The University of Manitoba

Sibling Adjustment in Families with Institutionalized Mentally Retarded Children: A Controlled Study

by

Sharon Fern Tritt

A Thesis Submitted to the Faculty of Graduate Studies

In Partial Fulfillment of the Requirements

For the Degree of Master of Arts

Department of Psychology

Winnipeg, Manitoba

July, 1980

SIBLING ADJUSTMENT IN FAMILIES WITH INSTITUTIONALIZED MENTALLY RETARDED CHILDREN: A CONTROLLED STUDY

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Abstract

The emotional and behavioural adjustment of children with institutionalized retarded siblings was compared to that of children with non-retarded siblings. The 27 children in each group were matched on sex, age, intelligence, and parental marital status. Emotional adjustment was assessed through the Self-Appraisal Inventory (Frith & Narikawa, 1972) and by a question regarding overall happiness. Behavioural adjustment was measured by the Behaviour Problem Checklist (Quay & Peterson, 1965) rated by mothers. All children were also administered a semi-structured interview. As predicted, children with retarded siblings reported significantly lower overall emotional adjustment, significantly depressed affect in the family situation, and significantly less happiness. Contrary to prediction, children with retarded siblings were not reported to differ significantly in their overall behavioural adjustment. However, significant differences between the two groups were found in reported incidence of anti-social behaviour. Saliency of retardation was found to play a significant role in behavioural adjustment. Results were discussed in terms of their methodological contribution to the literature, directions for future research, and implications for therapeutic intervention in families with institutionalized retarded children.

Acknowledgements

I am pleased to acknowledge several people who were instrumental in assisting me to complete this master's research study.

Sister B. Bowman, Executive Director of the St. Amant Centre, and Dr. J. Jurenka, Medical Director of the Centre, generously provided access to the files of potential subjects and to materials pertinent to my project. Their efforts helped me in identifying urban families within which there is an institutionalized retarded child. In addition, Dr. Jurenka served as an objective rater of an important variable in the study.

I would also like to thank a number of people who assisted in the formation of my control group by allowing me to do a survey in three schools in St. Vital: Al Kircher, Area Services Director for the Child Guidance Clinic in St. Vital, Alex Boyes, Assistant Superintendent of the St. Vital School Division, and the three principals whose schools were sampled, Walter Nowosad, Peter Drosdowech, and Wayne Ruff.

Lillian Esses, the chairperson of my thesis committee, has been a constant source of support through the many stages of my research. I thank her for the many short-notice meetings I arranged and for her sincere interest in this thesis topic. As a member of my committee, Joe Pear assisted in my gaining access to the St. Amant Centre as well as in the clarification of procedural issues in this research. I would like to thank him for his input. Barry Trute served as my external examiner and helped with the research design and in the clarification of statistical issues. His assistance was greatly appreciated as was his good wit and humour. Barry Spinner, although not on my committee, provided a great

deal of consultation on the research design, computer programming, and statistical analyses. I would like to thank him for his sage counsel in these areas.

To all the families who volunteered to participate in this study, especially those families in which there is a retarded child and for whom some of the issues concentrated on were very sensitive, I owe special thanks. This research would not have been possible without their cooperation.

My husband, Steven, my parents, and my brother, Elliott, have always been an untiring source of love, encouragement, support, and understanding. In many ways, the completion of this thesis is as much an achievement of theirs as it is of mine.

Finally, I would like to acknowledge the one person in my life without whom this research would probably never have been undertaken, my sister, Yonah-Pansy. This project is dedicated to her memory.

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Chapter 1 - Introduction

To date, the literature discussing mental retardation focuses primarily upon the mentally retarded person. There is a substantial body of research on such topics as the personality of institutionalized mentally retarded children as compared to non-institutionalized mentally retarded children (Burden, 1976; Moazami, 1976; Wynn, 1975), the various sub-types of mental retardation (Leong, 1976; Ross & Ross, 1978), the numerous ways retarded persons can be categorized (Alpern, 1971; Bradley, 1971; Cleland, 1979; Kolstoe, 1970), and the different remedial training programs that have been devised for the retarded (Fredericks, 1971; Schofield & Wong, 1975; Watson & Bassinger, 1974). Relatively less attention has been given to the parents of retarded children and how such offspring can affect their marital relationship and overall family functioning. Furthermore, the influence that a retarded child may have on his or her siblings has received minimal focus by researchers.

It is quite surprising that the siblings of retarded children have been largely ignored in the literature, since the available research on the effects of a retarded child on parental functioning indicate some fairly adverse effects. Depressed emotional adjustment has been noted in parents following the birth of a handicapped child (Poznanski, 1973) as have maladaptive psychological reactions (Davis, 1975). Other investigators have pointed to increased marital tension and aggravation of unhealthy relationships in families with a retarded child (Liberthson, 1968).[1] In light of the negative consequences on parents having a retarded child, it

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[1]See Appendix A for a more lengthy review of the literature on psychosocial adjustment of parents with retarded children.

would seem likely that siblings as well would be affected either directly by the retarded child or indirectly via the effects on parental functioning. Some preliminary research has suggested this may in fact be true and studies pointing to various aspects of childrens' lives that may be affected by having a retarded sibling are beginning to emerge.

Two areas of functioning that have been paid minimal attention relate to the emotional and behavioural adjustment of siblings.[2] Unfortunately the majority of this research suffers from serious methodological flaws. The most common of these shortcomings include a reliance upon anecdotal evidence rather than empirical documentation, the lack of properly controlled studies which eliminate the effects of confounding variables, and a focus on children with "severely" retarded siblings to the neglect of children with siblings who have other degrees of retardation. It is also quite evident from examining the literature on parents and siblings of retarded children that a number of variables such as the age, sex and place of residence of the retarded child may act to moderate the impact such a child has on family members. However, these variables have not been examined rigorously and thus the literature on this subject matter remains ambiguous. An additional problem with the literature on families of retarded children is that little differentiation is made between families of the physically handicapped and families of the mentally handicapped. With these technical problems in mind, the major findings to date regarding the impact of a retarded child on both parents and siblings will be briefly reviewed.

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[2]See Appendix A for a more lengthy review of the literature on the adjustment of children with retarded siblings.

Parents of Mentally Retarded Children

In the case of parents of handicapped children, emphasis has been placed on the emotional problems associated with producing an abnormal child and on recognition of the stress created for the parents by such children. Poznanski (1973) in a clinical report notes the "storm of emotions" elicited in both parents by the birth of a handicapped child. She alleges that in these circumstances mothers and fathers are overwhelmed by feelings of "helplessness, disappointment, disbelief, anger, confusion and guilt". Also noted are the kinds of problems parents of such children encounter in their day-to-day living (e.g., handling discipline). These particular issues are also documented by Davis (1975) and Minde, Hackett, Killou and Silver (1972).

One area of family functioning that has repeatedly been shown to be seriously affected by a handicapped child is the marital relationship of parents of such a child. Farber (1959), Fowle (1968), Liberthson (1968), and Tew, Laurence, Payne, and Rawnsley (1977) have all examined the marital integration of parents of mentally retarded and/or physically handicapped children. Although none of these investigators employed a control group, their results were consistent in showing increased marital tension in the presence of a retarded child. The degree of this tension was found to be influenced by the place of residence of the retarded child (Farber, 1959; home versus institution), sex of the retarded child in relation to sex of the parent (Cain & Levine, 1961; Levine, 1965-66), age of the retarded child (Farber, 1959; Zuk, 1959-60), and length of institutionalization of the retarded child (Fowle, 1968). Thus far results regarding the influence of religious background, socio-economic status, and saliency

of retardation (Farber, 1959; Zuk, 1959-60; Poznanski, 1973; Caldwell & Guze, 1959-60, respectively) remain contradictory.

Siblings of Mentally Retarded Children

As far as examining the adjustment of children who have mentally retarded siblings, no one particular area of functioning has been emphasized. There are a number of people who conceptualize the birth of a defective child as a family crisis (Klein & Lindemann, 1961; Liberthson, 1968; Poznanski, 1969) and concentrate on the effects of such a child on both parents and siblings. Other researchers note that siblings of retarded children are a population at risk for adjustment problems but do not specify what types of problems are likely to emerge nor modes of treating these problems (San Martino & Newman, 1974; Weinrott, 1974).

The life goals of siblings of retarded children have been examined by both Cleveland and Brown (1977) and Farber (1963). In addition, a comparison of the relationships of normal siblings and their retarded siblings with normal siblings and their non-retarded siblings has been conducted by Miller (1974) and an attempt has been made by Taylor (1974) to categorize sibling adjustment in families with a retarded child into three different patterns. None of these studies, however, are very systematic (e.g., they do not include control groups), nor do they pinpoint specific difficulties which are amenable to treatment.

The literature on sibling adjustment also contains some references to behaviour disorders in this population. Poznanski (1969) and San Martino and Newman (1974) both report evidence of behavioural reactions in siblings of retarded children. Similarly, Minde et al. (1972) and Tew and Laurence (1973) allege that they found a significant increase in behaviour disorders in siblings of retarded children. None of these investigators indicated

however, whether the behavioural problems were in the form of shy-anxious behaviour or anti-social behaviour. Further, the methodology of these studies was not very rigorous. Measuring instruments used to assess this area of functioning were not described and control groups of children with non-handicapped siblings were not employed.

One area of sibling adjustment that has been virtually ignored in the literature relates to emotional functioning. Sagers (1973) is the only investigator to directly inspect this variable. In a well-controlled study he examined the self-esteem of siblings of retarded children who were either institutionalized or resided at home. In comparison with a control group of children who had no retarded siblings, he found, quite surprisingly, that children with retarded brothers or sisters compared favourably or had higher self-concepts than children without retarded brothers or sisters.

As with the parent population, certain moderator variables such as sex, age, place of residence, severity, saliency, and length of institutionalization have been found to influence the impact a retarded child has on siblings. However, results of studies looking at these factors are equivocal and thus no definitive statements regarding their impact can be made. The present investigation was the first to rigorously examine the effects of a number of these moderating variables on the psychosocial adjustment of siblings of institutionalized retarded children.

Purpose and Research Hypotheses

The purpose of this research was twofold: (1) to more rigorously examine the adjustment of children with institutionalized mentally retarded siblings by comparing them with a group of children who did

not have mentally retarded or otherwise handicapped siblings, and (2) to examine the role played by a number of variables in influencing the adjustment of children with retarded siblings. Two major areas of psychological functioning were assessed: affective/emotional adjustment and behavioural/social adjustment. The following hypotheses were advanced:

Hypothesis 1

Children with institutionalized retarded siblings would have significantly more overall emotional adjustment and behavioural adjustment problems than children without retarded siblings.

Hypothesis 2

Children with institutionalized retarded siblings would report significantly more overall emotional adjustment problems than children without retarded siblings.

Hypothesis 3

Children with institutionalized retarded siblings would be reported to have significantly more overall behavioural problems than children without retarded siblings.

Hypothesis 4

Children with institutionalized retarded siblings would report themselves to be less happy than children without retarded siblings.

Hypothesis 5

Children of the same gender as their retarded sibling would be significantly more adversely affected in their emotional and behavioural adjustment than children of the opposite gender to their retarded sibling.

Hypothesis 6

Female siblings of retarded children would be significantly more adversely affected in their emotional and behavioural adjustment than male siblings of retarded children.

Hypothesis 7

Older siblings of retarded children would be significantly more adversely affected in their emotional and behavioural adjustment than younger siblings of retarded children.

Hypothesis 8

Manifestation of behaviour problems would differ significantly in relation to the sex of the "normal" sibling.

Hypothesis 9

Children whose retarded siblings were institutionalized for longer periods of time would be significantly better adjusted than children whose retarded siblings had been institutionalized for shorter periods of time.

Hypothesis 10

Children with moderately retarded institutionalized siblings would be significantly better adjusted than children with severely or profoundly retarded institutionalized siblings.

Hypothesis 11

Children with institutionalized retarded siblings who did not have physical defects would be significantly better adjusted than children with institutionalized retarded siblings who had mild or severe physical defects.

Chapter 2 - Method

Identification of Potential Subjects

The first step in the study was to identify potential subjects for each of the following two groups: families in which there was a permanently institutionalized mentally retarded child (experimental group) and families in which there were no mentally retarded or otherwise handicapped children (control group). The following inclusion criteria were specified *a priori*: (1) the family must reside in Winnipeg; (2) siblings must be of at least average intelligence and between 4 to 18 years of age; and (3) the marital relationship of the parents must be intact (no evidence of previous marital breakdown). The criterion of residency in Winnipeg allowed examination of urban as opposed to rural families. Given that there is some suggestion in the literature that there are frequently undiagnosed defects in the siblings of retarded children (Wortis, Jedrycek, & Wortis, 1967), the criterion of "at least average intelligence" was utilized. The criterion of having intact marriages was employed to prevent confounding of the tests of differences between the two groups by previous marital statuses (e.g., separated, divorced, widowed).

Additionally, in choosing the experimental group, cause of the retardation was restricted to genetic or biochemical factors as opposed to being a result of an accident. This criterion was used in order to provide greater homogeneity as it was felt that family members would adjust differently to these various causal factors.

Identification of Families with Institutionalized Mentally Retarded Children

Potential subjects for the group with institutionalized retarded children were identified through the files of the St. Amant Centre. All

files for families who met the criteria for inclusion were used. There were 51 families who met these criteria. All of these families were contacted by means of a letter (see Appendix B) and were asked to fill out a questionnaire (see Appendix C) providing the following demographic information: marital status, race, religion, number, age and gender of children, parents' educational and working status, family income, history of psychiatric treatment and some information pertaining to social activities. Although some of this data was available from the family files, it was found that some of the files were not up to date. Therefore having the families report this information served to more accurately determine whether criteria for inclusion were met.

Those interested in learning more about the study and possibly participating in it were asked to provide their name, address and telephone number along with the other information and to return the questionnaire to the researcher in an enclosed, self-addressed, stamped envelope. Those who were not interested in learning more about the study were asked to provide the familial-demographic information, excluding any identifying information, and to return it in a like manner. This procedure guaranteed the anonymity of families with an institutionalized retarded child who did not wish to identify themselves.

Identification of Families with No Retarded or Otherwise Handicapped Children

Potential subjects for the group with no handicapped children were identified from a survey of three schools in the St. Vital School Division in Winnipeg. In each of the three schools, a number of teachers gave a letter addressed to "parents" to each pupil. The letter was similar in format to that sent to families with an institutionalized retarded

child (see Appendix D) and included a questionnaire (see Appendix E) similar in format to that sent to families with an institutionalized retarded child. The parents were asked to follow the same procedure as the experimental group in returning the questionnaire to the investigator.

The three schools all had large enrollments. Together they spanned an age range of kindergarten to Grade 12. Letters were distributed randomly in each of the schools, excluding students in the Special Education classes. In all, a total of approximately 200 letters were sent home with school children to their parents.

Subject Selection

Three weeks after the letters had been sent out to potential experimental and control families those who responded and indicated an interest in learning more about the study and possibly participating in it and who met the criteria for inclusion were delineated. An attempt was made to select 20 families from each of the two groups and to match the groups on the following variables: sex and age of the children, and marital status of the parents.

After potential subjects for the two groups had been selected and matched, they were contacted by telephone by the researcher. The purpose of the study and the requirements of subjects' participation were clearly outlined at this time (see Appendix F). The confidentiality of the findings of the study was assured. For those families who consented to participate in the study, an appointment for an interview was scheduled. At the completion of the study, all those who responded to the letter were sent a summary of the results (see Appendix G).

Response Rate of Families with Institutionalized Retarded Children

The responses from potential subjects for the group with institutionalized retarded children are presented in Table 1. Excluding letters that were returned to sender, the final response rate was only 35.5%. Of those who volunteered to participate in the study, 13 met the inclusion criteria. Fortunately, all of these families agreed to participate in the study when contacted by telephone. There were two families who did not meet the inclusion criteria or could not be interviewed.

Unfortunately, the characteristics of those families who volunteered and met the inclusion criteria could not be compared with those of experimental families who either volunteered but did not meet the criteria for inclusion or who returned the questionnaire anonymously, because of the small number of families in the latter two samples. In addition, it should be noted that the low response rate of those families who qualified for participation in the study makes it difficult to determine whether the sample studied was representative of all families with mentally retarded institutionalized children.

Response Rate of Families with Non-Handicapped Children

The responses from potential subjects from the group without any handicapped children are also presented in Table 1. Excluding letters that were returned to sender, the final response rate was 28%, which is similar to the response rate for families having institutionalized retarded children. This response rate may be a conservative estimate for a number of reasons: (1) in randomly selecting students to take questionnaires home, it is possible that more than one student from the same family may have carried a letter; (2) some of the students may not

Table 1

Response Rates from Experimental and Control Families

	Experimental Families		Control Families	
Volunteered and met inclusion criteria	13	(25.5%)	33	(16.5%)
Volunteered but did not meet inclusion criteria or could not be interviewed	2	(3.9%)	3	(1.5%)
Non-Volunteers who returned the questionnaire anonymously	2	(3.9%)	18	(9%)
Non-Responders (did not return questionnaire)	31	(60.8%)	140	(70%)
Letters returned to sender	3	(5.9%)	6	(3%)
TOTAL	51	(100%)	200	(100%)

Final response rate of families with institutionalized retarded children (excluding letters returned to sender) = 35.5%

Final response rate of families without handicapped children (excluding letters returned to sender) = 28%

have actually delivered the letter to their parents; and (3) this study may have had less importance for families with non-handicapped children than for families with a handicapped child and this factor may have reduced the response rate. Although 33 families consented to participate, once these families were matched with the experimental group, 19 families formed the final sample studied. Thus, control families were a select group and it is difficult to determine whether the sample studied was representative of all the families surveyed in St. Vital.

Final Sample of Subjects

The final sample consisted of a total of 54 white, middle-class children. As can be seen in Table 2, 27 experimental children (15 girls, 12 boys) were recruited from a total of 13 families wherein there was an institutionalized mentally retarded sibling and an equal number of control children (14 girls, 13 boys) were from families devoid of a handicapped member. The mean ages of the children in the two groups were approximately equal (experimental group: 12 years, 1 month and control group: 11 years, 8 months). The two groups were also well-matched on mean IQ scores (experimental group: 110.0 and control group: 110.3).

Since the purpose of the study was to examine the psychosocial adjustment of children with institutionalized retarded siblings as compared to those children without handicapped siblings, the successful matching of groups helped rule out rival hypotheses that could otherwise be invoked to explain any differences between the groups in terms of psychosocial adjustment.

Considerations in Matching Experimental and Control Subjects

Due to the non-equivalence of the groups in this type of design

Table 2

Characteristics of Final Sample of Subjects

Characteristics	Group	
	Experimental Group	Control Group
Number of children	27	27
Boys	12	13
Girls	15	14
Mean PPVT I.Q.	110.0	110.3
Mean Age	12 years, 1 month	11 years, 8 months
Number of families	13	19

(subjects were not assigned randomly to treatment conditions) and because pre-test measures on the dependent variables, obtained prior to the introduction of the independent variables, were lacking, causal interpretation of the effects of the independent variables on the dependent variables was limited. (Cook & Campbell, 1979; Kenny, 1975). As a result, in this type of quasi-experimental field research it was important to control for the influence of possibly important extraneous variables through careful matching of the experimental and control groups and by appropriate statistical controls in the data analysis.

