded to take time to think. . . . .  | 1.5 | 11.9 |
|     |   | 2.0 | 5.9  |
|     | SEVERE: <u>Never</u> takes time to look properly or to think out an answer. . . . .   | 2.5 | 1.0  |
|     |   | 3.0 | 1.0  |

GCLS cont.

|     |  |                  |                      |
|-----|--|------------------|----------------------|
| (E) | HE/SHE IS EASILY DISTRACTED  |                  |                      |
|     | SOMEWHAT: Allows himself to be distracted by what is going on around him. . . . .  | 0.0<br>.5<br>1.0 | 21.8<br>17.8<br>27.7 |
|     | DEFINITE: Creates frequent distractions for himself and others; behaves in a silly clowning way or creates disturbances. . . . .   | 1.5<br>2.0       | 13.9<br>13.9         |
|     | SEVERE: Has a 'butterfly' mind, flits rapidly from one momentary interest to another without ever concentrating on anything. . . . .                                     | 2.5<br>3.0       | 4.0<br>1.0           |
| (F) | HE/SHE IS OVER-ACTIVE AND FIDGETTY   |                  |                      |
|     | SOMEWHAT: Seems to find sitting still uncomfortable, nearly always moving some part of his body. . . . .   | 0.0<br>.5<br>1.0 | 54.5<br>12.9<br>14.9 |
|     | DEFINITE: Fidgets and squirms, constantly changes his position or wanders around. . . . .  | 1.5<br>2.0       | 6.9<br>7.9           |
|     | SEVERE: Won't keep his seat, runs around the room or charges off unless closely watched. . . . .   | 2.5<br>3.0       | 2.0<br>1.0           |
| (G) | HE/SHE CAN AT TIMES ACT CRAZY OR UNPREDICTABLY   |                  |                      |
|     | SOMEWHAT: Has been known occasionally to have a wild outburst for no particular reason. . . . .  | 0.0<br>.5<br>1.0 | 62.4<br>17.8<br>5.9  |
|     | DEFINITE: Works well at times and not constantly hyper-active, but without warning shouts out, jostles or strikes other children, upsets the learning materials. . . . . | 1.5<br>2.0       | 4.0<br>6.9           |
|     | SEVERE: Has frequent violent outbursts, such as attacking adults or other children or running off without apparent reason. . . . .                                       | 2.5<br>3.0       | 1.0<br>2.0           |

GCLS cont.

|     |   |     |      |
|-----|---|-----|------|
| (H) | HE/SHE LOOKS FOR WAYS OF EVADING LEARNING TASKS   |     |      |
|     |   | 0.0 | 24.8 |
|     | SOMEWHAT: Shies off the task at first or soon says he doesn't want to do any more, but can be persuaded. . . . .    | .5  | 30.7 |
|     |   | 1.0 | 30.7 |
|     | DEFINITE: Seeks excuses to get away from the task; complains of being tired or bored. . . . .                       | 1.5 | 6.9  |
|     |   | 2.0 | 5.9  |
|     |   | 2.5 | 0.0  |
|     | SEVERE: Objects strongly when faced with any task. . .  | 3.0 | 1.0  |
| (J) | HE/SHE SETS ABOUT TASKS AS IF HE DOESN'T CARE   |     |      |
|     |   | 0.0 | 68.3 |
|     |   | 0.5 | 11.9 |
|     | SOMEWHAT: Has low standards and doesn't try very hard. .  | 1.0 | 11.9 |
|     | DEFINITE: Adopts a don't care attitude to success or failure. . . . .   | 1.5 | 5.0  |
|     |   | 2.0 | 2.0  |
|     | SEVERE: Seems to take a pride in giving answers which he knows must be wrong, just to show he doesn't care. . . . . | 2.5 | 0.0  |
|     |   | 3.0 | 1.0  |
| (K) | HE/SHE SUFFERS AT TIMES (OR CONSTANTLY) FROM A LACK OF ENERGY.  |     |      |
|     |   | 0.0 | 49.5 |
|     | SOMEWHAT: Sometimes has a lazy mood, and doesn't notice or think things out. . . . .                                | 0.5 | 20.8 |
|     |   | 1.0 | 24.8 |
|     | DEFINITE: It is hard to stir him to take an interest or to make any effort. . . . .                                 | 1.5 | 3.0  |
|     |   | 2.0 | 1.0  |
|     | SEVERE: Is permanently so lethargic and tired that he hardly accomplishes anything. . . . .                         | 2.5 | 1.0  |
|     |   | 3.0 | 0.0  |

GCLS cont.

|     |  |     |      |
|-----|--|-----|------|
| (L) | HE/SHE RELIES ON PERSONAL CHARM TO AVOID LEARNING  | 0.0 | 65.3 |
|     | SOMEWHAT: Gets along by appealing ways or helpfulness but tends to avoid work. . . . .                                     | 0.5 | 16.8 |
|     |  | 1.0 | 12.9 |
|     | DEFINITE: Uses his/her personal charm to get individual help, but makes little effort to learn. . . . .                    | 1.5 | 2.0  |
|     |  | 2.0 | 2.0  |
|     | SEVERE: Relies entirely on individual charm and doesn't mind how badly he does or how retarded he appears. . . . .         | 2.5 | 1.0  |
|     |  | 3.0 | 0.0  |
| (M) | HE/SHE HAS HOSTILE MOODS WHEN HE REFUSES TO WORK   | 0.0 | 57.4 |
|     | SOMEWHAT: Pouts and refuses to begin at first. . . . .   | 0.5 | 17.8 |
|     |  | 1.0 | 12.9 |
|     | DEFINITE: Gets antagonistic when things go against him or he fails, and threatens to quit. . . . .                         | 1.5 | 5.9  |
|     |  | 2.0 | 3.0  |
|     | SEVERE: Shrugs off help angrily, refuses to work or quits the scene. . . . .   | 2.5 | 1.0  |
|     |  | 3.0 | 2.0  |
| (N) | HE/SHE SEEMS TO TRY TO ATTEND, AND IS NOT HYPERACTIVE OR DISTRACTIBLE, BUT CANNOT CONCENTRATE.                             | 0.0 | 67.3 |
|     | SOMEWHAT: Seems to try hard but cannot keep his mind on the task, and gets things wrong that he was getting right. . . . . | 0.5 | 14.9 |
|     |  | 1.0 | 12.9 |
|     | DEFINITE: As soon as he is asked anything his mind flies off at a tangent. . . . .   | 1.5 | 4.0  |
|     |  | 2.0 | 0.0  |
|     | SEVERE: Cannot be induced to focus his attention on anything. . . . .  | 2.5 | 0.0  |
|     |  | 3.0 | 1.0  |

GCLS cont.

|     |   |     |      |
|-----|---|-----|------|
| (O) | HE/SHE DOESN'T SEEM AWARE OF WHAT THE TASK CALLS FOR                      | 0.0 | 64.4 |
|     |   | 0.5 | 15.8 |
|     | SOMEWHAT: Difficult to get him to understand what to do. . . . .          | 1.0 | 13.9 |
|     | DEFINITE: Attends to the task but doesn't seem aware                      | 1.5 | 1.0  |
|     | that something is required of him. . . . .                                | 2.0 | 5.0  |
|     | SEVERE: Disregards the task soon after noticing the                       | 2.5 | 0.0  |
|     | materials. . . . .  | 3.0 | 0.0  |
| (P) | HE/SHE PREFERS HIS OWN WAY OF DOING THINGS,<br>WHICH OFTEN DON'T WORK OUT |     |      |
|     |   | 0.0 | 67.3 |
|     | SOMEWHAT: Is not interested in regular learning activities                | 0.5 | 20.8 |
|     | but talks intelligently and finds his own interests. . . . .              | 1.0 | 9.9  |
|     | DEFINITE: Gets behind because he insists on trying to do                  | 1.5 | 1.0  |
|     | things his own way. . . . .   | 2.0 | 1.0  |
|     | SEVERE Is creative and imaginative, but is impatient of                   | 2.5 | 0.0  |
|     | the routines of learning, so that his achievement                         |     |      |
|     | is very poor. . . . .   | 3.0 | 0.0  |

TABLE V

## FREQUENCIES OF GCLS PRESCREENING SCORES

| Prescreening<br>Subscore | Score<br>Frequency | Cumulative<br>Frequency |
|--------------------------|--------------------|-------------------------|
| 14                       | 4                  | 4.0%                    |
| 15                       | 6                  | 9.9%                    |
| 16                       | 9                  | 18.8%                   |
| 17                       | 7                  | 25.7%                   |
| 18                       | 6                  | 31.7%                   |
| 19                       | 7                  | 38.6%                   |
| 20                       | 8                  | 46.5%                   |
| 21                       | 13                 | 59.4%                   |
| 22                       | 4                  | 63.4%                   |
| 23                       | 9                  | 72.3%                   |
| 24                       | 7                  | 79.2%                   |
| 25                       | 3                  | 82.2%                   |
| 26                       | 5                  | 87.1%                   |
| 27                       | 2                  | 89.1%                   |
| 28                       | 3                  | 92.1%                   |
| 29                       | 2                  | 94.1%                   |
| 30                       | 3                  | 97.0%                   |
| 33                       | 1                  | 98.0%                   |
| 36                       | 1                  | 99.0%                   |
| 38                       | 1                  | 100.0%                  |
| TOTAL. . . . .           | 101                |                         |

FREQUENCIES OF GCLS SCORES

| <u>GCLS</u><br>Subscore | Score<br>Frequency | Cumulative<br>Frequency |
|-------------------------|--------------------|-------------------------|
| 0                       | 5                  | 5.0%                    |
| 1                       | 4                  | 8.9%                    |
| 2                       | 5                  | 13.9%                   |
| 3                       | 3                  | 16.8%                   |
| 4                       | 2                  | 18.8%                   |
| 5                       | 1                  | 19.8%                   |
| 6                       | 6                  | 25.7%                   |
| 7                       | 8                  | 33.7%                   |
| 8                       | 4                  | 37.6%                   |
| 9                       | 3                  | 40.6%                   |
| 10                      | 6                  | 46.5%                   |
| 11                      | 3                  | 40.6%                   |
| 12                      | 5                  | 54.5%                   |
| 13                      | 4                  | 58.4%                   |
| 14                      | 4                  | 62.4%                   |
| 15                      | 2                  | 64.4%                   |
| 16                      | 1                  | 65.3%                   |
| 17                      | 4                  | 69.3%                   |
| 18                      | 3                  | 72.3%                   |
| 19                      | 3                  | 75.2%                   |
| 20                      | 2                  | 77.2%                   |
| 21                      | 2                  | 79.2%                   |
| 22                      | 1                  | 80.2%                   |
| 23                      | 1                  | 81.2%                   |
| 24                      | 1                  | 82.2%                   |
| 26                      | 2                  | 84.2%                   |
| 27                      | 2                  | 86.1%                   |
| 28                      | 2                  | 88.1%                   |
| 30                      | 1                  | 89.1%                   |
| 31                      | 3                  | 92.1%                   |
| 32                      | 2                  | 94.1%                   |
| 34                      | 3                  | 97.0%                   |
| 36                      | 1                  | 98.0%                   |
| 46                      | 1                  | 99.0%                   |
| 58                      | 1                  | 100.0%                  |