There are limitations to the matching approach in attempting to equate "experimental" and "comparison" groups. The first problem is that matching is subject to differential statistical regression effects. The consequence of this matching-regression problem is that it can lead to erroneous results favouring differences between groups on the experimental variable. A second problem with this technique is that one cannot match on all potentially relevant variables. Farrant (1977) argues that, while it is incumbent on the experimenter to control for empirically established confounding factors, it is not necessary to control for conjectural factors that have not been shown to have a confounding effect. Thus, while the matching approach has its problems, equation of "experimental" and "control" groups through matching on demonstrated nuisance variables can be used to strengthen control. This was the strategy employed in the present investigation.

Dependent Variables

Two major areas of functioning were assessed for the children in both the experimental and control groups: (1) emotional adjustment

(affective functioning) and (2) behavioural adjustment (social functioning). Emotional adjustment refers to how the individual feels about himself or herself. Behavioural adjustment refers to the degree to which the individual meets societal expectations in various areas.

Dependent Measures

The Self-Appraisal Inventory. (SAI, Appendices H, I, J). The Self-Appraisal Inventory was used to assess the affective adjustment of the children in this study. The test consists of a range of items relating to children's subjective feelings concerning family, peer relationships, academic performance, and general adjustment. The scale has primary (grades kindergarten - 3), intermediate (grades 4 - 6), and secondary (grades 7 - 12) level forms, consisting of 36, 77, and 62 questions respectively. Questions are responded to on a "yes" or "no" basis. The questions were administered verbally to young children who could not read them. The forms were explained to the older children and they were asked to fill them out by themselves. Assistance was provided whenever necessary. The total score and each subscale score of the SAI were divided by the total number of items for the scale or subscale, so as to yield an equivalent scoring system for the three forms. A high score on all of the SAI subscales and, therefore, a high total score indicates a high degree of affective adjustment.

Overall test-retest reliability has been estimated at .73 for the primary level, .88 for the intermediate level, and .87 for the secondary level (Frith & Narikawa, 1972). The scale has face validity in that the items deal explicitly with how the child feels about himself or herself (e.g., "I'm not very smart"). More rigorous empirical validations have

yet to be undertaken. Lastly, the items on the scale are not disguised, allowing the possibility of socially desirable responding. Despite this shortcoming, however, the SAI is the only instrument available to assess very young children's evaluation of themselves.

In addition, as part of the interview process, the investigator asked all children to respond to the following question, designed by the researcher, dealing with their overall happiness: "Taking all things together, how would you say things are these days--would you say you are very happy, pretty happy, or not too happy these days?"

The Behaviour Problem Checklist. (BPC, Appendix K). The social-behavioural adjustment of normal siblings was assessed by means of the Behaviour Problem Checklist developed by Quay and Peterson (Note 1). This measure consists of 55 items describing behavioural adjustment problems of children, each of which is to be rated on a 3-point scale (no problem, mild problem, or severe problem) by the child's mother.

The factorial structure of the scale is consistent with a large body of research which has identified two major dimensions of behavioural maladjustment in children that are relatively independent: shy-anxious behaviour (personality-problem) and anti-social behaviour (conduct-problem). (Peterson, 1961; Quay, 1972). The score for each subscale is determined by calculating the number of items on the subscale which have been checked as either "mild problem" or "severe problem". This scoring system was used over and above other alternatives that have been suggested since research has shown that it correlates very highly (.98 to .99) with weighted scoring of the mild and severe ratings (Quay & Peterson, Note 1). A high score on each subscale indicates a high degree of social adjustment

problems.

In a recent article, Quay (1977) comprehensively reviewed the reliability and validity of the BPC. With reference to reliability, studies examining inter-rater reliability (agreements between parents or teachers) have revealed correlations ranging from .67 to .75 for the Personality-Problem subscale and correlations ranging from .77 to .78 for the Conduct-Problem subscale, while studies examining the test-retest reliability of the scale over short periods of time (e.g. two weeks) have reported even higher reliability estimates. In terms of its validity, the BPC has accurately discriminated between children referred to child guidance clinics and normal children; it has been shown to be sensitive to behaviour changes resulting from therapeutic interventions; and it has been found to be significantly related to other measures of behavioural deviance and to academic underachievement.

Peabody Picture Vocabulary Test. (PPVT). The Peabody Picture Vocabulary Test was administered to each child who participated in the study to ensure that all children fell within the normal range of intelligence. This nonverbal measure of intelligence was chosen because of its applicability to a wide age range and due to its high interest value.

Two main types of validity data exist for the PPVT: (1) rational validity, and (2) statistical validity. In terms of the former, research suggests that the PPVT has adequate validity. As for the latter, Dunn (1965) points out that the congruent validity of the PPVT is satisfactory: PPVT I.Q.s have correlated with Binet I.Q.s over the range of .43 to .92 (median of .71); with WISC Full-Scale I.Q.s over the range of .03 to .84 (median of .61); with the WISC Verbal-Scale I.Q. over the range of .41 to .74 (median of .67); and with the WISC Performance-Scale I.Q. over the

range of .19 to .82 (median of .39). The reader is referred to Dunn (1965) for additional information on the validity of the PPVT.

As for its reliability, according to Dunn, the evidence to date suggests that the coefficients of equivalence and the temporal stability of the PPVT are satisfactory for both average children and for those who have one of a number of disabilities.

Administration of an intelligence measure is necessary in that previous studies have found unreported intellectual deficits in the siblings of retarded children. Johnson, Ahern and Johnson (1976), for example, report that high-ability retardates have retarded siblings more often than do low-ability retardates. Along the same lines, Wortis et al. (1967) found 15 cases of unreported retardation among 102 siblings of retarded children. The 15 unreported cases amongst the siblings included some who were functioning at a level of moderate retardation. Each one of these 15 unreported cases belonged to a different family.

Caldwell and Guze (1959-60), Graliker, Fishler and Koch (1961-62) and Jaffee (1965-66) all measured the level of intelligence of their subjects prior to conducting their research on families of mentally retarded children.

Semi-structured interview. (Appendices L, M). A semi-structured interview devised by the investigator was also given to children in both the control and the experimental groups. The interview was essentially comparable for the two groups with the exception that subjects in the experimental condition received additional questions. The wording and language of the questions was modified to suit the age of the subject interviewed.

Based on hunches derived from clinical case studies regarding expression of affect in siblings of retarded children, conflicts in identity and effects on peer relationships (e.g., Graliker et al., 1961-62; Kaplan-Grossman, 1972; and Miller, 1974), as well as issues of personal interest to this investigator, areas covered in the interview included: peer relationships (e.g., "Do you think you have as many friends as other children you know?"); expression of affect towards family members (e.g., "What do you do when your sibling gets you angry?"); and family resemblances (e.g., "Do any of your brothers or sisters look at all like you?"). Career aspirations, extracurricular activities, information and curiosity about retardation, and feelings and concerns with regard to having a mentally retarded sibling were also explored.

Moderator Variables

The role of a number of variables in either allaying or aggravating the potential adverse effects of having a retarded sibling has figured prominently in the literature (Caldwell & Guze, 1959-60; Farber, 1959; Fowle, 1968; Kaplan-Grossman; Poznanski, 1969). However, the research pertaining to these potentially influential variables is not only equivocal but also methodologically unsound.

In this study, a number of variables that may moderate the psychosocial adjustment of children with institutionalized retarded siblings were examined. These variables fell into five categories.

Gender. This included similarity or dissimilarity of the gender of the child with his or her retarded sibling, in addition to comparisons of the adjustment of male versus female children with retarded siblings.

Age. Children with retarded siblings were divided into three age

classifications: (1) kindergarten through Grade 3, (2) Grades 4 through 6, and (3) Grades 7 through 12. Comparisons among the three groups were performed.

Length of institutionalization. Four subcategories of this variable were derived based on the information regarding length of institutionalization for each retarded child whose sibling(s) participated in the study. The four subcategories were: institutionalized for (1) two and a half years or less; (2) between two and a half and five years; (3) between five and eight years; and (4) more than eight years. Comparisons were then made among the four groups to see whether length correlated with adjustment of siblings.

Severity of retardation. Based on the information about the severity of retardation for each retarded child whose sibling(s) acted as subject(s) in the study, three different degrees of severity were found to be prevalent: (1) moderate; (2) severe; and (3) profound. The adjustment of siblings of retarded children with varying degrees of severity was then examined for differential effects.

Saliency of retardation. In order to determine the saliency of the retardation of each retarded child whose sibling(s) participated in the study, the medical director of the St. Amant Centre rated the physical appearance of each child on a three-point scale (Appendix N). This scale was designed by the investigator since no standard scales are available.

Interview Procedure

One appointment was scheduled for an interview for all subjects who agreed to participate. All interviews were conducted by the investigator. Interviews were held in the families' homes and the interviews ranged

in length from one to three hours. Interviewer bias was minimized by the fact that assessment of the major dependent measures was done by self-report or ratings of other family members (i.e., mothers' ratings of children's behaviour).

During the scheduled appointment, the interviewer began by further explaining the nature of the study to the parents and children and attempting to establish rapport. Next, the interviewer explained the BPC to the mother and asked her to complete one of these forms for each one of her children participating in the study. This was to be done on her own. While the mother was completing this assessment instrument, the interviewer explained the PPVT to the children and then administered it to them on an individual basis. Following this the SAI was explained and the children were asked to complete it by themselves. The interviewer administered the SAI verbally to children who could not read the questions. Any questions that either the mother or her children had regarding completion of the assessment instruments were also answered. After the children completed the SAI and the question pertaining to their present level of happiness, the semi-structured interview was conducted. Confidentiality of responses was assured. Following completion of the interview, the study was discussed further with the family and they were reminded that they would be sent a brief summary of the results when it was completed.

Chapter 3 - Results

The analysis of variance was employed to test between group differences when a single dependent variable was specified. In those cases where more than one dependent variable was specified, the multivariate analysis of variance was utilized. A multiple regression analysis was also performed to investigate certain hypotheses which pertained only to the group of children with retarded siblings.[3] The simultaneous solution was employed in all cases in order to attain the unique contribution of each effect, in light of the nonorthogonality of the design.

All between group differences were tested at $\alpha = .10$ level of significance. This non-traditional level was chosen because of the exploratory nature of the present research. Significant multivariate *F* tests were probed further with both univariate analysis to determine the significance of each dependent measure independently and discriminant analysis to determine the linear comination of measures that would minimize group differences (Huberty, 1975; Spector, 1977). When univariate analyses were the means of follow-up for a multivariate significant effect, α level was divided up according to the number of tests conducted (Spinner, Note 2). The Scheffé (1959) multiple comparison technique was utilized for post-hoc probing of all significant univariate *F* tests where appropriate. This method was selected because of its versatility, its robustness to violations of assumptions, as well as its efficient control of Type I error rate (Ferguson, 1966).

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[3]All multivariate and univariate analyses of variance as well as multiple regression analyses were done using Version VI of Finn's (1976) MULTIVARIANCE program.

Between-Group Differences: SAI and BPC Total Scores

Hypothesis 1. According to Hypothesis 1, there would be significant differences in overall adjustment on the set of dependent measures (SAI total, BPC total) between children in the experimental and control groups. Further, it was expected that those children in the latter group would be better adjusted as indicated by this set of adjustment measures than those children in the former group. The results of a three-way multivariate analysis of variance on the two total adjustment scores are presented in Table 3. As predicted, there was a significant main effect for family status, F (2,41) = 2.57, $p < .09$.

Hypothesis 2. Hypothesis 2 stated that there would be significant differences in the total emotional adjustment scores of the two groups of children such that the experimental group would report lower SAI total ratings. Follow-up of Hypothesis 1 by examining the univariate results for each of the dependent measures independently indicated that, as expected, the two groups differed significantly on their total SAI scores, UV F (1,42) = 4.37, $p < .04$ (see Table 3).

Hypothesis 3. According to the third hypothesis, there would be significant differences in the total behavioural adjustment scores of the children from the two types of family statuses such that those in the experimental group would be reported to have higher BPC total ratings. Examination of the univariate results as a means of further probing Hypothesis 1 indicated that the third postulation was not supported, UV F (1,42) = 1.78, $p > .05$ (see Table 3).

Further exploration of Hypotheses 1 - 3. Inspection of the discriminant analysis performed on the set of dependent measures revealed

Table 3

Summary of the Multivariate Analysis of Variance and Discriminant Analysis on SAI and BPC Scores for Children from Different Family Statuses

Source	df	F	Standardized Discriminant Function Coefficients: First Discriminant Function	Second Discriminant Function
Family Status				
Rao's multivariate *F* test	2,41	2.57*		
Univariate *F* tests				
BPC total	1,42	1.78	-.42	
SAI total	1,42	4.37**	.83	
Sex				
Rao's multivariate *F* test	2,41	2.08		
Univariate *F* tests				
BPC total	1,42	2.05	.83	
SAI total	1,42	1.41	.74	
Age				
Rao's multivariate *F* test	4,82	4.00***		
Univariate *F* tests				
BPC total	2,42	.92	.39	.94
SAI total	2,42	7.01**	1.00	-.20
Family Status x Sex Interaction				
Rao's multivariate *F* test	2,41	.003		
Univariate *F* tests				
BPC total	1,42	.006	.92	
SAI total	1,42	.001	-.25	
Family Status x Age Interaction				
Rao's multivariate *F* test	4,82	.94		
Univariate *F* tests				
BPC total	2,42	.34	.42	.93
SAI total	2,42	1.44	.99	-.23
Sex x Age Interaction				
Rao's multivariate *F* test	4,82	1.03		
Univariate *F* tests				
BPC total	2,42	.04	.07	1.02
SAI total	2,42	2.13	1.01	.12
Family Status x Sex x Age Interaction				
Rao's multivariate *F* test	4,82	1.11		
Univariate *F* tests				
BPC total	2,42	1.64	.83	.59
SAI total	2,42	.90	-.41	.93

* $p < .10$
** $p < .05$
*** $p < .01$

results consistent with those of the univariate tests in that the SAI measure was weighted much more heavily than the BPC measure in the maximization of group differences (standardized discriminant weight (sdw) = .83 and -.42, respectively). Figure 1 graphically depicts the discriminant function centroids of the different family statuses on the set of children's SAI total and the total BPC ratings. As can be seen, the discriminant function separates the group of children with retarded siblings (experimentals) from the group without retarded siblings (controls). Table 4 provides the mean scores on SAI total and BPC total for children from the different family statuses. It can be seen that boys and girls from families in which there was a retarded sibling reported more emotional-affective adjustment problems (lower self-appraisal) than boys and girls from families in which there was no retarded sibling. Likewise, it is evident that the mean scores on the measure of behavioural-social adjustment were in the hypothesized direction although the statistical significance tests did not support this postulation.

As can be seen in Table 3, while the main effect for sex of the child was not statistically significant, F (2,41) = 2.08, $p > .10$, a significant main effect for age was found, F (4,82) = 4.00, $p < .01$. Further probings of this significant effect via examination of the univariate test results indicated that the three different age groupings of children differed significantly on their SAI total scores F (2,42) = 7.01, $p < .002$, but not on their BPC total scores, F (2,42) = .92, $p > .05$. Scrutiny of the discriminant analysis performed for this effect lent support to the univariate results. That is, the SAI total score was weighted much more heavily than the BPC total score

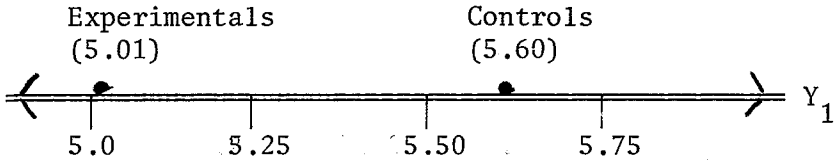

Figure 1. Discriminant function centroids of the different family statuses on SAI and BPC total scores

Note. Axis Y_1 represents the first discriminant function

Table 4

Mean Self-Appraisal Inventory Total Scores and Behaviour Problem Checklist Total Scores for Children from Different Family Statuses

Family Status	n	Mean SAI Total Score	Mean BPC Total Score
MR sibling			
Boys	12	2.66	9.50
Girls	15	2.61	6.87
Non-MR sibling			
Boys	13	2.86	6.85
Girls	14	2.79	4.71

in the maximization of group differences (sdw = .99 and .39 respectively). Figure 2 visually demonstrates the discriminant function centroids of the three different age groups on their SAI and BPC total scores. As can be seen, the first discriminant function separates the elementary and intermediate age groupings from the secondary age group.

Further probing of the significant univariate result by means of a Scheffé post-hoc comparison revealed findings consistent with those of the discriminant analysis: Scheffé's F (2,51) = 23.70 which exceeded the critical value of F (2,51) = 6.36 at α = .05. All other effects were not statistically significant for this set of measures, as is evident from inspection of Table 3.[4]

Although not specified in advance, it was decided to analyze the data from a different perspective as well. This was undertaken as a further follow-up of the significant finding of lower SAI total scores for the experimental group as well as to determine whether differences between the experimental and control groups were evident on the BPC subscales despite the non-significant difference between the two groups on BPC total scores. Thus, two separate three-way multivariate analyses of variance were performed: one of the children's self-ratings on the four subscales of the SAI and one on the mothers' ratings of the children on the two subscales of the BPC. It was hypothesized that there would be significant differences between children from the different family statuses on their ratings on the SAI subscales and on the mothers' ratings of the children on the BPC subscales. More specifically, it

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[4]Analysis conducted on a reduced model gave essentially the same results.

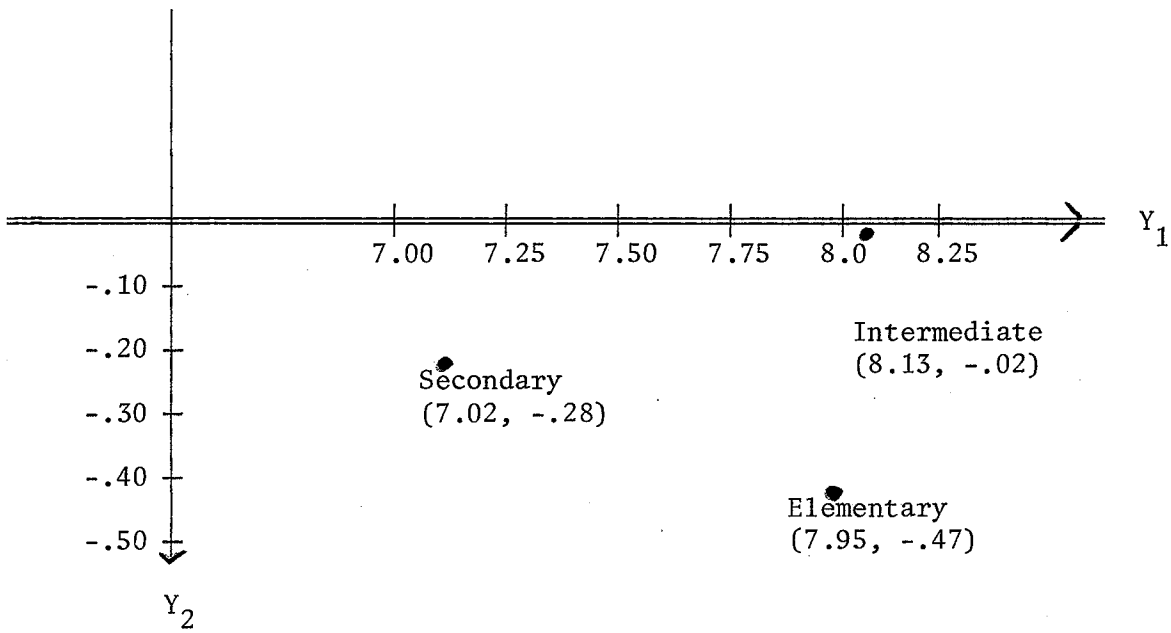

Figure 2. Discriminant function centroids of the different age groups on SAI and BPC total scores

Note. Axis Y_1 represents the first discriminant function, while axis Y_2 represents the second discriminant function

was predicted that the experimental group would report lower self-esteem on the SAI subscales and would be reported to have a higher incidence of behavioural problems on the BPC subscales.

Post-Hoc Between-Group Differences on Subscales

SAI subscales. The results of the multivariate analysis of variance on the four SAI subscales are presented in Table 5. As can be seen, there was a significant main effect for family status, F (4,39) = 2.33, $p < .07$, supporting the hypothesis of the investigator. Inspection of the univariate results for each of the SAI subscales independently revealed that the Family subscale was significant F (1,42) = 8.05, $p < .01$, indicating a significant difference between the experimental and control groups on their self-ratings in the family situation. In line with this post-hoc finding, the discriminant analysis showed that the Family subscale was the largest contributor to the significant multivariate test in that it had the largest standardized discriminant function coefficient (sdw = -.84).

Graphical depiction of the discriminant function centroids of the different family statuses on children's SAI subscale ratings is presented in Figure 3. From this figure it is evident that the discriminant function separates children with a retarded sibling (experimentals) from those without a retarded sibling (controls).

The mean scores on the SAI subscales for children from the different family statuses are presented in Table 6. On all of the subscales except the General one, boys and girls from families in which there was not a retarded or otherwise handicapped sibling rated themselves as emotionally more well-adjusted than boys and girls from

Table 5

Summary of the Multivariate Analysis of Variance and Discriminant Analysis on SAI Subscale Scores for Children from Different Family Statuses

Source	df	F	Standardized Discriminant Function Coefficients: First Discriminant Function	Second Discriminant Function
Family Status				
Rao's multivariate F test	4,39	2.33*		
Univariate F tests				
General	1,42	.60	.41	
Family	1,42	8.05**	-.84	
School	1,42	2.89	-.26	
Peer	1,42	1.69	-.02	
Sex				
Rao's multivariate F test	4,39	2.22*		
Univariate F tests				
General	1,42	6.25**	-.85	
Family	1,42	.10	.39	
School	1,42	.06	.16	
Peer	1,42	2.03	-.61	
Age				
Rao's multivariate F test	8,78	6.68***		
Univariate F tests				
General	2,81	35.53**	.97	-.29
Family	2,81	1.97	.12	.32
School	2,81	.08	-.34	-.07
Peer	2,81	2.55	.26	.85
Family Status x Sex				
Rao's multivariate F test	4,39	.45		
Univariate F tests				
General	1,42	.03	.21	
Family	1,42	.34	-.70	
School	1,42	.04	-.29	
Peer	1,42	.80	1.00	
Family Status x Age				
Rao's multivariate F test	8,78	.49		
Univariate F tests				
General	2,81	.29	-.16	.97
Family	2,81	.86	-.38	-.26
School	2,81	1.76	-.84	-.15
Peer	2,81	.09	.27	-.16
Sex x Age				
Rao's multivariate F test	8,78	1.72		
Univariate F tests				
General	2,81	3.89	-.75	-.26
Family	2,81	.30	.33	-.60
School	2,81	.52	.14	-.63
Peer	2,81	2.93	-.77	.47
Family Status x Sex x Age				
Rao's multivariate F test	8,78	1.22		
Univariate F tests				
General	2,81	2.05	-.71	-.40
Family	2,81	.22	.59	-.45
School	2,81	1.25	-.34	1.04
Peer	2,81	.94	-.51	-.50

* $p < .10$
** $p < .025$
*** $p < .01$

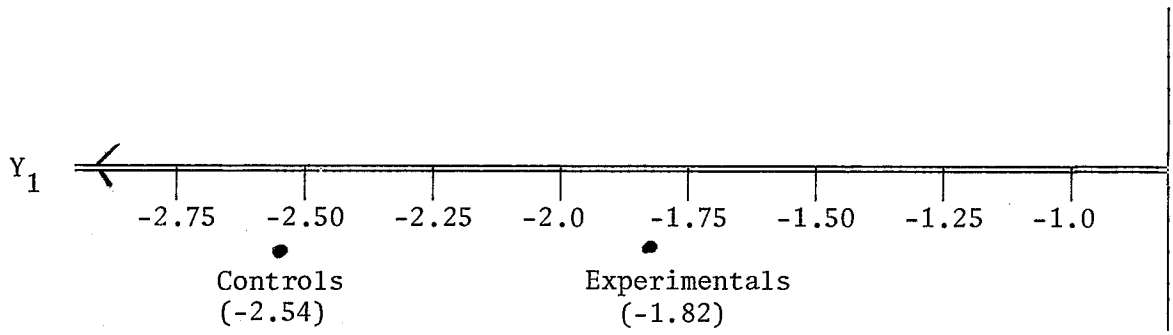

Figure 3. Discriminant function centroids of the different family statuses on children's SAI subscale ratings.

Note. Axis Y_1 represents the first discriminant function

Table 6

Mean Self-Appraisal Inventory Subscale Scores for Children from Different Family Statuses

Family Status	n	Score			
		General	Family	School	Peer
MR sibling					
Boys	12	.74	.60	.62	.70
Girls	15	.70	.63	.63	.64
Non-MR sibling					
Boys	13	.71	.72	.70	.72
Girls	14	.68	.73	.67	.72

families in which there was a retarded sibling. Inspection of the means indicates that this finding was particularly true for the Family subscale.

This analysis also revealed a significant main effect for sex, F (4,39) = 2.22, p < .08. Again, follow-up was conducted by examining both the univariate results for each subscale alone and by looking at the discriminant analysis. The findings from both these techniques were consistent. The two sexes were found to differ significantly on the General subscale UV F (1,42) = 6.25, p < .02, and this subscale possessed the largest standardized discriminant function coefficient (sdw = -.85). Visual display of theis effect is presented in Figure 4 which plots the discriminant function centroids of male and female subjects on the SAI ratings. As can be seen, the discriminant function separates the male from the female subjects. This difference between males and females in the way in which they rated themselves is also evident from examination of Table 7 which provides a breakdown of the means on the four subscales according to sex of the rater. It is evident from inspection of these means that, in general, male respondents rated themselves higher than female respondents.

The age main effect was also significant when the data was analyzed from this perspective, F (8,78) = 6.68, p < .0001. Again, the multivariate significant effect was probed via univariate analyses and discriminant analysis. Results of these two methods were inconsistent. The General subscale was found to be univariate significant, F (2,81) = 35.53, p < .0001, as well as to be the strongest contributor to the significant multivariate test (sdw = .97). Examination of Figure 5 indicates that the first

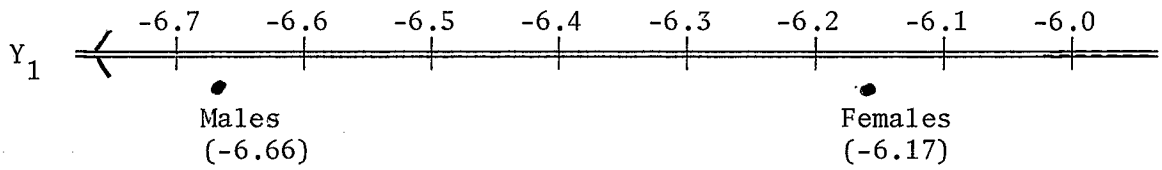

Figure 4. Discriminant function centroids of the different sexes on children's SAI subscale ratings

Note. Axis Y_1 represents the first discriminant function.

Table 7

Mean Self-Appraisal Inventory Subscale Scores

for Male and Female Respondents

		Score			
Sex	n	General	Family	School	Peer
Males	25	.73	.66	.66	.71
Females	29	.69	.68	.65	.68

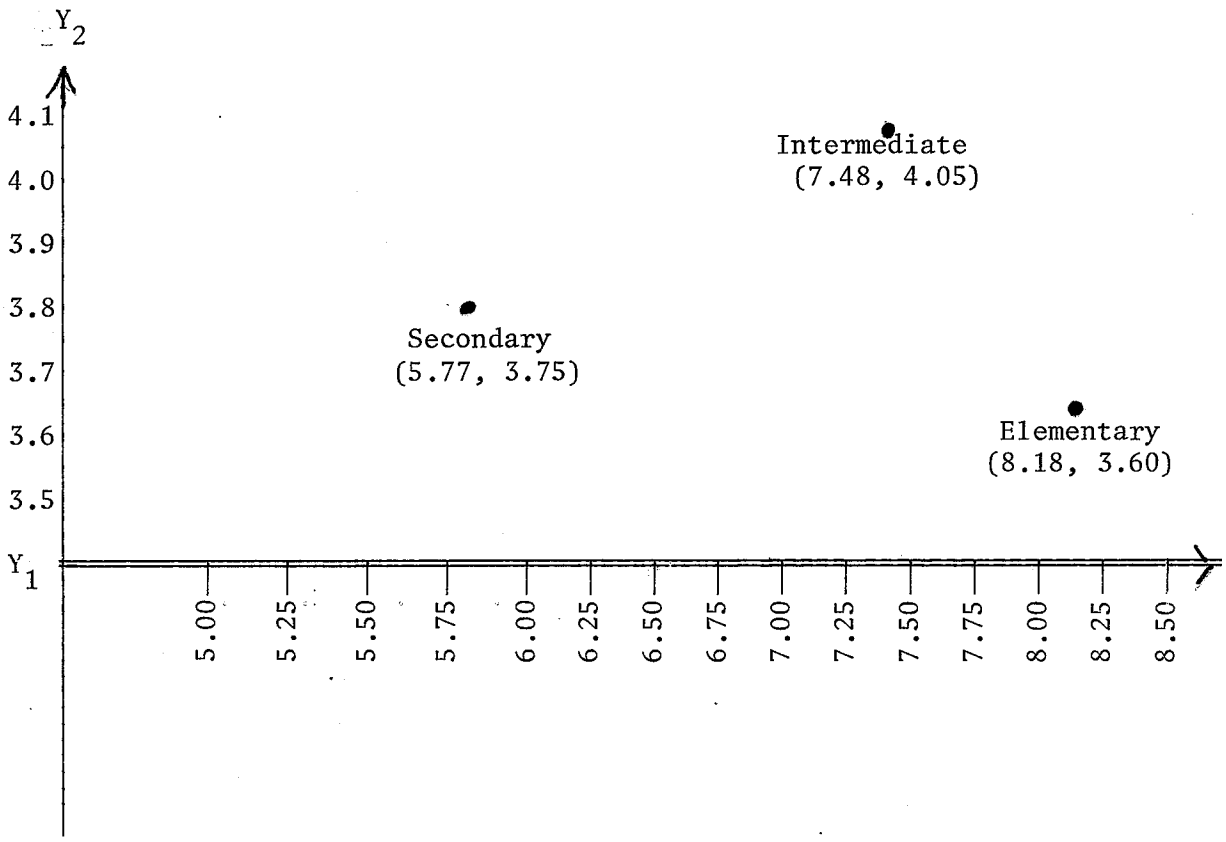

Figure 5. Discriminant function centroids of the different age groups on children's SAI subscale ratings

Note. Axis Y_1 represents the first discriminant function, while axis Y_2 represents the second discriminant function

discriminant function separates the elementary and intermediate aged children from the secondary age group. Further post-hoc analysis of the significant univariate finding via the Scheffé technique revealed results in agreement with the discriminant analysis. That is, secondary-school-aged children did more poorly than the elementary and intermediate- school-aged children: Scheffé's F (2,51) = 29.03 exceeded the critical value of F^{+} (2,51) = 6.36 at α = .05. All other effects were not statistically significant, as is evident from Table 5.

BPC subscales. A summary of the results of the multivariate analysis of variance performed on mothers' ratings of their children's behavioural adjustment on the two subscales of the BPC is presented in Table 8. As was hypothesized, there was a significant main effect for family status, F (2,41) = 2.66, $p < .08$. No other effects were significant. Follow-up of this multivariate significant effect through examination of the univariate results for each subscale revealed that, while there were significant differences between the two types of family statuses on the Conduct-Problem subscale, F (1,42) = 4.48, $p < .04$, significant differences on the Personality-Problem subscale were not evidenced, F (1,42) = .01, $p > .05$. Inspection of the discriminant analysis results lent support to the univariate findings in that the Conduct-Problem subscale was found to make the largest contribution to the significant multivariate test. This subscale had the largest standardized discriminant coefficient (sdw = 1.08). Figure 6 graphically depicts the discriminant function centroids of the different family statuses on mothers' BPC subscale ratings. As can be seen, the discriminant function once again separates those children who have a retarded sibling (experimentals)

Table 8

Summary of the Multivariate Analysis of Variance and Discriminant Analysis on BPC Subscale Scores for Children from Different Family Statuses

Source	df	F	Standardized Discriminant Function Coefficients: First Discriminant Function	Standardized Discriminant Function Coefficients: Second Discriminant Function
Family Status				
Rao's multivariate F test	2,41	2.66*		
Univariate F tests				
Conduct-Problem	1,42	4.48**	1.08	
Personality-Problem	1,42	.01	-.46	
Sex				
Rao's multivariate F test	2,41	1.35		
Univariate F tests				
Conduct-Problem	1,42	2.76	1.00	
Personality-Problem	1,42	.40	-.01	
Age				
Rao's multivariate F test	4,82	1.20		
Univariate F tests				
Conduct-Problem	2,42	.37	-.35	1.03
Personality-Problem	2,42	1.95	1.08	-.07
Family Status x Sex				
Rao's multivariate F test	2,41	.79		
Univariate F tests				
Conduct-Problem	1,42	.50	.90	
Personality-Problem	1,42	.49	-.90	
Family Status x Age				
Rao's multivariate F test	4,82	.41		
Univariate F tests				
Conduct-Problem	2,42	.66	1.08	-.01
Personality-Problem	2,42	.10	-.41	1.00
Sex x Age				
Rao's multivariate F test	4,82	.20		
Univariate F tests				
Conduct-Problem	2,42	.16	.94	.54
Personality-Problem	2,42	.12	-.87	.65
Family Status x Sex x Age				
Rao's multivariate F test	4,82	1.34		
Univariate F tests				
Conduct-Problem	2,42	1.26	.89	-.62
Personality-Problem	2,42	1.68	.23	1.06

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*$p < .10$

**$p < .05$

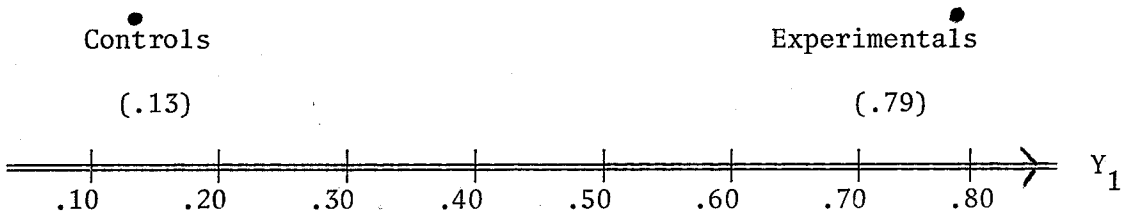

Figure 6. Discriminant function centroids of the different family statuses on mothers' ratings of children on BPC subscales

Note. Axis Y_1 represents the first discriminant function

from those who do not (controls).

The mean scores for the children from the two groups on the BPC subscales are given in Table 9. Inspection of the means on mothers' ratings of their children on the Conduct-Problem subscale indicates that both boys and girls with a retarded sibling received ratings of a higher incidence of behavioural problems than boys and girls who did not have a retarded sibling. Further, this was true for all three age groupings. This same effect was found on the Personality-Problem subscale for males but not for females and it did not reach significance. Therefore, the researcher's hypothesis regarding a higher incidence of reported behaviour problems for siblings of retarded children was only partially supported.

Between-Group Differences: Happiness Ratings

Hypothesis 4. All children who participated in the study were asked to rate their present level of happiness. It was hypothesized that those children with retarded siblings would rate themselves as being less happy than those without retarded siblings. The ratings of children from the different family statuses can be seen in Table 10. Inspection of this data suggested a trend in line with the researcher's hypothesis: the children who did not have a retarded sibling, regardless of their sex or age, tended to rate themselves as being happier than the children with retarded siblings. The three-way analysis of variance carried out on this measure of emotional adjustment supported the trend suggested by Table 10. There was a significant main effect for family status, F (1,42) = 5.00, $p < .03$. No other significant effects were found. A summary of this analysis is presented in Table 11. The mean happiness

Table 9

Mean Behaviour Problem Checklist Subscale Scores

for Children from Different Family Statuses

	n	Conduct-Problem	Personality-Problem
MR Sibling - Experimental Group			
Boys	12	4.92	4.58
Girls	15	4.07	2.80
No MR Sibling - Control Group			
Boys	13	3.38	3.46
Girls	14	1.07	3.64
MR Sibling - Experimental Group			
Elementary	8	4.38	2.63
Intermediate	6	5.83	5.00
Secondary	13	3.85	3.54
No MR Sibling - Control Group			
Elementary	8	2.75	2.88
Intermediate	6	1.83	5.17
Secondary	13	2.00	3.23

Table 10

Frequency of Happiness Ratings for Children from Different Family Statuses

Sex	Age	Happiness Rating	Family Status: MR sibling	Family Status: No MR sibling
Boys	Elementary	Very happy	1	1
		Pretty happy	2	1
		Not too happy	0	1
	Intermediate	Very happy	1	2
		Pretty happy	2	1
		Not too happy	0	0
	Secondary	Very happy	0	4
		Pretty happy	6	3
		Not too happy	0	0
Girls	Elementary	Very happy	1	1
		Pretty happy	3	4
		Not too happy	1	0
	Intermediate	Very happy	0	3
		Pretty happy	3	0
		Not too happy	0	0
	Secondary	Very happy	1	2
		Pretty happy	6	4
		Not too happy	0	0

Table 11

Summary of the Analysis of Variance on Happiness Ratings for Children from Different Family Statuses

Source	df	F
Family Status	1,42	5.00*
Sex	1,42	.07
Age	2,42	1.79
Family Status x Sex	1,42	.87
Family Status x Age	2,42	1.85
Sex x Age	2,42	.02
Family Status x Sex x Age	2,42	1.55

*$p < .05$

ratings for the two groups of children were then examined. They further confirmed this finding which lends additional support to the investigator's hypothesis regarding poorer emotional adjustment in children with a retarded sibling.