TOTAL. . . . . 101

APPENDIX E

MOTHERS ' SUBJECTIVE BIRTH SURVEY RESPONSES

BS-9 Did anything frustrate or upset you during the hours before birth (labour), or during this child's birth?

| <u>Mother's Code</u> | <u>Mother's Response</u>   |
|----------------------|--|
| 002                  | labouring too long   |
| 004                  | I wouldn't dilate  |
| 005                  | the length of labour time  |
| 006                  | knowing twin was dead  |
| 009                  | I was exhausted due to length of labour  |
| 012                  | long labour: 26 hours  |
| 013                  | only slightly: another mother's screaming; she had been in labour 30 hours   |
| 016                  | no one to talk to in labour room and lack of sympathy (if that's the word) from doctors and nurses; they took my glasses away and I couldn't see David for about five minutes after he was born when they finally gave them to me. |
| 017                  | long labour: 36 hours  |
| 026                  | indecision by doctors  |
| 023                  | enema; vomiting from Demeral   |
| 024                  | a definite adult to child attitude on the part of the nurses toward me in the labour room  |
| 028                  | hospitalized six weeks prior to delivery   |
| 034                  | had to induce; didn't upset me very much   |
| 036                  | doctors! (Residents' attitude and hospital experimentation)  |
| 038                  | amniocentesis done about 10:00 a.m.; problems with baby not having enough oxygen (had  |

- shown up a couple of weeks before birth); labour had not started; doctor decided on caesarean, but was not done immediately, as I'd had breakfast. Rather than enaema etc. doctor decided to wait several hours (problems closely monitored all during waiting).
- 040 regards to blood, as I am Rh Negative
- 041 the presence of a very non-supportive person through most of my labour
- 043 I didn't want a caesarean.
- 045 I was upset because my baby was born before time.
- 056 I had no experience of childbirth and had to go through 50 hours of labour
- 059 nervous
- 060 the coldness; barbarian ways of the labour nurses: inexcusable
- 063 My own doctor did not deliver the child.
- 065 labour took so long with no result; referred pains in legs and back were bad; I was disturbed by the fact that I had to be moved through the hospital, using public hallways and elevators, without my husband, to have x-rays taken.
- 073 Labour was so quick that I feared not getting to hospital.
- 076 not being able to stop the onset of labour (baby 2½ months premature: labour five days off and on trying to stop it)
- 078 attitude of the medical staff who treated me as an ignorant fool

Mother's CodeMother's Response

172

- 085 She almost died three times during labour;  
(cut off of oxygen: one month overdo) I  
had a fetal monitor.
- 086 very unfeeling nurse
- 087 I was strapped down for eighteen hours!!!
- 089 slow and erratic labour: 24 hours of slow  
erratic labour followed by eight to 10 hours  
of hard erratic labour
- 091 Her father did not come to visit the day  
before her birth.
- 094 I was having a natural childbirth after  
having a caesarean section with the last  
child. The nurse told me the extreme dangers  
of this while I was in labour.
- 095 the long labour
- 096 nursing attitude (some question of whether  
a caesarean should be performed); I found  
this very stressful knowing that the staff  
could not make up their minds. It was never  
discussed with me what the problem at that  
time was; therefore, I felt frightened.
- 100 first half of labour: 10 to 15 minutes;  
100 minutes for last half.
- 108 My husband and I were having marital problems.
- 109 I was very afraid.
- 097 No, everything was explained to me as it went  
along.

BS-35 If yes (there was a change or interference with the natural timing of the birth), please explain what happened:

BS-36 If yes, did this upset you?

Mother's Code

Mother's Response

|     |  |
|-----|--|
| 004 | I wasn't dilating and my water hadn't broken.  |
| 005 | I was induced to promote the delivery  |
| 007 | because baby's head did not come down  |
| 008 | I had a drip along with the intravenous which speeded up the contractions and the doctor broke the water sac: it was a great relief.   |
| 009 | forceps  |
| 014 | I was ready, but (the) doctor was late.  |
| 016 | I had only dilated two centimeters after eight hours and with his slowing heartbeat they rushed the caesarean.   |
| 019 | because her head was face up they had to put me out and then take her out.   |
| 020 | had to use forceps because I was too small   |
| 026 | baby's heart stopped; forceps delivery   |
| 030 | I think forceps delivery was required because I did not know I was dilated and was afraid to push with the first four really strong contractions (no nurse or doctors around either when I was dilated, they did not know) (Should have been better attention at (the) hospital. Baby was born on the stretcher before delivery room.) |
| 034 | water broke; no labour; finally induced (by drugs)   |