Impact of Moderator Variables on the Adjustment of Children with Retarded Siblings

Hypothesis 5. Hypothesis 5 stated that there would be differences in the adjustment of children with a retarded sibling in accord with whether the normal child was of the same gender or a different gender than his or her retarded sibling. More specifically, it was postulated that if the subject was of the same sex as the retarded sibling he or she would be more adversely affected in his or her adjustment than if of a different sex than the retarded child. This hypothesis was not supported by either the total adjustment scores or by the two sets of subscale scores (F (2,24) = 1.51, $p > .10$; F (4,22) = .75, $p > .10$; F (2,24) = 1.52, $p > .10$, respectively).

Hypothesis 6. According to the sixth hypothesis, normal female siblings of retarded children would be more adversely affected in their adjustment than normal male siblings of retarded children. While the results of the three multivariate analyses performed did not indicate any interaction between sex and family status (see Tables 3, 5 and 8) leading to rejection of this hypothesis, a significant main effect for sex was found for the SAI subscales. Inspection of Table 7 does suggest the postulated trend on the General and Peer subscales as male respondents had higher mean scores than female respondents on these. However, this effect was found for both those children with retarded

siblings and those without retarded siblings.

Hypothesis 7. According to the sventh hypothesis, older normal siblings of retarded children would be significantly more adversely affected in their adjustment than younger normal siblings of retarded children. Again, it can be seen in Tables 3, 5 and 8 that none of the analyses of variance revealed a significant interaction between age and family status leading to rejection of this hypothesis as well. While a significant main effect for age was found on the total adjustment scores and on the SAI subscales (see Tables 3 and 5) and post-hoc analyses revealed that children in the secondary grades had lower SAI ratings than children in either the elementary or intermediate grades, this effect was found when averaged across family status. That is, this age effect was found for both groups of children and not just in the group with retarded siblings. Thus, while the trend appears to be in the hypothesized direction, it is not really supportive of the researcher's hypothesis.

Hypothesis 8. The eighth hypothesis stated that manifestation of behavioural problems would differ in relation to the sex of the normal sibling. Support for this was not found, as evidenced by the non-significant sex effect and sex x family status effect for the BPC subscales (see Table 8).

Hypotheses 9 - 11. Information about the length of institutionalization, severity of retardation, and physical appearance of the retarded siblings was gathered and categorized according to *a priori* determined rating schemes developed by the investigator. A multiple regression analysis using this data was then performed in order to ascertain the degree of correlation and significance of the correlation between ratings on each of these three independent measures and each dependent

measure and to thereby test hypothses nine through eleven. This analysis also provided information regarding the unique proportion of variance in each dependent measure accounted for by each independent variable, as well as the proportion of variance in each dependent measure accounted for by this set of predictors.

Results of the regression analysis on each of the BPC and SAI total scores with the set of three predictor variables indicated that a significant proportion of variance, 28 percent, in BPC total score was accounted for by the set of predictors $\underline{F}$ (3,23) = 3.04, $\underline{p} < .05$. This was not the case for SAI total score, however: $\underline{F}$ (3,23) = 1.07, $\underline{p} > .05$.

As can be seen in Table 12, the hypotheses concerning the relationship between length of institutionalization and each total adjustment score and the relationship between severity of retardation and each adjustment score were not in the predicted directions. In contrast, the analysis revealed that the relationship between the physical appearance of the retarded child or saliency of the retardation and each total adjustment score was in the expected direction. The significance of these two correlation coefficients was tested and it was found that the coefficient for the physical appearance - BPC total relationship was significant, while that for physical appearance - SAI total was not significant. These findings are consistent with the results of the step-wise regression which furnished information regarding the contribution of each of the three independent measures over and above the contributions of the other predictors in the equation. Table 13, which provides this data, shows that physical appearance accounted for a sizeable proportion of the variance in BPC total score but only a minimal proportion of

Table 12

Correlations of BPC Total Scores and SAI Total Scores with Physical Appearance, Length of Institutionalization and Severity

	Length of Institutionalization	Severity	Physical Appearance
BPC total	.19	-.24	.38*
SAI total	-.12	.26	-.13

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*$p < .05$

Table 13

Percent of Unique Proportion of Variance in BPC and SAI Total Scores Accounted for by Length of Institutionalization, Severity, and Physical Appearance

	Length of Institutionalization	Severity	Physical Appearance
BPC Total	.01	13.73	16.25
SAI Total	.77	10.22	1.9

the variance in SAI total score. It can also be seen that neither of the other two predictors accounted for as much of the variance in either the emotional-affective adjustment measure or the behavioural-social adjustment measure.

Beta weights were also inspected. While the physical appearance predictor did not meet this researcher's level of acceptance ($p > .025$; α split for univariate results) it did meet the more standard criteria of acceptance ($p < .05$; α not split for univariate results) lending support to the important role the physical appearance variable played.

Examination of the contributions of the predictors when they were entered at different stages of the equation suggested that a suppressor relationship between severity of retardation and physical appearance was operating in that the latter became a better predictor of BPC total scores when severity preceded it in the equation.

Semi-Structured Interview

In the following section, analysis of the children's responses to several items in the semi-structured interview will be reviewed. Only the most interesting and dramatic findings will be reported. These results can only be viewed as interesting trends in light of the small sample size and the problems associated with a potentially unrepresentative sample.

Between-Group Differences

Family relationships. The children's responses to questions regarding how they expressed their feelings of both positive and negative affect toward their "normal" siblings indicated the existence of a trend. Children from both the experimental and control groups asserted that

they handled their negative feelings towards their siblings in similar ways--by yelling at them, hitting, fighting, arguing, swearing, calling a parent, or by more than one of these methods. However, when it came to expression of positive affect toward their normal siblings, the groups differed. A larger percentage of children from families in which there was a retarded child admitted to ever hugging or kissing their non-retarded siblings (65% versus 52%). As can be seen in Table 14, there were additional discrepancies between the two groups in terms of the reported frequency of engaging in such affectual expressions. Although the trend for the two groups was in the same direction, i.e. not to express positive affect on a frequent basis, clearly this was more true of those children who did not have retarded siblings.

An interesting difference between the two groups also emerged with reference to the question of whether children ever wished that they could be an "only" child. Many more children in the experimental group (35%) than in the control group (19%) answered in the affirmative to this question. Further, differences were found in the reasons given by the children for their positive responses. The majority of the children in the control group who said that they thought about being an only child (80%) stated that they had this desire on the occasions when they were angry with their sibling(s), while only a small percentage (20%) declared that they had this desire because they wanted more parental attention. Again, while the trend was in the same direction for children in the experimental group, a smaller percentage of children (67%) offered the explanation of being upset with siblings and a larger percentage (33%) said that they wanted more attention from their parents.

Table 14

Reported Frequency of Expression of Positive Affect to Non-Handicapped Siblings

		Group	
		Experimental	Control
		%	%
Frequency	Frequently	18	7
	Sometimes	24	14
	Once in a While	59	79

The preceding results were consistent with those pertaining to the question of whether the child ever wished that parents would spend more time with him or her. Here too, more children who had retarded siblings than those without such siblings answered in the affirmative (48% versus 30%).

Perceptions of personal appearance. When asked for their perceptions of their personal appearance, a somewhat unanticipated finding emerged. Although the majority of children in both groups rated themselves as being "average looking", this was much more true of children in the control group (81% versus 52%). More children with retarded siblings rated themselves as being "good looking" or "handsome" than children without retarded siblings (33% versus 11%). Although not as marked, there was also a trend for children in the former group to more often perceive themselves as being "not very good looking" or "not very handsome" when compared with children in the latter group (15% versus 7%). The existence of this pattern was much less surprising.

Academic performance. Little difference was found in the two groups' perceptions of their academic standing. Similarly, approximately equal proportions of children in both groups indicated that their parents told them that they should be doing better academically. However, marked differences in the children's perceptions of the frequency with which their parents made this remark were found. As is evident in Table 15, a much larger percentage of the children in the experimental group stated that their parents engaged in such remarks "frequently". In contrast, the majority of children in the control group declared that their parents only made such statements "once in a

Table 15

Children's Perceptions of Frequency with which Parents Encourage Them to Achieve Better in School

		Group	
		Experimental	Control
		%	%
Frequency	Frequently	38	6
	Sometimes	31	33
	Once in a While	31	60

while". Almost identical reasons were given to the investigator by all the children when they were asked for their perceptions of why parents engaged in these remarks.

Peer relationships. Three questions were asked about peer relationships and two of them suggested an interesting differentiation between the two groups. Firstly, it was found that children who had a retarded sibling were less likely than children who did not have such a sibling to talk about their family with their friends. Eighty-five percent of the former group as oppsed to 100% of the latter group acknowledged discussing their family with their peers. Although only small diffrernces were found in the topics shared with friends, the suggestion of a trend for children with retarded siblings to speak about "general" things (e.g. a family outing), more often than "personal" things (e.g., parental disagreements), was evident. Two rather direct questions were asked about satisfaction with present peer groups: "Do you think you have as many friends as other kids you know?" and "Would you like to have more friends?". Although most children in both groups said "yes" to the first question, more children from the control group gave this response (89% versus 74%) indicating a trend for greater satisfaction with present peer relationships on the part of children in the control group. No difference was found between the two groups on the third item relating to this area of functioning.

Comfort with interview. As expected, there was a trend for less children who had a retarded sibling to report feeling "comfortable" upon being interviewed by the researcher when compared with children who did not have a retarded sibling (63% versus 89%). Likewise, a much

larger percentage of children in the former group than in the latter group acknowledge feeling "uncomfortable" in the interview (30% versus 4%).

Questions Specific to Having an Institutionalized Retarded Sibling

The children with retarded siblings were asked a series of questions pertaining to their experiences having a handicapped brother or sister. Analysis of responses to these questions follows.

Similarities with siblings. Surprisingly, most children in the experimental group reported perceiving similarities in physical appearance between themselves and their retarded siblings. In fact, little difference was found in the frequency of reports of similarity in resemblance to their retarded as opposed to their non-retarded siblings (56% versus 63%). However, when the children were asked whether their retarded sibling was like them in any way other than appearance, a finding well worth noting emerged. Only 33% of the children acknowledged non-physical resemblances to their retarded siblings. Whereas there were no apparent differences across the different age-groupings in response to the previous questions, a definite age factor was found for the children's replies to this question. The only children who admitted to similarities between themselves and their retarded siblings were the older ones, i.e., those in grades 7 to 12. The younger subjects did not perceive or admit to any such resemblances.

Affect. Interesting patterns in the children's perceptions of and means of handling their positive and negative feelings towards their retarded and non-retarded siblings emerged from the data. While the majority of children (81%) indicated that their retarded sibling

never bothered them or got them mad, none of the children felt this way about their non-retarded sibling(s). All of the children (100%) said that their normal sibling(s) bothered them or got them angry at times, while only 19% admitted to their retarded sibling ever doing this. How did they or would they handle their feelings of anger i.e. their negative affect? Reports of yelling, hitting, fighting, arguing, calling mom or more than one of the above were given by the children with reference to their non-retarded siblings. None of the children stated that they would simply not do anything. This was quite contrary to their responses with regard to their retarded siblings. Forty-four percent of the children stated that they would not do anything. Seven percent could not even imagine themselves being angry at or bothered by their retarded siblings and 48% said that they would either call their mother or "sort of yell" and "playfight". Quite obviously the trend was in the direction of handling the situation very differently depending on whether the sibling was retarded or not.

Did their parents instruct them not to fight with or get mad at their retarded sibling? Again, age seemed to be an important factor here. Thirty-seven percent of the subjects answered affirmatively to this question. Seventy percent of these subjects were between the ages of four and ten.

As can be seen in Table 16, when asked if they ever hugged, kissed, or showed some other mode of positive affection to their retarded sibling, the majority of children reported that they did so. Further, as is evident in Table 17, in terms of the frequency of engaging in these affectionate behaviours, most children felt that they did so quite often. The tables

Table 16

A Comparison of Children's Expression of Positive Affect

to their Retarded and Non-Retarded Siblings

		Response	
		Yes %	No %
Sibling	MR sibling	89	11
	Non-MR sibling	65	35

Table 17

A Comparison of the Frequency of Children's Expression of Positive Affect to their Retarded and Non-Retarded Siblings

		Sibling	
		MR Sibling %	Non-MR Sibling %
Frequency	Frequently	58	18
	Sometimes	38	24
	Once in a While	4	59

also indicate that there were differences in whether and how often affectionate behaviour was dispensed to retarded as opposed to non-retarded siblings. A smaller number of children admitted to hugging, kissing or expressing positive affect to their non-retarded siblings, and the frequency with which they felt they did so was much reduced. In fact, the pattern of frequencies was reversed for the retarded and non-retarded siblings.

Experience of having a retarded sibling. The majority of children (81%) asserted that the experience of having a retarded sibling was good.

In an attempt to determine whether the gender of retarded siblings played a role in normal children's adjustment, children were asked a question pertaining to this issue. Analysis of their reactions to this question indicated that 48% of the children thought it would be more difficult to have a retarded sister than a retarded brother, 37% thought it would be more difficult to have a retarded brother, and 15% did not think that the sex of the retarded sibling made a difference. When the children's responses were re-analyzed by examining their replies in terms of the gender of the retarded sibling that they personally had, an identical breakdown occurred: 37% felt that it was harder to have a retarded sibling of the sex of their sibling; 48% thought it was more difficult to have a retarded sibling of the opposite gender to theirs; and 15% felt that it made no diffrernce.

An approximately even split in response emerged from the question of whether the retarded sibling had made a diffrernce in the child's life (48% said "yes" and 44% said "no"). This was an unanticipated finding.

The interview also revealed that many siblings of retarded children

spent time thinking about their retarded brother or sister. In fact, the majority of children (89%) stated that they usually thought about their institutionalized retarded sibling. When asked what they thought about, most of the children mentioned very general things, i.e., how their sibling was and what their sibling was doing. The response of one child who said that he frequently wished that his retarded sibling was not retarded emphasizes the significance of this finding.

The children were also asked if they ever spent time thinking about their retarded sibling's future. Seventy percent admitted that they did, while 30% said that they did not. In elaborating upon their responses to this question, the children referred to such issues as whose responsibility the retarded child would become when their parents died, potential death of the retarded sibling, possible cures for retardation, and develpomentally-related concerns.

With reference to the children's perceptions of whether anything further could be done to help their retarded siblings, most of the children (63%) indicated that they were content with the care the sibling was receiving at the institution. However, some children (37%) offered suggestions of what they felt might be done to assist the retarded child further.

Children's perceptions of whether having a retarded child in the family had affected the family as a whole in any way(s) were also sampled. Most children (56%) denied that their families had been affected, but some children (44%) did feel that their families had been changed. When the latter group was asked to provide specifics, it was found that most children had difficulty articulating and pinpointing examples.

It seemed to be more of an internal feeling of having been affected than a matter of explicit proof.

Along similar lines, the children were asked whether they felt that family plans to take a vacation had been influenced by having an institutionalized retarded member. Only a small percentage of children felt this was the case (26%). The rest (74%) did not think that their holiday plans had been affected.

Very few children (26%) acknowledged ever feeling embarrassed about having a retarded sibling. The majority of children (74%) denied any such feelings. On the other hand, 93% of the children stated that they felt sorry for their retarded sibling. The trend expressed by the children clearly was in the direction of being very positive about the experience of having a retarded sibling.

Knowledge of retardation and family relationships. A surprisingly small number of children (30%) knew what was wrong with their retarded sibling (e.g., diagnosis, physical defects accompanying the retardation, and/or severity of the retardation). Further, in response to the question of whether they would like their parents to tell them more about mental retardation and their sibling's condition, an unanticipated finding emerged. Only a little over half of the children (56%) declared that they wanted such information. The rest (44%) said that they did not want to know anything more than they already did, although some of the children admitted to being curious.

With reference to whether any of the children sought out information about retardation and their sibling's condition by asking their parents questions regarding the issue, it was found that less than half of the

children (48%) did so. The majority of these children (85%) reported that they felt that their family was "comfortable" with their queries. In contrast, the majority of those children who did not ask their parents any questions (57%) felt that their parents would be "uncomfortable". Only 43% speculated that such questions would be welcomed by their parents.

Who did the children approach when they had questions that they wanted answered? The majority (52%) went to their mothers and some (31%) went to both parents together. A few children reported that they had approached another family member or that they could not remember whom they had gone to (16%). Not one of the children went directly to his or her father alone. Clearly, mothers were the most likely candidates for questions.

The children were also queried as to whether the family as a whole ever discussed their retarded sibling. Most children (70%) reported that this was the case, while some children (30%) revealed that family discussions on this topic did not occur. As for the frequency of these discussions in families where children had answered affirmatively to the question, 42% of the children declared that such discussions took place "sometimes"; 32% said that they occurred "frequently"; and 26% stated that they happened "infrequently".

Many of the children interviewed (44%) indicated that they felt that their parents were more concerned about their retarded sibling than about them. While a couple of these children stated that the retarded child's condition justified greater parental concern, most did not seem to adopt this perspective but rather seemed to feel left out as

exemplified by the following responses: "Sometimes my mother doesn't like me at all, I know", and "They hardly ever like me". Age of the child did not seem to be a factor operating here.

Visiting with the retarded sibling. Although less than half of the children (44%) stated that they visited with their retarded siblings in the institutionalized setting on a regular basis (approximately twice a month), and most (56%) stated that they visited irregularly, a large majority of the children (85%) said that they would like to visit more often. The reasons children gave for wanting to visit more frequently have been categorized in Table 18, where it can be seen that personal or subjective responses were given most frequently.

When asked if they would like their parents to bring their retarded sibling home for visits more often, the majority of children (70%) said "yes". The rest (30%) either said "no" or had mixed feelings. Tables 19 and 20 present the reasons provided by the children for their responses (both positive and negative). It is evident that most children reported wanting their retarded sibling to come home more often for personal reasons. Likewise, of the children who did not want their retarded sibling to come home more often, it was for personal reasons such as interference with peer relationships.