Mother's CodeMother's Response

- 036 forceps were used because obstetrician felt I had been pushing for too long.
- 037 nurses didn't believe that mother was ready to give birth (\*described in detail in another section of the Survey)
- 040 regarding cord wrapped around neck
- 041 doctor broke the water, delivery took place shortly after
- 042 baby was facing wrong way and stuck; labour was prolonged
- 043 The baby's head wouldn't drop (caesarean)
- 045 I had a tumor on my womb and operation came without plan
- 049 suction
- 052 At the last moments I had to be put under as the umbilical cord was wrapped around her neck and they had to take her quickly.
- 061 I think because of the freezing I didn't help enough with the pushing so the actual delivery was probably delayed.
- 065 Despite good contractions etc., the baby couldn't make her way past an obstruction shown by x-ray, 24 hours after labour began, followed by caesarean; I was fed up!
- 067 her head was out but had trouble getting her shoulders out they had to push her back in and pull her out two or three times.
- 077 I had a caesarean, but I didn't labour long, my doctor said he thought no progress would be made so he did (the) caesarean early; I wanted to deliver normally and I was a bit scared of general anaesthetic.

Mother's CodeMother's Response

- 085 I was induced to initiate labour and induced to speed up dilation; I was worried about what was happening to the baby.
- 087 baby's head failed to engage in birth canal (caesarean done)
- 092 The umbilical cord was wrapped around Ryan's neck cutting off his oxygen.
- 094 I was induced because my doctor wanted to be sure he was available in case I had to have another caesarean section
- 097 baby's heart stopped so he was delivered when I was three quarters dilated.
- 109 The large amount of drugs administered to myself definitely prolonged labour and delivery.

BS-51 If yes, (major worries or unhappiness which upset mother during her pregnancy) please explain:

- 001 too much to write; now divorced
- 004 death of my cat
- 011 During my eighth month my husband was on strike, so financial worries.
- 012 fear for the child's health, fear of delivery for periods of time.
- 013 I would have moments when I would worry if he would be normal or not (not very often!)
- 014 was very apprehensive that I could cope with motherhood.
- 016 I bled heavily at three months and the doctor told me I could lose him if I didn't take it easy for the next six months. Also, I had the

- 016 cont. normal worry of having a deformed or retarded baby.
- 022 I wasn't married.
- 025 family problems
- 026 death of two previous children
- 028 concerned about German Measles contact and Placenta Previa complications.
- 030 worries and stress; I bought a place to live in eighth month of pregnancy; worried about finances; I was under stress also because the situation with (the) baby's father was undecided.
- 031 I was a single parent and had to make reasonable plans for our future. I have wonderful supportive friends and they helped me feel good about myself. I felt concerned; a little anxious; but confident I could do it and I did.
- 032 not about the baby, but other worries.
- 034 slight problem with older child
- 036 marital problems
- 037 I was only eighteen at the time and the man who is my son's father whom I had dated all through highschool, broke up with me, before I was able to tell him that I was pregnant. About three months later he found out and called me up to deny it was his.
- 038 not sure how to answer; had unhappiness all through my pregnancy, but never really upset; mostly happy because I was pregnant; husband and I separated at time of and all during my pregnancy. This was the unhappiness aspect.

Mother's CodeMother's Response

- 039 My first baby born four months before conception of this one, died of crib death at one month, 17 days old, so I naturally was a bit fearful.
- 041 I was worried about my ability to parent; I was concerned about my relationship with my husband; I was worried about his suitability as a father; I felt it unfair to bring a child into this situation.
- 043 I didn't think that I could get pregnant, so I had decided not to have any. I was four months pregnant when I found out; I was shocked.
- 050 My husband is an alcoholic.
- 061 uncertain whether this would change the relationship between myself and husband
- 063 At some points, my husband was not very supportive.
- 064 worried on and off whether my husband could accept change in lifestyle; not a large part of the pregnancy.
- 071 not because of the pregnancy but because of the instability of my marriage
- 073 anxiety lest I have similar complications as in first pregnancy; anxiety also brought on by difficulty sleeping in last trimester and dealing with a toddler!
- 079 again, not so much during pregnancy but after birth when the responsibility was reality and the support I was expecting was not there.
- 081 My mother arrived from another country; she was not happy here at the beginning.

- 085 husband would beat me up occasionally; I was under severe tension and depression most of the time. I am subsequently doing much better now and enjoy my child tremendously.
- 094 I was more sensitive about many things that normally don't bother me.
- 098 pressure from graduate school; financial worries
- 099 I was alone, and I wanted very much to be with my baby's father whom I loved.
- 108 My husband and I were having marital problems.
- 109 I was frightened just by the thought of going through birth. Also marital problems at the same time.

The following comments were made by the mothers to expand upon responses to the items indicated below:

BS-3 Where was this child born?

- 042 planned home birth, but complications necessitated a hospital birth.

BS-6 Was there any major birth/delivery difficulty with this child?

- 076 apparently because he wouldn't have taken the pressure of birth at such an underdeveloped stage (forceps were used). The doctor mumbled something about not wanting the veins in his head to burst.
- 085 poor oxygenation in blood; baby's heartbeat would cut down to 30 to 40 beats a minute on several occasions and I had to have oxygen and to be moved around.