Peer relationships. Four questions pertaining to the children's peer relationships were asked. Whereas the majority of the children (96%) revealed that their friends were aware of the existence of their retarded siblings, differences among the children in the proportion of their friends that knew were found. Most of the children (31%) said that "only a few" of their friends knew; about the same percentage of children (20%)

Table 18

Reasons Given by Experimental Children for Wanting to Visit Retarded Sibling at Institution More Frequently

Reason	Number of Children	% of Children
Personal/Subjective Response e.g. "I miss him", "It makes me feel good to see her", "It's nice to see her and she's not sick"	17	74
Impersonal/Objective Response e.g. "Because he's my brother"	5	21
Other e.g. "Don't know"	1	4

Table 19

Reasons Given by Experimental Children for Wanting Retarded Sibling to Visit at Home More Frequently

Reason	Number of Children	% of Children
Personal/Subjective Response e.g. "I like her around", "I like it when she sleeps with us", "So we could be together more"	16	84
Impersonal/Objective Response e.g. "It's good for him"	2	11
Other e.g. "My parents spend more time with me when he is home"	1	5

Table 20

Reasons Given by Retarded Children for Not Wanting

Retarded Siblings to Visit at Home more Frequently

	Number of Children	% of Children
Personal/Subjective e.g. "She destroys my things", "I can't go out with my friends when he's here"	5	63
Impersonal/Objective e.g. "It's too hard on my parents", "It's good for her to stay at the institution"	3	38

reported that "most" or "some" or "all" of their friends were aware of this; and a few children (8%) would not answer the question.

With reference to the question of whether friends had met their retarded siblings, a large number of children (80%) reported that this was in fact the case. Only a few children (20%) did not recall any of their friends ever meeting their retarded siblings. As for the number of their friends who had personal contact with the retarded child, differences among the children in the proportion of their friends who had made such contact were found. The most common response given was that "a few" friends had met the retarded sibling (85% of the children). Only 10% of the children reported that "most" of their friends had met the retarded child. Similarly,.very few children stated that "all" of their friends had met the retarded child (5%). The trend certainly was for only "a few" of the children's friends to have had personal contact with the retarded child.

Did the children feel embarrassed when the meeting between their friends and their retarded sibling took place? Only a few of the children (10%) admitted to having had these feelings. An equal number alleged that they had experienced mixed emotions. By far, the majority of the children (80%) claimed that they were not embarrassed by the meeting.

Chapter 4 - Discussion

The many findings on how children adjust emotionally (affectually) and behaviourally (socially) to having an institutionalized retarded sibling will be discussed in the same order in which they were presented in the previous chapter. This will be followed by a more general discussion of the content analysis of the semi-structured interview.

Between-Group Differences: SAI and BPC Total Scores

Hypothesis 1. The present study lends support to the contention that children with a retarded sibling would have significantly more overall affective and social adjustment problems than children without retarded siblings. Children from families in which there was an institutionalized retarded child had lower SAI total and higher BPC total scores than children from families in which there was no retarded or otherwise handicapped child, when these two measures of adjustment were examined as a set. This is the first controlled study providing objective evidence of the emotional and behavioural upset of children in families where there is an institutionalized retarded sibling.

Neither the sex nor the age of the children qualified the relationship found between having a retarded sibling and lowered adjustment. That is, the data reveal that having a retarded sibling per se is associated with poorer adjustment in children. These findings lend support to various clinical reports and research studies which link the experience of having a handicapped sibling with a risk for adjustment difficulties (Kaplan-Grossman, 1972; Liberthson, 1968; Weinrott, 1974).

A variety of theoretical viewpoints have been invoked to explain

why siblings of retarded children may be at a high risk including loss of parental reinforcement (Poznanski, 1969) and psychoanalytic views of identification of the normal child with the retarded sibling as a defensive mechanism to ward off anxiety and guilt (San Martino and Newman, 1974). The problem with these viewpoints, however, is that they provide after the fact or post-hoc explanations of the phenomenon, failing to offer differential predictions. Thus, given the difficulties of empirically testing these theoretical positions, all explanations remain purely speculative.

Of particular interest in the present study is the fact that significant differences were found between the two groups across a broad age range. This provides objective evidence that lowered emotional and behavioural adjustment problems seem to persist for many years following the birth of a handicapped child or following the normal sibling's awareness of the existence of a handicapped family member. It does not appear to be merely a crisis situation for siblings, as suggested by Klein and Lindemann (1961). Rather it is an ongoing conflict. This pattern for siblings seems to parallel that for parents, as described by Minde et al. (1972) and Davis (1975). In both of these studies it was found that maladaptive psychological reactions in parents accompanied abnormality in a child and persisted on a long-term basis. The existence of a retarded family member thus seems to be a "family" problem and not one specific to parents.

Hypothesis 2. Support for the prediction that children with a retarded sibling would have significantly more overall emotional adjustment problems than children without such a sibling was also found. Children

with a retarded sibling had lower SAI total scores than children who did not have a mentally handicapped sibling.

Again, this is the first controlled study to provide objective evidence of the emotional upset of children from families where there is an institutionalized retarded child. Neither the sex of the child nor the age of the child had a significant effect on the relationship found between depressed affect and having a retarded sibling, indicating that having such a sibling is in itself associated in particular with depressed affect in children. This finding is inconsistent with the only other study which examines emotional adjustment of siblings of retarded children. Sagers (1973) found that people with retarded siblings compared favourably or had higher self-concepts than persons with no retarded siblings.

There are a number of possible reasons for these discrepant findings. One explanation rests on the nature of the measuring instruments employed in the two studies and the second relates to the ages of the subjects in both studies. Sagers seems to have employed children between the ages of 12 and 17, while the present investigation sampled a much broader age range of children in that subjects ranged from approximately 4 years of age through 18 years of age. The present investigator made use of the SAI to measure affective/emotional adjustment as it is the only self-concept measure available to assess very young children's evaluations of themselves, whereas Sagers did not include such young children in his study and, thus, was not restricted to this assessment device.

Another possible reason for the very different findings in the two studies relates to the sample of subjects used in the two. The response rate of the families with a retarded child in the present study

was quite poor and it is possible that this sample is not representative of the general population of families with mentally retarded children. On the other hand, this may be a limitation of Sager's (1973) study as well. However, as he does not provide detailed information regarding his sample characteristics and response rates, this is difficult to assess.

In any case, the results of the present investigation seem supported by the clinical literature which purports that siblings of retarded children are a population of risk for emotional difficulties (Kaplan-Grossman, 1972; Poznanski, 1973). Clearly, the findings of this study attest to the need for further research on the emotional adjustment of this population, as well as research into potential prevention and intervention techniques. Furthermore, prospective, longer-term follow-up studies are needed to investigate and clarify changes in siblings of retarded children's emotional adjustment over time.

Hypothesis 3. Are siblings of institutionalized mentally retarded children also more prone to being viewed as having more overall behaviour problems at home? While trends did emerge in this direction, the results were not statistically significant.

This finding is somewhat inconsistent with the body of literature on behavioural maladjustment in children with retarded siblings and there are several plausible explanations of why this hypothesis was not supported.

The absence of control groups in most of those studies which report a high incidence of psychopathological conditions in siblings of handicapped children may account for the discrepant findings. Tew and Laurence (1973) are the only researchers who report inclusion of a control group and a significant increase in behaviour disorders in siblings of

handicapped children. However, they studied siblings of children with neural tube malformation, a physical handicap. It may be that physically handicapped siblings have different effects on children's behavioural adjustment than mentally handicapped siblings. Another plausible explanation is that differences in measurement instruments are responsible for the inconsistent finding. Neither Tew and Laurence (1973) nor most of the other investigators who examined behavioural adjustment provide information on their means of collecting data. Of those researchers who do describe their measuring devices (e.g., Farber, 1959; Fowle, 1968), the question of their validity and reliability must be raised. Farber designed his own assessment tool and Fowle also employed it, perhaps accounting for the similarity of their findings. In contrast, the BPC, a well-validated and extremely reliable measuring instrument, was utilized in the present investigation. Such methodological differences may be responsible for the contradictory findings.

It is also possible that this hypothesis was not supported because the subjects used in this study were all volunteers. In summarizing research on the volunteer subject, Rosenthal and Rosnow (1969) point out that volunteers are better educated, less authoritarian, more sociable, higher in self-disclosure, and better adjusted socially and emotionally than non-volunteers. Therefore, it is possible that the families who volunteered to participate in the study may have been significantly better adjusted behaviourally than those who did not volunteer. That is, the sample may not be representative of the general population of families with a retarded child. This limits the generalizability of the present finding, and once again suggests the need for further research

on behavioural adjustment in families with an institutionalized retarded child.

Another feasible explanation for failure to support the third hypothesis derives from the fact that the BPC total score is a combined score. It takes into consideration the subject's score on each of the two subscales of the BPC (shy-anxious - Personality Problem; anti-social - Conduct Problem). The available literature on the incerased incidence of behavioural problems in the population of children who have retarded siblings as compared to children who do not points to an increased incidence of conduct disorders but does not make a strong case for an increased incidence of personality problems. As such, it is possible that the equivalence of the two groups on the shy-anxious subscale may be masking or neutralizing the difference between the groups on the second subscale, and resulting in a non-significant difference between the groups on BPC totals. Some support for this explanation is provided by the results of the analyses on each of these subscales independently. Discussion of this issue follows.

Finally, and most importantly, failure to support this hypothesis may derive from the issue of who rates the children's behaviour. In the present study, mothers served as the raters of their children's behaviour. Perhaps mothers of retarded children are so caught up with the retarded child's problems that any behaviour from another child in the family would seem angelic. If this was the case, the findings of no difference between the groups would not be surprising. Further, different results may have emerged had teachers served as raters. Clearly, this seems to be the most convincing argument advanced for failure to support the third

contention and it points to the need for more research directed at this issue.

Subscales. As described in the previous chapter, although specific hypotheses regarding differences between children from the two types of family structures sampled were not made for the various subscales of the two measures of adjustment, it was decided post-hoc to analyze the data for the subscales of each measure. This decision was prompted by the findings of significant differences between the two groups on the set of total adjustment scores as well as by the finding of a significant difference between the two groups of children on their SAI total score when it was examined independently. Curiosity about the reason for not finding significant differences between the two groups of children or the BPC total score when it was examined alone also initiated these analyses. Finally, it was felt that this type of analysis would help to clarify some of the controversy in the literature about specific effects of having a retarded sibling.

SAI subscales. The post-hoc hypothesis that children with a retarded sibling would have significantly more affective adjustment problems as measured by the set of four SAI subscores was supported by the data. The children with retarded siblings had lower mean SAI scores than the children without retarded siblings on all of the subscales except for the General one. The two groups had approximately equal scores on the latter subscale. As one might expect, when the subscales were examined independently, a significant difference between children from these different types of families was found for their affective/emotional adjustment in the family situation.

While girls generally had significantly lower SAI subscale scores than boys, this finding held for both experimental and control subjects. Therefore the lower self-esteem of girls who had retarded siblings as compared to boys with such siblings is not entirely attributable to the presence of the retarded child. Likewise, secondary school-aged children in both groups reported lower levels of self-esteem than elementary or intermediate school-aged children and, thus, the lower scores of the oldest group of children with retarded siblings as compared to younger children with such siblings cannot be completely explained by this factor. It seems more likely that the lower levels of self-esteem reported by the female subjects and by the oldest children is sex-specific and possibly developmentally related.

The finding that neither the sex nor the age of the children qualified the relationship found between having a retarded sibling and depressed affect especially with regard to family relationships, indicated that the presence of the retarded child per se is associated with the emotional upset of children in such families. These findings contribute to the body of literature on siblings of retarded children by providing objective evidence of the emotional upset of these children in the realm of family functioning. This is consistent with a number of clinical reports and studies (Davis, 1975; Farber, 1959; Fowle, 1968) which link the experience of having a retarded sibling with a disruption in normal family activities and distortion of family relationships. In addition, this finding lends much support to the existing literature in that it is much more methodologically rigorous than other published studies.

While inconsistent with the reports of Graliker et al. (1961-62) who

found that family relations of normal children were not affected by the presence of a retarded sibling, the present study was much more methodologically sound. It sampled a wider age range of children with retarded siblings, included children whose retarded siblings were of a wider chronological age range, was original in its inclusion of a control group, and measured self-appraisal by an instrument which is both reliable and valid rather than relying on interview data exclusively. Further, and most importantly, Graliker et al. (1961-62) studied children whose retarded siblings lived at home, while siblings of institutionalized retardates were the focus of the present research. All or any of these differences may account for the discrepant findings.

Various theories have been offered to explain the relationship between having a retarded child in the family and depressed family relations. Such explanations include: arrest in the family life-cycle (Farber, 1959); emotional neglect as a result of excessive concern and attention on the part of parents for the retarded child (Minde et al., 1972); and parental displacement of their negative feelings about a handicapped child onto another child in the family (San Martino & Newman, 1974). Again, none of these viewpoints are relatively superior to others in explaining this association, since all of them provide after the fact explanations of the phenomenon rather than differential predictions.

The most interesting aspect of the significant Family subscale finding is that it suggests that children in families with a retarded child experience many of the same feelings and conflicts as parents in such families. A number of investigations into the marital relationship and general family functioning of parents with retarded children

(Liberthson, 1968; Tew et al., 1977) report increased marital strain or aggravation of unhealthy relationships among family members as well as depressed affect and lowered levels of functioning in the home environment. Perhaps, then, an improved quality of interaction between the 'normal' children and the parents in such families is important in alleviating some of the emotional adjustment problems experienced by families with a retarded child. Family therapy may be one means of improving the quality of interactions in such families. In addition, further research to clarify the specific areas of familial malfunctioning is called for. Early intervention into these areas of conflict may act to prevent the development of emotional problems.

BPC subscales. When the subscales of the BPC were analyzed separately as a set, the hypothesis that children with a retarded sibling would be reported by their mothers to have more behavioural/social adjustment problems was confirmed. Children with retarded siblings were rated by their mothers as having higher BPC mean subscale scores than children without retarded siblings. When the subscales were examined individually, the biggest difference between children from these two different types of families was found on the Conduct-Problem subscale. Those children with retarded siblings were reported to have significantly more anti-social behaviour than those children without retarded siblings and neither sex of the child nor age of the child moderated these results.

This finding provides some clarification of the literature presently available on behavioural reactions in siblings of retarded children. Minde et al. (1972) and Tew and Laurence (1973) are the only researchers who undertook studies in which data was collected. Both studies reported

an increase in behavioural disorders in siblings of handicapped children. Neither, however, provided data on the type(s) of behavioural disorders observed or on the method by which information on the behaviour disorders was collected. The present investigation, in contrast, employed a validated and reliable measuring tool to assess this variable and found a very definite increase in the incidence of anti-social behaviour and no difference in shy-anxious behaviour. It can therefore be seen as an extension of the results of Minde et al. (1972) and Tew and Laurence (1973). This investigation also provides support for San Martino and Newman's (1974) case studies presentation of an increased incidence of conduct disorder problems in normal children from families with a retarded child.

No differences between the two groups were found in the form of shy-anxious behaviour. Children with retarded siblings were not reported to have significantly more personality-problems than children without retarded siblings. This finding also lends some support to the available literature on social adjustment problems in this population in which there have beem minimal reports of an increased incidence of personality problems. It also provides some support for the researcher's previous explanation of the possible equivalence of the two groups on this subscale neutralizing the significance of the reported increase in conduct-disorders when the two subscales were combined to form a BPC total score. The balancing of the findings on the two subscales may have resulted in the non-significant difference between the two groups on their BPC total score.

One might attempt to account for the failure to find differences

between the groups in shy-anxious behaviour by the volunteer effect discussed earlier. Rosenthal and Rosnow (1969) who summarize the research to date on the volunteer subject point out that volunteers are better educated, less authoritarian, more sociable, higher in self-disclosure, and better adjusted socially and emotionally than non-volunteers. In light of this information, it is possible that the children with retarded siblings who volunteered to participate in the present study were less shy and anxious than those who did not volunteer. The problem with this explanation, however, is that one would also expect no difference between the two groups in their reported incidence of anti-social behaviour if the volunteer effect was occurring. This was not the case, though, and it suggests that there should be an alternate, more plausible, explanation for the presence of differences on one subscale but not on the other.

A very likely explanation for the differential results on the personality-problem and conduct-problem subscales relates to the issue of stress and how it is coped with in families where there is a retarded child. It may be that if the family is under stress, conduct disorders are much more noticeable than shy-anxious behaviour which might even be appreciated. In addition, perhaps there is some modeling taking place here between the normal child and the retarded sibling even though the sibling is institutionalized. Some support for this speculation is provided by San Martino and Newman (1974).

The possibility that children with institutionalized retarded siblings simply do not experience more shy-anxious behaviour than children without retarded siblings must also be entertained. Poznanski (1969) is the only investigator who strongly suggests an increase in this type of behaviour

in siblings of retarded chikdren. Her reports, however, in contrast with the present study, are anecdotal in nature and did not involve the use of measuring instruments or comparison with a control group.

In summary, this investigation found evidence of an increased incidence of anti-social behaviour but not of shy-anxious behaviour in siblings of institutionalized mentally retarded children. While this may be an actual reflection of the behavioural adjustment of this population, alternative hypotheses regarding modeling effects and effects of stress were advanced. Further study of this aspect of adjustment is required before more definitive conclusions can be reached.

Hypothesis 4. Further supporting the hypothesis of significantly greater affective adjustment problems on the part of children with retarded siblings when compared to children without such siblings, was the finding that the former group of children rated themselves as being less happy than the children in the latter group. There were no differences between male and female subjects or between children in the three different age groupings on this general "happiness" measure. This again suggests that having a retarded sibling per se is associated with depressed affect in children. This is the first controlled study which actually assessed the happiness of siblings of retarded children and the findings with regard to this variable suggest that siblings of retarded children are indeed more emotionally upset than children without such siblings. Just as the research on marital happiness started with general measures and moved towards specifics which were very fruitful aids in assessment and intervention, future research on the happiness of children with retarded siblings should be devoted to attempts to get at specific aspects. While the

literature implies that such children are at an emotional handicap (e.g., Kaplan-Grossman, 1972), the absence of methodologically sound studies verifying this has resulted in little being undertaken to alleviate the emotional problems of this population. Kaplan and Fox (1968) are the only investigators who have attempted therapeutic intervention with this population, and their attempts have been limited to group therapy for adolescent and older children. It is clear that some intervention should also be taken with younger children who have retarded siblings and that this population of children merits more of the attention of both researchers and clinicians.

Impact of Moderator Variables

Hypothesis 5. Whether or not the sibling was of the same gender as the mentally retarded child did not play a significant role in moderating the adjustment of the children in the experimental group. Children who were of the same gender as their retarded sibling were not more adversely affected in their emotional and behavioural adjustment than children who were of a different gender than their retarded sibling, on either the SAI and BPC total scores or on the subscales.

Failure to support this hypothesis may have been due to the type of sample studied. As pointed out earlier, the subjects in the present study were volunteers and Rosenthal and Rosnow (1969) have found volunteer subjects to have special characteristics which differentiate them from non-volunteers. There was a fairly low response rate on the part of families with retarded children in the present investigation and, thus, it is quite possible that those families who did volunteer to participate

had those special characteristics. At the same time, it must be emphasized that it would be unethical to conduct this type of research without volunteer subjects and, hence, the volunteer effect would always be present. Whatever the case may be, this non-significant finding is consistent with Farber (1959) who found that the sex of the retarded child did not act to influence the adjustment of normal siblings and inconsistent with Kaplan-Grossman's (1972) findings that sex of the retarded child in relation to the sex of the normal sibling did have an impact on adjustment of the normal sibling. Kaplan-Grossman's study, however, differed from the present one in that she studied older children (adolescents and older) and used less objective measures of sibling adjustment. Therefore, the differences in findings between the two studies may have been due to differences in the samples studied and the measurement methods utilized. While Farber employed different and less objective measuring instruments, his sample more closely resembled the present one. Future research may clarify this issue further by studying a somewhat more representative group of children with retarded siblings. A larger and more random sample of subjects is needed before the impact of this variable can be thoroughly assessed. In the meantime, it appears that the sex of the retarded child in relation to the sex of the normal child does not play a significant role in the adjustment of children who have retarded siblings.

It is interesting to note that this trend is contrary to the available literature on sex of the retarded child as related to sex of the parents. Farber (1960) found that parents of retarded boys were more adversely affected in their marital integration that parents of retarded

girls. Cain and Levine (1961) found that father adaptability was significantly associated with sex of the retarded child whereas mother adaptability was not. It thus seems that, although there may be some similarities in the experiences of parents and siblings of retarded children, there also may be some differences.

Hypothesis 6. Are female siblings of retarded children significantly more adversely affected in their overall adjustment than male siblings of retarded children? While the trend was in the predicted direction on the SAI total score, i.e., the girls had lower mean SAI total scores than the boys, these differences were not statistically significant. In terms of BPC total scores, boys were rated as having a somewhat greater average number of problems, but again, this difference was not statistically significant. With regards to the SAI subscales, however, this hypothesis was partially supported. Boys and girls differed significantly on the General subscale of the SAI, but this was found for both experimental and control children and was not specific to those children in the former group. As such, it seems that girls, in general, and not just those with retarded siblings, have lower self-regard than boys. In terms of the BPC subscales, girls tended to be rated as having lower mean scores than boys, but these differences were not statistically significant.

These findings are inconsistent with the small amount of previous research that has focused on the sex variable. One reasonable explanation for the failure to support this hypothesis has to do with the place of residence of the retarded child. Farber (1959) and Fowle (1968) both found that sex of the normal sibling in interaction with the place of residence of the retarded child were critical variables in determining

the degree of impact a retarded child had on his or her normal siblings. In both of their studies, normal female siblings experienced more adjustment difficulties than normal male siblings when the retarded child lived at home but were helped by institutionalization of the retarded child. In the present study, only siblings of institutionalized retarded children were studied. This methodological disparity may account for the failure to support the hypohtesis.

Farber (1959) and Fowle (1968) also found that male siblings of retarded children were significantly adversely affected when the retarded child was institutionalized but experienced no significant difficulties when the retarded child resided at home. As such, it might have been expected to find an effect opposite to the one hypothesized in the present study. This too was not found. It may thus be that sex of the normal sibling is of minimal importance in predicting adjustment. To determine whether this is the case or not, further research with a larger and more random sample of subjects than that employed in the present study is necessary.

Hypothesis 7. The seventh hypothesis, that there would be significant differences in emotional and behavioural adjustment among the three age groups of children with retarded siblings such that older normal siblings would be more adversely affected than younger normal siblings was only partially supported. The older children were found to have significantly lower SAI total scores than the elementary and intermediate age groups who did not differ significantly from each other. Once again as with the sex variable, the age effect was found for both control and experimental children. As such, one cannot attribute the greater depressed affect of

the older sibling with retarded children to the presence of the retarded child per se. Similarly, the three age groupings of children were found to differ significantly on the General subscale of the SAI. The older group of children had significantly lower mean scores on this subscale than the other two groups of children. However, as on the SAI total scores, while older children tended to have lower General self-esteem this was true for all of the older children in the entire sample and was not specific to those older children with retarded siblings. In terms of the BPC total score and subscale scores, the three age groupings of children were not found to differ significantly from each other.

Although the Dunlap and Hollinsworth (1977) study can be criticized on many accounts (its largely rural sample; low SES subjects), the present study's finding regarding the age variable is consistent with the results of these investigators who report that this factor is not an important one. The lower SAI total scores and SAI General scores of the older children in both the experimental and control groups might be developmentally related. The older children in the present study were between the ages of 13 and 18. This is typically a conflict-ridden developmental stage in which many children feel poorly about themselves. This age-related period of internal turmoil may account for the depressed affect in this age group of children from both types of family status.

This finding is inconsistent with the work of Kaplan-Grossman (1972) and Sagers (1973). Both of these investigators found that older siblings of retarded children coped better and had higher self-concepts than younger children with retarded siblings. Differences between the present results and those of these researchers in age of the subjects studied

may account for the discrepant results. Kaplan-Grossman (1972) studied adolescents and older children and Sagers (1973) seems to have done the same. They also employed different assessment instruments to measure adjustment. Once again, it seems that more research pertaining to this variable is necessary before any definitive statements regarding either its influence or lack of impact can be made.

Hypothesis 8. The present study did not lend support to the contention that the ways in which behavioural problems would be manifested would differ depending upon the sex of the normal sibling. Boys were not reported to have significantly more conduct disorder problems than girls and girls were not reported to have significantly more personality problems than boys, as suggested by Quay (1972). Nor was the reverse pattern found. No significant sex differences in any direction were observed.

While the group of children studied may not have been representative of the general population of children with retarded siblings because of its small size, failure to support this hypothesis may have also been due to the type of sample that was studied as well as to the status of the rater of the children's behaviour. Sex differences in type of behaviour problems expressed may not have been obtained because "normal" children were studied. The findings that boys display more anti-social behaviour than girls and that girls exhibit more shy-anxious behaviour than boys have been most consistently reported in studies of clinic-referred children (Quay). None of the children with retarded siblings in this study had ever received any type of counselling. Thus, it is possible that the hypothesized sex-differences with respect to expression of behavioural difficulties only become evident when deviant, clinic-referred

children are studied. Lastly, and most importantly, referrals to clinics are more often than not made by non-familial members (e.g. teachers). It may be that the present results give a truer picture of the behavioural manifestations of these children as the rater of their behaviour was their mother, who probably is more familiar with them than the teacher.

Hypothesis 9. The length of institutionalization of the retarded child was not found to influence either the emotional or the behavioural adjustment of the children in the experimental group.

This finding is inconsistent with results from two studies which have examined this variable (Farber, 1959; Kaplan-Grossman, 1972). Interestingly, both of these studies showed length of institutionalization to be an important moderator variable but found results in opposite directions. Farber found that the longer the institutionalization, the more beneficial the effect on normal female children's adjustment. This was not so for normal male siblings, however. Kaplan-Grossman, in contrast, reported that the earlier the institutionalization of the retarded child, the less well normal female siblings adjusted to having a retarded sibling. The same relationship approached but did not reach significance for male siblings in Kaplan-Grossman's study. Again, sample differences and utilization of different measurement devices may be responsible for the discrepancy in results among the three studies. However, it is interesting to note that in the present study, a high correlation was found between length of institutionalization and physical appearance of the retarded child and, as will be discussed shortly, physical appearance was found to be a significant predictor of

adjustment. Thus, it seems that there may be an indirect relationship between length of institutionalization and adjustment. Additional research on this variable hence seems necessary. The preliminary findings that parents and children from families with a retarded child may react to their situation in similar ways provides additional impetus for continuing research. This seems especially so in light of Fowle's (1968) finding that parents whose retarded child had been institutionalized for longer periods of time were better adjusted than those whose retarded child had been institutionalized for shorter periods of time. If this turns out to be the case for normal siblings of retarded children as well, early institutionalization of a retarded child may be called for more frequently in some cases. If institutionalization is not seen to be in the best interests of the retarded child, prevention measures in instances wherein the child remains at home might put focus on sibling and family adjustment.

Hypothesis 10. Support for the tenth hypothesis that the more severely retarded the siblings of normal children the poorer their adjustment would be was also not evidenced.

This is a surprising finding in that it is inconsistent with any of the clinical anecdotal studies which emphasize this variable. Despite the fact that the studies have not been methodologically sound, e.g., they have employed only siblings of severely and/or profoundly retarded children, a relationship between severity of retardation and adjustment is affirmed and reaffirmed in the literature (Sagers, 1973; San Martino & Newman, 1974). Tew et al.'s (1977) finding for parents of handicapped children, i.e. that marital stress was increased the more

severely handicapped the child, also led this investigator to believe that severity of retardation was an important moderator variable.

Several explanations for the failure to support this hypothesis are available. Firstly, as stated numerous times, the present sample may not adequately represent the population of children with institutionalized retarded siblings because of its small size. Secondly, differences in samples and in assessment instruments may account for the discrepant results. In the current investigation, a fuller range of severity was studied. Not only were there children whose retarded siblings were profoundly or severely retarded, but children with moderately retarded siblings were also included. This latter group can be conceptualized as as a control or comparison group and, in this sense, is an original contribution over and above the other studies which did not include a reference group. Thirdly, as already indicated, Tew et al. (1977) studied parents of children with neural-tube malformation (a physical handicap) and not parents of mentally handicapped children. There may be differences in parental reactions to the two types of handicaps, despite Poznanski's (1973) suggestion that these two groups do not differ significantly from each other. Further, it is also quite possible that children's reactions to the severity of their sibling's handicap may be different from parents' reactions. Finally, and most convincingly, it is quite plausible that severity does play a role in moderating adjustment to a retarded sibling but this role only becomes apparent when severity of retardation is viewed in conjunction with the variable of saliency of the retardation. The size of the correlation found between severity and saliency in the present study and the

evidence that physical appearance becomes a better predictor of adjustment when information on severity is also available suggests that this may indeed be the case. That is, severity might play a role in influencing the adjustment of children with retarded siblings but it may play an indirect role. Due to the possible problems with the sample in the present investigation, replications of this finding are required prior to declaring severity of retardation as an important predictor of adjustment.

Hypothesis 11. Are children whose retarded siblings have very salient handicaps more poorly adjusted than children whose retarded siblings have less salient defects? The trends on both the measures of behavioural and emotional adjustment were in this direction. Those children whose retarded siblings had severe physical defects were reported to have significantly more overall behavioural problems (higher BPC total scores) than children whose retarded siblings had less severe defects. That is, the more salient the retardation of the siblings, the higher the frequency of behavioural problems reported by the mothers. Similarly, it was found that children whose retarded siblings had severe physical defects rated themselves as having lower self-esteem (lower SAI total scores) than those children whose retarded siblings had less salient physical defects, but this difference was not statistically significant.

This is a most interesting finding in that the present study is the only one known to have actually included children whose siblings have differential degrees of saliency of retardation and to employ objective criteria for delineating saliency as well as an objective and validated

measure of behavioural adjustment. Further, the body of literature pertaining to this variable is highly theoretical and almost entirely based on case histories. Only one study controlled for saliency (Caldwell & Guze, 1959-60) and did so by choosing those subjects with mongoloid siblings to represent a high-saliency group and those subjects with non-mongoloid siblings to represent a low-saliency group. This division is questionable in the present investigator's opinion as many mongoloid--Down's Syndrome--children are not extremely unattractive and, in some cases, cannot be differentiated easily from non-retarded persons (Jurenka, Note 3).

The finding that saliency of the retardation becomes a better predictor of children's adjustment to a handicapped sibling when severity of the retardation is also known (as discussed above) seems an important one. It suggests that both of these variables be taken into account and controlled in future investigations of this topic.

Why do different degrees of saliency account for significant differences in parental reports of normal children's incidence of behaviour problems and not for significant differences in these children's emotional adjustment? The following explanation is advanced to answer this question. The more salient the physical defects accompanying the retardation and the more severe the retardation, the greater the concern for the retarded child on the part of the parents. More frequent hospitalizations and surgical operations are likely to accompany gross anomalies than minor defects. With increased hospitalization and/or surgery are augmented fears and worries of potential death of the retarded child. Normal children, in all likelihood, perceive their parents' greater concern

for and attention to the retarded child (confirmed in the next section on semi-structured interviews) and react to this by misbehaving and in this way getting their parents' attention. Although the attention is negative, it is better than none at all. Perhaps only when these children have a visible or apparent problem do they feel justified in receiving their parents' attention and concern and for this reason they seek out behavioural problems, either consciously or unconsciously. While they probably also suffer more emotionally when they have a retarded sibling with severe physical anomalies, they may have to provide objective evidence of a problem(s) before they receive their desired share of parental attention. As a result, these children engage in anti-social behaviour, e.g. fighting, swearing and/or shy-anxious behaviour, e.g. complaining of stomach aches, withdrawal, and hence there is a significant increase in mothers' reports of behavioural difficulties. It is also possible that retarded children with more salient defects demonstrate more bizarre behaviours and that normal siblings model this behaviour in an attempt to receive parental attention. This is pure speculation. However, it is both consistent with and an extension of the theoretical literature which suggests that behavioural reactions in siblings of handicapped children are a consequence of the emotional neglect experienced by these siblings and may lead to parental attention and acceptance (Poznanski, 1969; San Martino & Newman, 1974). In any case, future research may be directed toward testing out these postulations.

Semi-Structured Interview

Between-group differences. Content and frequency analysis of the responses of children in the two groups to items in the semi-structured

interview revealed results consistent with the statistical analyses performed on the SAI subscales.

The largest differences in responses of the two groups of children were on items relating to the familial situation. Children with retarded siblings were less likely than children without retarded siblings to discuss their families and family matters with their friends and spoke of "personal" (as opposed to "general") family issues less often. Children in the experimental group also expressed somewhat more positive affect to their non-retarded siblings, more frequently asserted that they wished to be an "only" child, more often explained their desire to have no siblings in terms of getting greater parental attention, and more often declared that they wished their parents would spend more time with them.

While these differences in response content and frequency may be specific to the sample of children studied in the present investigation, as discussed above, it is this researcher's opinion that these results more likely reflect the actual feelings and thoughts of siblings of retarded children. It seems evident both theoretically and on the basis of the research conducted to date, that the one area of functioning to be affected in <u>all</u> homes with a retarded member would be familial functioning. The elevated marital tension which has been found in families with a retarded child (Liberthson, 1968; Tew et al., 1977) surely must have its effects on the children in the household. Likewise, the reported feelings of guilt, shame and anger that apparently arise in parents who give birth to a retarded offspring may also be present in the minds and hearts of siblings of retarded children and affect the

way they act. The increased need on the part of the retarded child for parental attention throughout his or her life also seems to have its effect on family relationships. As reported by Farber (1959), this results in increased responsibility for siblings and distorts family relationships and roles. According to his investigations, the retarded child, regardless of age, may assume the youngest sibling role whereas the other children in the family are elevated to older sibling roles despite their chronological age. It is suspected further that institutionalization of the retarded child also has its effects on the parents and siblings of such children. While studies have reported the beneficial effects of removing the retarded child from the home (Fowle, 1968), it would be expected that doing this would further affect family roles and relationships. It is the opinion of this researcher that these issues and conflicts inevitably arise in families where there is a retarded child. For this reason, it is not surprising that in the present study significant differences were found between children with retarded siblings and those without retarded siblings on the SAI Family subscale and on the interview questions dealing with family-related issues. These findings suggest, as alluded to earlier, that some sort of therapeutic intervention is necessary for families with a retarded member. Family therapy or group family therapy in which several families with an institutionalized retarded child meet together to discuss these issues and to share their feelings might be most appropriate. Both parents and siblings could share either with each other or with other similar families their fears and concerns, their feelings of guilt, shame, anger, etc., as

well as strategies for dealing with these conflicts, role distortions and ineffective family functioning. Group therapy for mothers of handicapped children has been reported by both mothers and social-service professionals to be of much benefit (Linder, 1970). Extension of this to entire families with a retarded member seems the logical next step. Aside from family intervention, the present study points to the possible utility of children's group sessions wherein concerns can be discussed among peers in a similar situation. Kaplan-Grossman (1972) reports success with adolescent groups for siblings of mentally retarded children. Groups for younger siblings of retarded children should also be attempted in the future.

The final rather marked difference noted between the two groups of children relates to their comfort or discomfort in being interviewed by the investigator. A much larger number of those children with retarded siblings revealed that they felt "uncomfortable" in talking to the researcher. In view of the fact that the two groups of children were matched on the basis of intelligence level, sex, age and marital status of their parents, it seems that having a retarded sibling and having to answer questions about this sibling and about retardation accounts for this difference in reported comfort. This finding further reinforces the investigator's suggestions for family therapy and children's group sessions. It is indeed unfortunate that children with retarded siblings feel so ill at ease discussing a very important aspect of their life. On the other hand, in view of society's basically negative attitude toward the mentally handicapped, this finding was not unexpected. Certainly, work must be done to improve society's attitude toward this

sub-population of people and to educate society about the impact a retarded person has on family members.

Minimal differences between the two groups of children, if any, were found on those questions probing children's perceptions of their academic, peer, and general level of functioning. This too concurs with the findings of no significant differences between the two groups on the School, Peer, and General subscales of the SAI. In contrast to the suggestion in the literature that siblings (especially sisters) of retarded children often planned for or held careers in the helping professions (Cleveland & Brown, 1977; Farber, 1963), little evidence of this was found in the present study. Again, differences in samples studied may account for the discrepant results. It is more likely, however, that a major methodological difference between the present study and the two referred to above account for the differences found. Neither Farber nor Cleveland and Brown employed a control group. Perhaps these investigators would have reached different conclusions had they included such a comparison group in their studies.

In terms of the children's ratings of their appearance, most in both groups saw themselves as being average looking. However, a few more children with retarded siblings saw themselves as being at either extreme of the continuum, i.e., good-looking or not very good-looking. Further analysis of this item revealed that the response of being good-looking was given more often by the younger children with retarded siblings who participated in the study. The young age of these children may account for this finding. Perhaps younger children are less critical of their appearance or were not aware of the potential social desirability

element that could have operated to influence the responses of older children. The older children may have felt that it would be conceited to respond in this way. It is also possible that the young children were not expressing their own opinions of their appearance as the question called for, but, rather, may have been repeating the remarks of their parents and other adults concerning their appearance. Further, maybe parents with retarded children more frequently tell their normal children they are good-looking so as to reassure themselves and their children that the retarded child and his or her accompanying physical anomalies were an accidental occurrence and not a general familial trait. The majority of the retarded children in the present study were rated as having moderate or severe physical defects and, hence, this explanation may hold true.

The study also revealed that there was a trend for no difference in self-reported "shyness" between the two groups. Although the experimental group of children was a little less likely to rate themselves as being outgoing and somewhat more likely to see themselves as being somewhat in between shy and outgoing, there were very small differences between the two groups on this item. Again, this is also consistent with the absence of significant differences on the SAI General subscale.

Very small differences between the two groups were found in the children's self-ratings of their school performance. Children in both groups primarily saw themselves as doing "OK" or "Pretty Well". This finding too is consistent with that of no significant difference between the two groups in the SAI School subscale. It is possible that the social desirability factor was operating here and that children

did not want their academic standing to be seen in a bad light. However, the frankness of the children's responses to the other questions rules out this explanation to some degree.