BS-7 Did this baby have any major physical problem seen at birth? (e.g. cerebral palsy; Down's Syndrome; malnutrition)

Mother's Code

Mother's Response

- 039 scoliosis: I noticed it four weeks later while doing (Leboyer) baby massage; (his) back (was) out 32<sup>0</sup>! (corrected now to 11<sup>0</sup>)
- BS-8 Generally, did you feel that this baby had a hard time through labour and delivery?
- 076 I also felt very responsible for going into labour so soon, of course.
- 089 My baby spent the first 10 days after he was born just sleeping. He even had to be woken up to eat.
- 097 He had slipped into a hollow below the birth canal and the contractions were compressing him.
- BS-12 Did you take any classes to prepare you for your baby's birth?
- 039 one class then quit; the teacher was very condescending and had never had children, anyways.
- BS-16 How did your body's labour contractions feel to you before birth?
- 084 The first few hours I was too busy relaxing and doing the breathing exercises to think about being uncomfortable. Towards the end when the contractions really intensified, I started to panic. A nurse had just checked me and told me I had another five or six hours to go. I didn't think I could control that kind of contraction that long. But, as it turned out, I was in the transition stage and just about ready to deliver.

BS-17 Did you feel afraid when your labour contractions started?

Mother's Code

Mother's Response

- 060 No, I was quite calm and happy when the first contractions came, but when I entered heavy labour, I became quite frightened; prenatal classes always avoided discussing the pain in labour.
- 093 because I was planning a home birth (I was a little nervous); my waters broke at the start of labour and I had strong hard contractions immediately. I hadn't anticipated this, and got nervous and went to hospital.
- BS-18 Did you have a supportive, comforting person with you during labour (the hours before the actual delivery of your baby)?
- 031 the baby's father and he was great! Massaged my back for hours on end and remained calm when I was grumpy.
- 083 A doctor and a nurse, in particular, were very good to me.
- 084 My husband who had attended birthing classes with me timed my contractions, brought me crushed ice and rubbed my stomach. He was wonderful!
- BS-20 Did your hours of labour and the birth of this child take place in the same room?
- 088 No, in fact it was in two different hospitals!

BS-21 If they were in different rooms (labour and delivery) did changing rooms upset you?

Mother's Code

Mother's Response

014 There was a great scurry to delivery room, because labour really sped up, after water broke. Doctor was not there on time; nurse didn't call him soon enough.

032 From labour room to delivery room they were trying to tell me to stop pushing. I said I couldn't and they left me alone. I was so relieved though, when they said go ahead; I just wanted my baby to come any way 'he' wanted to; no drugs, just me and him.

073 It seems an unnecessary bother and very difficult to move from bed to moving bed to delivery table at that stage of labour; particularly since I knew I was ready to deliver before the attending nurse would believe me!

BS-22 Did the type and mood of the room where this baby was born help you to feel as relaxed as possible?

067 The room was too cold and sterile; no warm colours.

084 It was cold and noisy and too bright and too many people around.

023 I'm used to them . . . . I'm a doctor.

BS-23 Were you allowed to choose your own body position as this baby was being born?

099 Yes, thanks to my doctor who insisted I be allowed to choose (the nurse was very upset!)

BS-24 If no, (not allowed to choose delivery position)  
would you have chosen a more comfortable position?

Mother's CodeMother's Response

- 067 No, that position was fine for me except for the straps they scared me very much; I don't like being tied down.
- BS-26 Did you have a supportive person with you during this baby's birth (the actual delivery)?
- 009 It was like Grand Central Station: husband, student nurse, G.P., Obstetrician, Obstetric Nurse, Anesthetist, Intern; but, I liked it.
- BS-28 What were your body's physical feelings as this child was being delivered, at birth?
- 027 I was, at the time, not given enough anesthesia and could feel the pulling; I also had a very bad dream.
- 074 The Anesthetist gave me too much gas at the last minute and I was totally out for about a minute and missed the actual delivery.
- BS-29 Did you or anyone use a relaxation method during birth? (e.g. special breathing; massage and touching)
- 083 breathing; massage; doctors and nurses all joined in a sing-song.
- 084 I tried breathing; but under panic circumstances, I couldn't stay calm.
- BS-31 If yes, (medical machines were used) how did this make you feel?
- 098 excellent rapport with obstetrician who explained everything and offered me the choice (regarding low forceps)

BS-34 Did anything change or interfere with the natural timing of the actual birth of this child?

Mother's Code

Mother's Response

- 078            However, the medical resident attempted to interfere (wanted to use forceps). I'm delighted to say that I didn't give them time.
- BS-38 What were your emotional feelings or state of mind at the moment of birth (or just before you were put under anesthesia)?
- 109            I was quite frightened due to complications the doctor 'thought' were there. This gave me a needless scare.
- BS-39 Did you hold your child immediately (within five minutes after delivery)?
- 013            Sean was placed on my stomach. I was in hand restraints and not allowed to touch him.
- 038            not even after awakening from general anesthesia: approximately three days after birth, before I held him; over 24 hours before I saw him.
- 073            After the birth of our first child, my husband held him immediately and then I snuggled him for at least fifteen minutes. I was not pleased by the sterility of the second experience but couldn't be bothered arguing with a large hospital procedure; I knew I would be home very quickly anyway. In retrospect, I should have insisted on general principle. I think I would have felt better had I been able to hold her right away; the bonding took much longer than it had with my first child, though we have been extremely close for a long time now (she is nearly four years old). She was a colicky baby: I have often wondered whether we might have gotten off to a better start. Fortunately, the colic ceased at 12 weeks.

Mother's CodeMother's Response

- 097 My husband held him as well.
- BS-41 Did this child seem to enjoy being cuddled and touched immediately after birth?
- 089 He seemed very interested in where he was and things around him.
- BS-44 Did this baby stay with you from the moment of birth on (rooming-in)?
- 016 No, this baby was kept in another room for two days in Intensive Care Unit and after that, I only got to hold him for feeding. I wasn't even allowed to dress him to bring him home; the nurse did it.
- 044 According to hospital rules, they brought the baby only for feedings, at first.
- 055 Because of hospital rules, mothers had the baby out of the nursery only for feeding and changing.
- BS-45 When did you first feed this child?
- 038 baby became 'highly agitated' about six hours after birth; taken to intensive care and remained there about nine days.
- 060 My doctor wanted me to nurse the baby after birth, but, the nurse 'whisked' her away.
- BS-49 Some women feel that they would rather not have the baby at all because of the change they must make in their lifestyle; for example, give up their job and/or stay at home. Did you feel that way during your pregnancy with this child?
- 037 My lifestyle didn't change much. I continued going to college which ended approximately five days before I gave birth, and I worked till I was about seven months pregnant.

BS-52 Some women very much want to have a baby and are happy just to be pregnant. Did you feel this way during your pregnancy with this child?

Mother's Code

Mother's Response

022 The baby came at (the) wrong time and I had my worries during pregnancy but the child was loved by me from the moment I found out I was pregnant. I felt very proud of being a mother.

043 I didn't mind being pregnant; I was scared of the responsibility.

BS-54 Some women really dislike the last month of pregnancy and at times dislike the unborn baby for making them so uncomfortable. Did you feel that way during your last month of pregnancy with this child?

054 I hated the last month but didn't take it out or feel badly, towards the unborn baby.

BS-55 Some women feel that giving birth is something very special for them and they are glad to have the chance to experience giving birth to a child. Did you feel this way at the birth of this child?

030 I was real glad to be a woman. I guess before I always felt a little envious of men.

BS-57 If you had a child born either before or after the birth of this child, how did this birth feel to you in comparison?

I adopted out the first child. I was 15 years old and never saw the baby. This birth was about the same physically, but I enjoyed it much more.

General Positive Feelings of Mother Towards Birth Experience

- 006 A very fast labour and quick delivery.
- 010 The labour and actual delivery all happened so fast, I was speeding along feeling very exhilarated.
- 011 I was apprehensive, as this was my second child, and the first was fairly long and painful. This birth was short with only slight discomfort, and was really a joy for me.
- 012 Very close relationship with the father. We worked together, it was hard work, but the minutes around the actual birth were spectacular, and my memories are pleasant.
- 013 I wanted it to be over quickly. My water broke three to four hours before labour actually started. I thought this was unusual. My husband was with me during delivery so I was quite calm and happy. It was probably the most marvelous experience of my life.
- 015 I was well prepared and well supported by my husband and thus, had very little feelings of anxiety. I was very excited and happy during the birth, and laughed and cried all the while after, while I was being sutured and cleaned. The memories of the pain

dimmed immediately as soon as the doctor plopped the baby on my stomach!

023 It went so fast it was overwhelming. I wish I hadn't taken Demerol as it made things fuzzy and hard to remember. However, I was awake and relaxed and totally happy and consider the birth itself as a memorable, joyful experience. I wanted to do it again right away.

031 I felt I was working with the baby and for myself, proud of handling the labour without emotionally falling apart. It was an opportunity to test my strength and I was satisfied. Afterward, I felt I knew myself better and since, have felt closer to women than before the experience of childbirth.

032 During the last month of pregnancy, I was getting very anxious to 'see' my baby. The actual delivery was very fast. The nurse on duty at this time was quite capable of delivering my baby (although was not necessary) and this gave me a lot of confidence. I was excited and to be honest, it was fun. My husband was in the delivery room with me and I'll never forget when he said, "Good girl, Wendy; push."

037 I felt quite calm; I knew all the stages of labour that were about to happen and therefore, anticipated them. My labour was short and every time the contractions came, I'd close my eyes and concentrate on other things. When I was fully dilated they wheeled me in the other room and I pushed three or four times and he came out. I'd always assumed it would be hard, but I found it really wasn't. The only thing that somewhat annoyed me is when I told the nurses I was in the third transition of labour and I believed I was fully dilated; they replied that I couldn't possibly be ready. I told them I knew about the second transition of labour where you think your ready but, actually you're not, and if you do push, the baby's head might push against the pubic bone. I told them I'd already been through that stage, but they continued to tell me I wasn't ready. Until, another nurse walked in and said, "Oh, your baby's about to be born; you've dilated about seven inches! Then they wheeled me in the other room and he was born a few minutes later. I now find it humorous what the nurses' reactions would have been if he had been born in the labour room.

I also think the media (T.V.) seems to always project women giving birth as extremely painful and they always seem to be screaming.....before I became pregnant I always thought it would be like that. When I went to prenatal classes I realized that it didn't have to be like that. If your're relaxed you can direct all your energies towards 'giving birth' and not 'expanding your lungs' so to speak. I remember being so amazed after the birth and thinking to myself, it doesn't have to be painful; it seems to be so much so (painful) if you are hard on yourself.

039 I wanted a Leboyer birth and was a bit sorry about that. It was as close as could be with the doctor I had. We only had the one overhead light (spot light) and the nurse and doctor were instructed not to talk, only a whisper. I then stayed in the hospital eight hours and went home to bath the baby. I kept her in darkness and gradually opened curtains for daylight. This whole procedure took about two weeks. I kept her in water four to five times a day for thirty minutes or more. She was, and is, a calm baby. I feel that Leboyer Methods of birth should be available in all hospitals.