The interesting finding to emerge pertaining to children's perceptions of their academic standing was that more children with a retarded sibling reported that their parents applied pressure to do better at school by more frequently making remarks of this nature. In response to the question of why they felt their parents made such comments, some of the children with retarded siblings stated that their parents could never be satisfied. This reply was not obtained from any of the children in the control group. Perhaps parents of retarded children try to compensate for their child's mental disabilities through their other "normal" children and therefore push harder for them to do better in school. This may be a means of reassuring themselves that their other children are intellectually sound and that they are capable of producing "normal" offspring. This explanation concurs with Liberthson's (1968) and Poznanski's (1973) descriptions of the "storm of emotions" and questions elicited in mothers and fathers by the birth of a handicapped child. As mentioned earlier, these parents are said to be overwhelmed by feelings of "helplessness", "disappointment", "disbelief", "anger", "confusion", "guilt", and "bruised egos". If these descriptions are accurate, and there is every reason to believe that they are, then the theory of compensation through normal offspring advanced by the present investigator seems to be a very plausible one.

There were little differences in the two groups of children's responses to questions about their peer relationships. This too is

consistent with results which showed no significant difference between the experimental and control children on the Peer subscale of the SAI. One possible explanation for this finding resides in the social desirability factor. This investigator tends to invalidate the latter explanation in that it was found that most children were quite honest and willing to disclose information about themselves and their families when the purpose of the investigation was explained and some rapport was established. Granted, some of the questions were direct, but the children seemed to be providing sincere answers. The one important difference between the two groups arose in their replies to the follow-up question regarding why they did not feel they had as many friends as most children they knew. A few siblings of retarded children stated that they thought this was because they were not liked by other children, whereas none of the children from the control group gave this response.

In summary, the largest difference between the experimental and control children's responses to the semi-structured interview were found on those questions dealing with the familial situation. This was consistent with the results of the analysis on the SAI subscales where it was found that children with retarded siblings had significantly more depressed affect in the family situation than children without retarded siblings. Also in agreement with the results of no significant differences between the two groups on the General, Peer, and Academic subscales of the SAI were the findings of little difference in children's responses to items tapping these areas in the interview. While further research is necessary to confirm these findings, family therapy, group family therapy, and/or children's group sessions seem appropriate to deal with

the depressed affect in the family situation.

Questions specific to having an institutionalized retarded sibling. The responses of the children in the experimental group to a number of questions about their retarded and non-retarded siblings indicated several issues of importance which provide clarification and extension of some of the existing research.

Kaplan-Grossman (1972) and San Martino and Newman (1974) both claim, on the basis of their research, that the issue of identification of the normal sibling with the handicapped sibling is an important one. As such, the present study's finding that a large number of siblings of retarded children acknowledged similarities in physical appearance with the retarded child was unexpected. In fact, in spite of the fact that most of the retarded siblings had anomalies in appearance associated with their defects, an almost equal number of children saw physical similarities between themselves and their retarded sibling, and between themselves and their other (non-retarded) siblings. This near-equality suggests that these children were not distancing themselves from their retarded siblings any more than they were from their other siblings and opposes the above-mentioned researchers' findings. However, support for the distancing effect was evidenced when the children were asked if there were any ways, other than appearance, in which they were similar to their retarded sibling. A large majority of children denied any other kind(s) of similarities with their retarded siblings. Perhaps, then, children attempt to deny any similarities in behaviour or personality between themselves and their retarded sibling, although they can see some physical similarities, i.e. hair colour or eye colour. These physical

likenesses may be less threatening than behavioural or personality ones and hence may account for this finding. Further support for this postulation comes from the additional finding that the only children who could admit to non-physical similarities between themselves and their retarded siblings were older in age (13 and above). It might be that the older children had a greater understanding of retardation and hence were less threatened by it. These speculative comments must remain tentative, however, as a control question regarding children's perceptions of resemblances (other than appearance) with non-retarded siblings was not asked.

Perhaps due to the social desirability factor or as a result of the operation of the denial mechanism, it was found that most children reported that they were not embarrassed about having a retarded sibling or when their friends met their retarded sibling. Likewise, the majority of children stated that the experience of having a retarded sibling was good and that their retarded sibling had not affected whether their family would take a vacation. Nevertheless, some children did report experiencing embarrassment, that having a retarded sibling was not good, and that the family had not gone on vacation because of the retarded child. In light of this, it seems that some children do in fact feel that they suffer because they have a retarded sibling.

Despite the finding of no difference in the two groups of children's perceptions of the number of friends they had and whether they would like more friends, some effects on peer relationships were acknowledged by the children with retarded siblings. Opposing the results of the Graliker et al. (1961-62) study which found that all the siblings of

retarded children in their sample felt comfortable in having their friends visit their homes and see the retarded child, the majority of children in the present study did not report feeling as comfortable. While all the children except one had told their friends about their retarded sibling, most of the children had told only "a few" or "some" of their friends. Very few children had told "all" of their friends. Likewise, the majority of children reported that only "a few" of their friends had met their retarded sibling. In fact, a number of children did not recall any of their friends ever having contact with the retarded child.

The results of the present study agree with those of Kaplan-Grossman (1972) and, in addition, are an extension of them. She studied adolescents and older children and reports findings similar to those of the present investigation. The current investigation, however, sampled a wider age range of children with retarded siblings and the same effects on peer relationships as documented by her were found across the age continuum.

Interestingly, while less than half of the children felt that they visited with their retarded sibling regularly, almost all of them alleged that they would like to visit more often either at the institution or by having the retarded child come home for visits. Here, again, the social desirability factor may have been responsible for these survey results. Rules about visitation were quite liberal and flexible at the institution where the retarded children resided and the children (particularly the older ones) could have visited more often if they wanted to. It seems quite possible that some of the children interviewed

had mixed feelings about visiting or guilt feelings about not visiting frequently enough and therefore answered in the affirmative to the question of whether they would like to visit more often. On the other hand, the children's responses as to why they wanted to visit more, e.g., "I miss her", or "It makes me feel good to see he is not sick", suggest that there may also be some other reason for not visiting that regularly. It may be that the parents do not go out that regularly and transportation is difficult otherwise. It may also be that parents discourage frequent visitation. Questions pertaining to these issues were not asked and thus further clarification is not possible.

The interview also revealed that a lot of children spent time thinking about their retarded sibling. While potential for children to answer in the socially desirable direction was available for this question, the children's responses lead this investigator to discredit this explanation of the results. Children stated that they thought about how their retarded sibling was doing, whether the retardation was reversible or not, what it would be like if their brother or sister was not retarded, as well as a number of other matters. A large number of children also stated that they spent time thinking about the future of their retarded sibling. Specific content areas with regard to this question included the issue of whose responsibility the retarded child would be in the future, whether the retarded child was going to die or not, possible cures, and what the retarded person would be like when he or she was grown up. Once again, these responses suggested to the researcher that these children had indeed spent much time thinking about these issues and were carrying around a large burden and a number of unanswerable

questions.

In spite of the fact that the majority of children thought about and had questions about their retarded sibling, very few children knew the diagnosis, severity, or exact physical defects of the mental retardation and only slightly over half said that they would like their parents to tell them more about their sibling and about retardation in general. Why the ambivalent feelings? It is this researcher's hypothesis that many of the children interviewed feared the answers to their questions and thus chose not to know. Although curious, if they did not know at least they could hope that things would work out well.

Slightly less than half the children stated that they asked direct questions about their retarded sibling and, in most cases, the questions were of a very general nature, e.g., how the retarded child was on a particular day. This also seems to fit into this investigator's hypothesis. It is interesting to note who those children who did ask questions approached for answers. In not one case was the father approached on an individual basis. Children primarily went to their mothers or sometimes to both parents together. It seems that it was very difficult for the children to speak about these issues with their father alone, despite the fact that this is a family problem. This finding also lends support to the recommendation for family therapy where there exists an institutionalized retarded child. If this mode of therapy was to be employed, it would be extremely important to have sessions wherein all family members, including the father, are present.

While the preceding findings strongly suggest that having a retarded child in the family has a very definite impact on family members and

family functioning, less than half of the children acknowledged this when they were asked very directly whether having a retarded child in the family had affected the family as a whole or made a difference in their lives. The direct nature of the questions may have elicited what the children felt were socially desirable responses. The sex of the retarded child was also not perceived by the children as being an important moderator variable. This is consistent with the results of the previously discussed statistical analyses on the effects of similarity or dissimilarity of gender of the retarded child and gender of the normal sibling.

The issue of greater parental attention being dispensed to the retarded child than to the other children in the family was also probed. It was found that almost half of the children felt that their parents were more concerned about their retarded sibling than about them. There did not seem to be an age factor here. Based on this kind of information, it is not hard to understand why differences were found in the adjustment of this group of children particularly in the family situation when compared to the group without retarded siblings. This finding also provides some support for the investigator's hypothesis of why the physical appearance variable was a significant predictor of overall behavioural adjustment but not emotional adjustment.

The questions pertaining to the children's affective feelings towards their retarded siblings revealed some very interesting trends which corroborate and extend those found by Miller (1974). She found differences between the ways that normal children relate to their normal siblings and the ways that they relate to their retarded siblings. In the present

study, it was found that considerably less negative affect, if any at all, was expressed to the mentally retarded sibling by the respondents than towards their normal siblings, whereas just the opposite occurred with the expression of positive affect. While some of the younger children had been informed by their parents not to fight with the retarded child, the majority reported never having been informed of this by their parents and acted on their own accord. Further, normal children's means of expressing their feelings were found to be different depending on whom the recipient of the affect was. The retarded children were more likely to be ignored or verbally scolded by their normal siblings if their siblings were angry or upset with them, and more likely to be hugged or kissed by their normal siblings if their siblings felt positively toward them. More hitting, swearing, fighting, and calling mother were resorted to if the normal sibling was angry with one of his or her non-retarded siblings. On the other hand, less hugging and kissing was engaged in to express positive affect toward a non-retarded sibling. These differences in the way that normal siblings interact with one another as opposed to the way in which children and their mentally retarded siblings interact with one another further attest to the impact of having a retarded sibling on family relationships and family functioning and the need for some type of intervention with such families.

Interviewing children with retarded siblings and asking them to answer questions and discuss their retarded sibling provided this researcher with very valuable information as well as a rewarding experience.

Although socially desirable responses may have been given to a number of questions, very sincere answers following much thought seemed to be given to most questions. The many issues of importance raised as a result of the interview and discussed above surely compensate for the children's possible attempts to appear unaffected by their retarded siblings on some questions. The interview procedure appears to be a good follow-up to the more rigorous assessment tools, i.e., the SAI and the BPC, in that it provides additional information about the exact issues or areas of conflict and sensitivity for children with retarded siblings. It therefore should be employed more routinely with this population following the administration of objective measures of adjustment. While further research with larger and more representative samples is needed to determine the replicability of the findings of this study, it seems clear to this investigator that there do exist some very important differences between families in which there is a retarded child and those in which there is no retarded or otherwise handicapped child. These differences are most apparent in the area of family functioning and children's depressed emotional adjustment in the family situation where there is an institutionalized retarded child. They are also evident in the reported increased incidence of conduct disorders in children from families where their is an institutionalized retarded child. Aside from these differences between the two types of family structures, there seems to be discrepancies in the way in which children feel their parents treat their retarded as opposed to non-retarded children and in the way that children deal with their normal as contrasted with their retarded siblings. These inter- and intra-group differences strongly suggest that therapeutic

prevention and intervention in the various forms referred to throughout the preceding discussion would be most appropriate and, in fact, necessary if these emotional and behavioural adjustment problems are to be dealt with effectively and provided with the attention they merit.

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APPENDICES

APPENDIX A

ADJUSTMENT IN FAMILIES WITH MENTALLY RETARDED CHILDREN

A LITERATURE REVIEW

Appendix A

Adjustment in Families with Mentally Retarded Children

A Literature Review

To date, the literature discussing mental retardation focuses primarily on the mentally retarded person himself or herself. An abundance of articles are available on such topics as the personality of institutionalized mentally retarded children as compared to non-institutionalized mentally retarded children, the various sub-types of mental retardation, the numerous ways retarded persons can be categorized ("educable", "trainable", etc.), and different remedial training programs that have been devised. Relatively less attention has been given to the parents of retarded children and how such children can affect their parents' relationship and overall family functioning in general. Furthermore, the influence that a retarded child may have on his or her siblings has received minimal focus by researchers. This is quite surprising since the literature so far suggests that parental relationships are often affected by the presence of a retarded child; thus, it would seem highly likely that siblings as well are affected either directly by the retarded child or indirectly via the effect on parental functioning. Due to the scarcity of literature to date on siblings of mentally retarded children, this researcher has chosen to make this population the primary subject of the following thorough review. Such a review is necessary in order to clarify how children adjust socially and emotionally to having a retarded sibling.

Upon examining the relatively sparse literature dealing with the effect of a retarded child on his or her parents and siblings, an initial observation is that most studies suffer from serious methodological

shortcomings. The most common of these flaws include: (1) a reliance upon anecdotal evidence rather than empirical documentation; (2) the lack of controls employed; and (3) a focus on families of "severely" retarded children to the neglect of families with children of other levels of retardation. It is also quite evident from examining the literature that moderator variables such as the sex, age, place of residence and socio-economic status of the mentally retarded child are influencing the strength of results of studies. However, these variables have not been examined very rigorously and thus the literature pertaining to them remains quite ambiguous. Clearly, there is a need to study these variables more systematically. As such, the reported effects of a number of these moderating variables upon the emotional and behavioural adjustment of siblings and parents of retarded children will be reviewed.

Due to the fact that the majority of the available literature on families of retarded children examines the effects of a retarded child on his or her parents, this literature will be reviewed first. Next, a more intensive review of the diverse literature on siblings will be undertaken.

Parents of Mentally Retarded Children

In recent years there has been growing awareness of and concern for families of physically and mentally handicapped persons. Most researchers who have an interest in studying such families claim that, although there is some indication that life is more stressful for families of the retarded, both the families of the physically handicapped and the families of the mentally handicapped share many common features (e.g., Minde, Hackett, Killou & Silver, 1972; Poznanski, 1973). Thus, many studies on families of handicapped children employ both types of families as subjects.

To date, emphasis has been placed on the problems of the parents and recognition of the stress created for the parents by such children. Poznanski, in this regard, notes the storm of emotions elicited in mothers and fathers by the birth of a handicapped child. She states that "both parents are overwhelmed by feelings of helplessness and disappointment, disbelief, anger, confusion and guilt" (p. 323). She also comments on the kinds of problems parents of handicapped children encounter in their day-to-day living, saying that parents of such children have difficulty expressing their anger directly to the child, thus making discipline a problem, and that parents of the handicapped child often feel ashamed under public scrutiny. Liberthson (1968) concurs with Poznanski and offers a very similar description of parents who are confronted with a mentally retarded offspring. She also points out that such reactions on the part of parents inevitably affect their functioning on all levels, the most documented of which will be examined below.

Effects on Family Functioning

A number of investigators report serious adverse consequences to having an abnormal child in the family. Minde et al. (1972) refer to the high "emotional morbidity" of parents who have either physically or mentally handicapped children. These researchers interviewed 41 sets of parents, 20 of whom had a retarded child and 21 of whom had a non-retarded but physically handicapped child. Perhaps the clearest finding to emerge from their interview data with mothers and fathers is the complexity of problems associated with raising an abnormal child. They discovered that most parents in both groups found it impossible to deal with the development of their children on a long-term basis. They lived on a day-to-day basis and the majority refused to contemplate the future.

Likewise, according to Davis (1975), maladaptive psychological reactions in parents invariably accompany abnormality in a child. For this reason, he claims that parents should be a routine part of the planning of a treatment program for a handicapped child.

One area of family functioning that has often been shown to be seriously affected by a handicapped child relates to the marital relationship of parents of such a child.

Marital relationship. Liberthson (1968), upon discussing her initial approach with parents of retarded children, stresses the importance of seeing both parents together. Her rationale for this is based on her experience with marriages that have broken apart because of the intense feelings between the parents of the retarded child. She states that when something goes wrong in a family it is "natural" for both parents to become tense and irritable. They begin to search for someone to blame, and too often each marital partner may blame the other.

Farber (1959), the first researcher who attempted to systematically and objectively examine family dynamics in families where a retarded child was present, studied the marital integration of parents who had a severely mentally retarded child living either at home or in an institution. Utilizing an "index of couples marital integration" based upon degree of consensus on values ranked by husbands and wives, he came up with an estimation of the degree of existing role tension between them. Based on interviews with 240 families he concluded that marital integration was "negatively affected" by the presence of a severely retarded child in the home.

Fowle (1968) also examined the marital integration of parents of retarded children who were either institutionalized or lived at home.

Employing 35 families in each of these two groups and using the same measuring instrument as Farber (1959), she did not find significant differences in the marital integration of the parents of these two groups of retarded children. Despite the fact that her study did not reveal significant differences, Fowle's (1968) discussion of her research implied that the marital integration of parents in both her groups was lower than that of parents who do not have such a handicapped child. Farber made a similar suggestion. The conclusions reached by both these investigators must at present remain tentative as both studies suffer from the lack of inclusion of a control group of parents of non-mentally retarded children.

Additional documebtation of the adverse impact of a handicapped child on parents comes from Tew, Laurence, Payne and Rawnsley (1977), who examined the matrimonial stability of 142 families where a child with neural tube malformation had been born between 1964 and 1966. The divorce rate for families with a surviving child was found to be nine times higher than that for the local population and three times higher than for families experiencing bereavement of their spina bifida child. These researchers concluded that a handicapped child adds greatly to the strain on a marriage and that this strain is diminished by the child's early death.

Whereas all of the major studies discussed above indicate that there may be severe adverse effects upon the general familial adjustment and marital relationships of parents of handicapped children, there are a couple of studies which provide contradictory results and interpretations leaving any definitive conclusions at present impossible. Dunlap and Hollinsworth (1977), for example, in an attempt to assess a developmentally

disabled person's effect on the family, talked with 404 families in which there was either a mentally retarded, an epileptic, or a cerebral palsied child. Their findings indicated that, in all areas of questioning, a large majority of respondents felt that the handicapped child had not had any negative effects on the family. Only 7 percent of those interviewed said that there had been an effect on their marriage and 42 percent of these couples claimed that the effect had been positive. The same pattern was found when the respondents were asked about the impact on the closeness or happiness of the family.

Along the same lines, Gerstenberg (1968) gave a 26 item questionnaire to 175 couples who had a mentally retarded child and found that the majority of parents lived together, had high marital integration scores, and few were reluctant to have more children. She concluded that the retarded child can have minimal adverse effects and even a positive effect on the parents and family.