050 I thought it was a wonderful experience and probably the most important thing to happen in my life.

061 I had received an injection (I believe called a caudal block) which numbed me so during actual delivery, I felt no pain. I watched my baby's entrance to the world via a mirror; it was fascinating, like a movie; I felt it wasn't really happening to me because I felt no pain.

067 This birth was extremely easy. Everything was very relaxed; went quickly (four hours start to finish); walked into delivery room; climbed on table and she was born five minutes later. I had no strong labour pains, at all.

073 I was pleased it was quick, though expected it would be since it was my second child. I was pleased when it was over since I was quite tired of being pregnant. I was pleased also to have a girl since we had a son. I was quite delighted to have had a spontaneous delivery since I was booked for an induction the next day and my first delivery had also been induced. I was happy to have my husband there; it was a beautiful sunset through the delivery room windows.

094 It was an exciting and thrilling experience. My doctor had confidence that I could deliver naturally even though I had previously had a Caesarean.

106 A wonderful experience.

#### Mixed Feelings of Mother Towards Birth Experience

005 I wanted my baby very much and wanted the labour to end to get it all over with quickly.

014 I was terrified by the whole idea, but, as soon as I started using my breathing exercises and found it worked, I became really relaxed.

019 Everything happened so fast that I didn't really have time to think about my own feelings. I was just looking forward to actually holding and seeing my own child after carrying her around for nine months.

042 I was unconscious for the last few minutes of the delivery, and for three minutes after she was born.

044 Nothing too unusual I guess; I just did not quite expect the intensity of the labour pains. When I realized that it was perfectly normal I just wanted to get it all over with. It took eight and a half hours. I must point out that my husband's presence at the labour and delivery room was the best help Carolina

- 044 and I could have possibly had. Although he almost  
fainted (!) in the labour room (which was actually  
hilarious) at one point; he has a tremendous help and  
I would advise everyone to try it.
- 048 Hoping that he or she would be normal.
- 052 The only major feeling I remember is a desire to have  
my mother with me and relief that it was finally over.  
Also, I thought for days after that something was wrong  
with me because I didn't feel love the moment I held  
her; it took several days of feeding and touching to  
evoke a response in me.
- 074 I just wanted her to come out ok and be ok.
- 086 Glad that it was all over; did not like being pregnant  
due to very hot weather in the last three months.
- 087 I had a caesarean because the baby's head failed to  
rotate into the birth canal. I was prepared for a  
natural childbirth. Twenty-four hours of labour, a  
uterus in spasms, and a 'section', were a different  
ending to sweet preparation, but, not at all traumatic.
- 091 There was nothing upsetting except when I was put to  
sleep just before delivery.

- 097 I was nervous but happy about the birth. I would have preferred a delivery a little more like the Leboyer Method, but, circumstances did not allow. I feel that hospitals do the mom and baby a great disservice by enforcing silly rules and regulations that separate the mother from her child. You feel like the baby doesn't belong to you until you go home.
- 100 Joy, relief, and frustration with long second stage (of labour); about one hour. Large baby: 9 lb. 14 oz. with big head and broad shoulders. Just ask me!

General Negative Feelings of Mothers Toward Birth Experience

- 004 I was afraid that she would die or that they would wait to deliver her. (Mother's hip dislocated and she would not dilate; further, the baby was more than three weeks overdue.)
- 028 I was in contact with German Measles at three months and although tested negative, I was still uneasy. I was hospitalized twice during pregnancy (bleeding placenta previa) and unhappy to have a Caesarean. My other two children were natural births. The emergency hysterectomy was a great shock to my system. I

- 028 awoke in the operating room and no baby; my whole body shaking. I kept trying to get up off the stretcher. It was horrible.
- 041 I was pleased that I was able to handle my contractions with very little difficulty. However, it was a long labour and I got really tired towards the end and felt apprehensive about the birth. I was afraid I wouldn't have enough energy to push. There was a conflict happening between the people who were with me during labour and I really felt like I was on my own.
- 042 Labour was very easy, almost pleasurable, but the delivery was so difficult and I was experiencing so much pain that I kind of lost touch with my consciousness of birthing and wanted out of the situation.
- 043 Resentment; scared for the baby. (The mother had a Caesarean and hadn't wanted one; baby was over three weeks overdue; baby's head wouldn't drop. The mother was four months pregnant before she found out she was expecting; she had thought she couldn't get pregnant and was shocked.)

- 065 During labour I just wanted to get it over and done with, particularly as the last four hours or so before the Caesarean, I had labour pains starting every 90 seconds or so, but no result! I found the back and leg pains much worse than the actual labour pains, and an injection of Demerol didn't seem to help. It was also weird to have a student nurse present to 'help' who didn't know the supportive methods used; we instructed her!
- 076 I just felt that it was extremely unfortunate that my child had to start off with such a heavy disadvantage. I think I was in a state of shock for the next three months after his birth. Shortly after the operation I was told that it really was touch and go and there was some speculation as to whether it was better not to shut off his life supporting machines. (This child was two and a half months premature; had had open heart surgery one month after birth.)
- 079 The hospital was like an assembly line for mothers; nothing too personal; to them it was something that happened everyday. I remember being scared to the point where when it was almost over, I didn't want to be there and asked for an anesthetic. But, after birth

- 079 I was feeling quite ecstatic.
- 080 I was very happy to give birth to my child, but the pain was so extreme that I thought I would not have children anymore.
- 085 I was extremely annoyed with the specialist since he said I was neurotic to say I was very overdue. I insisted on tests for maturity and he grudgingly administered them. They confirmed my opinion. I didn't have much confidence in the hospital. Also, my husband didn't show and my labour was over fourteen hours. I was depressed and scared for the baby.
- 089 I had been led (by friends, family and books) to expect an average labour of approximately 18 hours; however, the labour was anything but. The contractions were never regular and due to my baby's presentation (posterior) labour was very slow. This made me anxious and worried. At the time, he (my baby) was born, I swore I would never have another baby. However, when my baby looked at me right in the eye five minutes after he was born, I felt it was all very worthwhile!
- 096 I was very uneasy during labour because there seemed to be some question of whether a caesarean should be performed. I found this very stressful knowing that

096 The staff could not make up their minds. It was never discussed with me what the problem at that time was; therefore, I felt frightened.

109 I was very frightened during giving birth. Also, I was worried my child would not be 'normal'.  
Father was there but of no support as he was drunk.

APPENDIX F

RECODING OF BIRTH SURVEY ITEMS, COMPUTATION  
OF FACTORS AND SCORES

RECODING OF BIRTH SURVEY ITEMS, COMPUTATION  
OF FACTORS AND SCORES

|    |                |   |
|----|----------------|---|
| 6  | MISSING VALUES | MOMS1 TO MOMS57, AGE (0)                            |
| 7  | RECODE         | MOMS4(4=3)(3=4)/                                    |
| 8  | RECODE         | MOMS5(3=2)(4=3)(5=4)(6=4)(7=4)/                     |
| 9  | RECODE         | MOMS8(6=2)(2=3)(3=4)/                               |
| 10 | RECODE         | MOMS10(4=2)(2=3)(3=4)(5=4)(6=4)(3=5)/               |
| 11 | RECODE         | MOMS16(4=2)(5=3)(2=4)(3=5)/                         |
| 12 | RECODE         | MOMS17(5=3)(3=4)(4=5)/                              |
| 13 | RECODE         | MOMS18, MOMS23, MOMS24, MOMS26(3=2)(2=3)/           |
| 14 | RECODE         | MOMS28(4=2)(5=2)(6=3)(2=4)(3=5)(7=5)/               |
| 15 | RECODE         | MOMS29(1=3)(2=1)(3=2)/                              |
| 16 | RECODE         | MOMS30, MOMS32, MOMS37, MOMS41(2=3)(3=2)/           |
| 17 | RECODE         | MOMS31(7=5)(5=6)(6=7)(8=7)/                         |
| 18 | RECODE         | MOMS33(4=2)(5=2)(2=3)(3=4)/                         |
| 19 | RECODE         | MOMS34(3=2)/  |
| 20 | RECODE         | MOMS38(7=1)(1=2)(2=3)(5=4)(6=4)(3=5)(4=6)/          |
| 21 | RECODE         | MOMS39(5=1)(6=2)(7=3)(1=4)(2=5)(3=6)(4=7)/          |
| 22 | RECODE         | MOMS44(4=3)(3=4)/                                   |
| 23 | RECODE         | MOMS47(5=1)(1=2)(4=3)(6=4)(2=5)(3=6)/               |
| 24 | RECODE         | MOMS52(1=4)(2=3)(3=2)(4=1)/                         |
| 25 | RECODE         | MOMS53(4=2)(2=3)(3=4)/                              |
| 26 | COMPUTE        | F1=MOMS5+MOMS6+MOMS8+MOMS9+MOMS10+MOMS11+MOMS14     |
| 27 | COMPUTE        | F1=F1+MOMS15+MOMS30+MOMS33+MOMS34+MOMS42            |
| 28 | COMPUTE        | F2=MOMS12+MOMS18+MOMS26+MOMS29                      |
| 29 | COMPUTE        | F3=MOMS48+MOMS49+MOMS52                             |
| 30 | COMPUTE        | F4=MOMS23+MOMS40+MOMS41+MOMS44+MOMS45+MOMS51        |
| 31 | COMPUTE        | F5=MOMS19+MOMS22+MOMS24+MOMS27+MOMS38+MOMS50        |
| 32 | COMPUTE (F6)   | F8=MOMS57+MOMS56+MOMS14+MOMS15                      |
| 33 | COMPUTE        | PRE SCORE=KIDS1+KIDS2+KIDS3+KIDS4+KIDS5+KIDS6+KIDS7 |
| 34 | COMPUTE        | G1=KIDS8+KIDS9+KIDS10+KIDS11+KIDS12+KIDS13+KIDS14   |
| 35 | COMPUTE        | G2=G1+KIDS15+KIDS16+KIDS17+KIDS18+KIDS19+KIDS20     |
| 36 | COMPUTE        | GCLS=G2+KIDS21+KIDS22                               |
| 37 | FACTOR         | VARIABLES=MOMS1 TO MOMS2, MOMS4 TO MOMS12,          |
| 38 |                | MOMS14 TO MOMS19, MOMS21 TO MOMS30,                 |
| 39 |                | MOMS32 TO MOMS34, MOMS37 TO MOMS42,                 |
| 40 |                | MOMS44 TO MOMS57, AGE, SEX, KIDAGE, PRESCORE, GCLS, |
| 41 |                | KIDS1 TO KIDS22, F1 TO F5, F8 /NFACTORS=11          |
| 42 | OPTIONS        | 2   |
| 43 | STATISTICS     | ALL   |

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