Inconsistencies in findings may be accounted for by the fact that investigators have failed to examine several important moderator variables. In the Dunlap and Hollinsworth (1977) study, the sample was drawn from a largely rural population that was relatively poor; a larger percentage than usual of the sample was black; and the research was carried out in a southern state. All or any of these methodological differences may be responsible for the discrepancy in results. Secondly, the families in the Dunlop and Hollinsworth study resided in an area where relatively few services existed for the handicapped. As suggested by the researchers, this factor may have resulted in a lack of knowledge and awareness of problems on the part of the parents. Interestingly, the authors of both

these studies were themselves surprised with their findings and spent considerable time discussing possible explanations for the discrepancies observed.

The point being made here is that a number of moderator variables are being shown to have significance when examining the issue of whether having a handicapped child affects family functioning and parental marital integration. It is essebtial then that several independent measures be carefully controlled and examined.

Independent Measures Influencing Parental Adjustment

The findings on the lower or poorer marital integration of parents of handicapped children are not as straightforward as they seem to be. Studies (e.g., Cain & Levine, 1961; Farber, 1959, 1960) indicate that certain characteristics of the handicapped child influence the degree of parental marital integration. Further, it has been found that certain attributes of the child have differential effects on mothers' and fathers' reactions to the child. For instance, the importance of the mentally retarded child's sex in parental ability to deal with the child effectively is clearly suggested by a number of studies. Farber (1959) found that parents of retarded boys were helped in their marital integration by institutionalizing their child. This finding did not hold for parents of retarded girls. Further, Farber (1960) found that marital integration of parents of severely mentally retarded boys tended to be lower than that of parents with severely mentally retarded girls. Similarly, a study by Cain and Levine indicated that father adaptability to a mentally retarded child was significantly associated with the sex of the child whereas mother adaptability was not. Levine (1965-66) compared mothers' and fathers'

perceptions of severely mentally retarded children's social competence based on the sex of the child, in an attempt to provide an indirect test of the theory of sex-role identification as set forth by Parsons and Bale (1955). The hypothesis that there would be greater agreement between the perceptions of parents of female retardates than that of male retardates was substantiated. The hypothesis that there would be a higher level of concurrence between parents' perceptions of improvement in the social competence of female retarded children as compared to parents of male retarded children was also substantiated. On the basis of these findings, Levine (1965-66) concluded that the sex of the retarded child should be considered in any analysis of the family constellation and in counselling efforts.

Investigators have also suggested that variables other than sex play a role in determining the impact a handicapped child will have upon his or her parents. Such factors as the social class of the parents, the place of residence of the child (home or institution), age of the handicapped child, saliency of the handicap, the religious orientation of the parents, and the length of institutionalization of a child have received attention in varying degrees in the literature. The most significant of these findings will be reported. It should be noted that results concerning these variables are equivocal since, like the variable of sex, they have not been researched in any very rigorous or extensive fashion.

Farber (1959) reported on the influence of socio-economic status (SES) on parental marital integration in families with retarded children. He found that while the marriages of parents with a retarded boy at home

were more often adversely affected than marriages of parents with a retarded girl at home, this differential effect was more pronounced in lower SES families than in middle or upper-class families.

With respect to families who had institutionalized their mentally retarded child, Farber's (1959) study indicated that, regardless of the sex of the child, the marriages of middle-class parents who had a mentally retarded child at home were more severely adversely affected than those of similar parents who had institutionalized their mentally retarded child. Thus, it appears that middle-class parents were helped in their relationship by institutionalizing their retarded child.

Zuk (1959-60), in contrast to Farber, did not find a statistically significant relationship between parental acceptance of or adjustment to their mentally retarded child and SES. However, most of his sample consisted of lower-income families and therefore his findings do not really contradict Farber's as Farber employed families from all socio-economic strata.

Poznanski (1973) also comments on the importance of SES as an independent variable influencing parental adjustment. Based on her clinical experiences she posits that the emotional trauma of giving birth to a handicapped child is exacerbated for higher SES families. She does not, however, comment on the adjustment of differing SES families when the handicapped child is older.

Thus, in conclusion, it can be seen that the studies which attempt to examine the relationship between SES and parental adjustment have focused on different population and hence offer conflicting results.

Other investigators have studied families of both home-reared and institutionalized retarded children in an attempt to detect differences

in the adjustment of families with these two types of structures and to determine whether one of these living arrangements is better than the other in terms of family adjustment.

Caldwell and Guze (1959-60), for example, undertook such an investigation. In a well-designed, comparative study they examined 16 families who had a mentally retarded child living at home and 16 families who had institutionalized their mentally retarded child. The two groups were compared on a number of different measures, having first been matched on the basis of several characteristics of the retarded child, including: (1) age of the child, (2) sex of the child, (3) level of retardation, and (4) ordinal position of the child in the family. Salience of the retardation was also controlled, with mongoloid children chosen to represent high salience. In addition to matching on the basis of certain characteristics of the retarded child, Caldwell and Guze tried to match the two groups on certain total family characteristics such as: (1) number of children in the family, (2) maternal and paternal ages, (3) SES, (4) age of the siblings, and (5) IQ of the siblings. They failed to detect any significant differences between the two groups and concluded that families with a retarded child living at home were not significantly better adjusted than families of retarded children who have been institutionalized or vice versa. Unfortunately, Caldwell and Guze did not include a control group of families in which there did not exist a handicapped child. Inclusion of such a group might have revealed differences in family adjustment as a function of the presence or absence of an abnormal child in the family. This failure to include a control group is a serious lack common to

all of the studies dealing with the subject matter of this review. Clearly further research on this variable is needed.

Another variable that has been examined as a potentially influential factor in the marital adjustment of parents of handicapped children is the age of the child. Farber (1959) found that there was little difference in marital integration between parents with a "young" (less than nine years of age) boy at home and parents with a young boy in an institution. The degree of marital integration of parents with an "older" (greater than nine years of age) boy at home, however, was lower than that of parents with an older boy in an institution.

Although Zuk's (1959-60) sample was smaller than Farber's and the majority of his subjects were between the ages of two and six years, he found that, in general, parents could cope significantly better with a younger mentally retarded child (three years or less) than with an older mentally retarded child.

The results of both of these investigators are consistent. An older retarded child seems to have greater impact on parental adjustment than a younger retarded child. According to Farber the greater adverse impact of an older retarded child may be due to the fact that as the retarded child grows older the more apparent is the difference between normal child development and the actual retarded development of their offspring. This variable seems to be quite important and merits further consideration and study if an adequate understanding of the effects of a retarded child on his or her parents is to be attained.

The length of institutionalization of a retarded child has also been posited as an important independent variable influencing parental adjustment. This variable has received little attention, however, as Fowle (1968) is the only investigator who actually examined it. She compared the marital integration scores of parents whose mentally retarded child had been absent from the home for at least two years with the scores of parents whose children had been away for one year, eleven months or less. She found significant differences between these groups. Parents whose children had been institutionalized for two years or more had a higher marital integration score than parents whose children had been institutionalized for less than two years. These results, although based on a small sample size, suggest that length of institutionalization is a very important variable that deserves consideration when examining the adjustment of families of handicapped children and in counselling such families.

Caldwell and Guze (1959-60) and Poznanski (1973) suggest that the saliency of the child's handicap affects parental adjustment since a visible handicap is harder to deny and, thus, is harder to avoid reacting to emotionally. For this reason, Caldwell and Guze controlled saliency of handicap in their study. They did this by choosing mongoloid children to represent high saliency and assigning an equal number of such children to each of their two experimental groups. While these investigators' recognition of this variable is admirable, further objective quantification and rigorous experimental comparative analysis is clearly needed.

Zuk (1959-60) and Farber (1959) have commented on the influence

of religious orientation on parental reactions and adjustment to a retarded child. Their results are similar in that they both found that Catholic families tended to be more acceptant and better able to cope with retarded children than non-Catholic families (Jews and Protestants). No other investigators have felt this variable worthy of consideration. Similarly, the variable of family size has been briefly referred to in the literature (Poznanski, 1973) as a potentially important one in influencing parental reactions to an abnormal child. Poznanski's interest in this variable seems to be based, however, strictly upon her clinical observations as she does not provide any empirical documentation of its impact. While these variables may indeed prove to be of only secondary importance, it would seem to be both beneficial and efficient to collect such basic demographic information in order to assess their true impact.

In conclusion, it is quite evident that some of the variables discussed above influence the strength of results of studies on parental adjustment in families with a handicapped child. These variables, however, have not been subject to rigorous or systematic experimental validation and hence the available data pertaining to them is ambiguous and confusing. Clearly some of these variables merit further study if one is to achieve a better comprehension of the adjustment of parents of handicapped children.

Summary

The majority of the available literature dealing with the impact a handicapped child has on his or her parents indicates that parents frequently experience adverse psychological reactions and increased

marital tension when faced with a handicapped child. Further, although both mothers and fathers experience these negative effects, there appears to be some differences in their reactions in accord with the sex of the child as well as their own sex. Other variables which seem to bear some influence on the degree of marital integration and the general adjustment of parents of abnormal children include: the age of the abnormal child; whether the child lives at home or in an institution; length of institutionalization (if the child does not live at home); SES of the family; visibility of the abnormality; religious orientation of the family; and size of the family.

While there is a fairly wide body of literature concerned with parental reactions and adjustment and the variables that influence adaptation, most of the available studies suffer from one or more methodological flaws. Many of the studies that have been conducted were not well-controlled. In fact, in most studies no control groups were included. In some studies, samples were not matched on potentially important variables. In still other studies, results are based solely on interview data and interviewers' subjective opinions and not on more objective measures. Much of the literature also consists of professionals' opinions based on experiences with parents of handicapped children. Finally, all of the studies conducted have concerned themselves only with parents of the "severely" handicapped child and have overlooked parents of the moderately or mildly handicapped child. While the literature has led to a better understanding of the handicapped child's effect upon his or her parents, further research is clearly needed.

One area in particular that demands attention pertains to the

siblings of handicapped children. While family functioning has been delineated as an area adversely affected by a handicapped child, the only family function that really has been examined is the marital relationship of the parents of such a child. The effects of a handicapped child on the other children in the family have been neglected. Yet it seems only logical that if the presence of a handicapped child affects the parents' family adjustment and marital relations, it certainly must also affect other family members. It is these other family members, the siblings, that are in need of more intensive study. Hence, the next section of this review will focus on the literature conducted to date with this population.

Siblings of Mentally Retarded Children

State of the Literature

While there is a fairly large body of literature that deals with the impact a handicapped child has or may have on parents, a relatively small body of literature exists directly pertaining to the impact a handicapped child has on siblings and sibling adjustment in such a situation. This is not to say, however, that researchers do not recognize that siblings are also affected by a handicapped child in the family. Klein and Lindemann (1961) and Liberthson (1968), for example, have labelled the birth of a defective child as a family crisis which affects not only the parents but also the siblings. Similarly, Poznanski (1969) comments on the adverse effects handicapped children have upon their siblings. She, in fact, states that "child psychiatrists see more siblings of handicapped children than handicapped children themselves" (p. 232).

Kaplan-Grossman's (1972) research which consists of correlational data relating a host of variables such as sex, SES, and parental acceptance to measures of curiosity-openness, and adaptation of normal siblings, strongly suggests that, although some siblings benefit by the experience of growing up with a retarded brother or sister, in many cases exposure to a mentally retarded child is related to various forms of psychological discomfort, misconceptions, and avoidance strategies developed by siblings. Weinrott (1974), in discussing a training program in behaviour modification for siblings of the retarded, also notes that a retarded child has a serious impact on his or her brothers and sisters and that this population of siblings has been virtually ignored with respect to both counselling and training. San Martino and Newman (1974), as well as many others, point out that among the groups of children who are frequently seen in child psychiatry clinics, the siblings of retarded children comprise one important identifiable group. Yet, despite the recognition of siblings of abnormal children as a population at risk for emotional difficulties and problems of adjustment, relatively few studies have been undertaken to investigate exactly how and to what degree siblings are affected. Of those studies that have been conducted, most suffer from the same serious methodological shortcomings as are pertinent to the literature on parental adjustment and, thus, their conclusions must be viewed cautiously.

San Martino and Newman offer a psychoanalytic analysis of the impact a handicapped child has on siblings. They claim that the issue of identification of the "normal" sibling with the "handicapped" sibling is an important one and they posit that difficulty with this issue is

one of the factors responsible for bringing normal siblings to psychiatric clinics. Similarly, Kaplan-Grossman (1972), in her book Brothers and Sisters of Retarded Children, commenting on some of the issues that permeated group therapy sessions conducted with adolescent siblings of retarded children, points out that the issue of being similar to or different from the retarded sibling was the focus of many group meetings and was of enormous concern for all group members. In particular, whether the normal sibling was of the same or of a different gender than the retarded child seemed to be an important variable in determining the influence the retarded child had on the siblings' emotional adjustment. All siblings described more embarrassment over a same-sex retarded brother or sister than over one of the opposite sex. She suggests that the reason for this is that one assumes a greater sense of identity with a same-sex person. In addition, like Kaplan and Fox (1968), Kaplan-Grossman states that normal siblings try to maximize their differences from the retarded sibling. She sees this as an attempt to avoid identification with the retarded child.

When discussing the state of the literature on siblings of handicapped children, it is important to point out that, at present, there is no clear consensus of opinion on whether a handicapped child positively or negatively affects the adjustment of his or her siblings. While the majority of the literature suggests that having a handicapped brother or sister creates a host of negative adjustment problems, there is some literature contradicting this. Throughout this review the literature supporting both of these opinions will be reported.

While identification with siblings through early socialization is

a developmental process which occurs naturally and affects how a child views him or herself and relates to others around him or her, the researchers mentioned above base a lot of what they say on clinical observation and anecdotal information. San Martino and Newman (1974) also engage in a great deal of inference. This limits the validity and reliability of the information these investigators have to offer. Many other researchers, too, are guilty of a lack of rigor in their research. Lack of inclusion of control groups, focus only on siblings of "severely" retarded children, poor matching of experimental groups, etcetera, are all methodological flaws common to the literature on siblings of handicapped children. Future investigations of this population must attempt to avoid such serious methodological shortcomings in order to lend clarity to the effects of a retarded child on siblings.

Moderator variables such as sex, age and place of residence have also been suggested as agents of influence over the degree of impact a handicapped child has on siblings. However, just as the adult literature on these variables is equivocal and confusing, the sibling literature is full of ambiguities. Clearly, further empirical study of these variables is required.

In view of the fact that the literature pertaining to parents of retarded children suggests effects on their emotional and behavioural adjustment, the research conducted in these variables for siblings of retarded children will be reviewed in depth. This will follow discussion of the more general effects on sibling adjustment.

Effects on Adjustment

Investigators have suggested that there are a variety of ways in which siblings may be affected by having a handicapped brother or sister.

San Martino and Newman (1974) suggest that a retarded child has an adverse impact by creating anxieties and fears in siblings. They state that siblings of retarded children have anxieties about the meaning of retardation, its possible cause, and its relationship to their own sexual and aggressive fantasies. Using a psychoanalytic framework for interpretation, they suggest that a normal male sibling may interpret the retarded behaviour of his male sibling as evidence of masculine inadequacy. They go even further with this theory by stating that the implication of castration leads to the normal male sibling's anxiety about his own masculine intactness. He may fantasize that lack of control of his own aggressive feelings is similar to the outbursts of his retarded sibling. Another "common" fantasy suggested by these same clinicians is that mental illness and retardation are related. They suggest that, when neurological deficits such as seizures accompany the retardation, the retardation itself can be linked in fantasy with complete "loss of control" and "madness". In such a case, normal siblings may fear for their own mental integrity if they dare to give vent to pent-up feelings.

The anxiety levels of normal siblings were examined by Caldwell and Guze (1959-60) in their investigation of the adjustment of parents and siblings of retarded children. Although their study is not methodologically sound since they did not include a control group, these researchers looked at siblings of retarded children who either resided at home or in an institution. They found that siblings of the institutionalized children had a greater number of anxiety symptoms on the Manifest Anxiety Scale than siblings of the home-reared retarded children.

Liberthson (1968), based on her clinical experiences, provides further documentation of the fears siblings of retarded children harbour. She states that amongst the siblings she has had contact with, many fear that they too will have a retarded child when they marry and/or that their retarded sibling will become their responsibility when their parents die.

The life goals of siblings of retarded children have also been studied in an attempt to determine whether having a retarded brother or sister and the degree of interaction with such a child have an impact on life commitments. Cleveland and Brown (1977) and Farber (1963) conducted the two studies on this topic and their findings are somewhat discrepant. The majority of the 90 subjects in Cleveland and Brown's study, all of whom were age 25 and older and were older siblings of retarded persons who resided in a state hospital, reported a positive adaptation to the retarded sibling and the experiences surrounding having a retarded sibling. They did not report adverse effects on their childhood and adolescent experiences or influence on their career, marriage or family decisions. Only a minority of subjects reported effects on their life experience and adult commitments. Among this minority, factors such as the sex of the normal sibling and number of siblings in the family correlated with the findings. For example, female respondents indicated more effect on childhood, adolescent, and adult life experiences and commitments. Further, the oldest female siblings reported more often that they had sought professional counselling and that they were employed in helping careers such as nursing, social work, and teaching. This was particularly true of the female respondents

who were the only sibling of the retarded child. Male respondents reported less involvement with their mentally retarded siblings.

Farber (1963) had subjects rank a series of life goals in terms of the importance of the goals to them. All of the 83 subjects were between the ages of 10 and 16 and had a retarded sibling who lived at home. Mothers of the normal siblings provided data regarding frequency of interaction with the retarded child. In the analysis, children who interacted with their retarded sibling every day were compared with children who interacted on a sustained basis less than every day. The results of this study indicated that there were differences between these two groups. Both the boys and the girls who interacted with their retarded sibling on a daily basis placed less emphasis on goals concerned with success in personal relations and ranked devotion to a worthwhile cause and making a contribution to humanity as high. In addition, frequent interacting boys placed a greater emphasis on success in business than did less frequently interacting boys. The reverse was found with girls. Further with respect to the frequently interacting girls, the results indicated that they regarded life as fatalistic and felt that they must learn to accept hardships and to live with them. Farber suggests that this combination of welfare goals and fatalism may explain the high incidence of sisters of handicapped siblings in helping professions.

The discrepancies between the findings of Cleveland and Brown (1977) and Farber may be explained by the methodological differences in their studies. Farber and Cleveland and Brown seemed to be looking at very different sibling populations. Whereas Farber looked only at normal siblings between the ages of 10 and 16, Cleveland and Brown studied

siblings who were aged 25 or older. It seems likely that the age differences of these two groups of subjects may account for some of the discrepancies. Future studies should attempt to avoid such confusion in results by examining the age variable more systematically.

Cleveland and Brown (1977) only examined elder siblings of retarded persons. Farber (1963) did not make such a distinction in his study, but rather seems to have looked at normal siblings who were both younger and older than the retarded child. Perhaps the differences between the subjects from the two studies on the birth order factor account for some of the discrepant findings. Place of residence of the retarded child may also be a critical factor in accounting for the differences in the researchers' overall findings. Farber studied normal siblings who had a retarded sibling living at home, Cleveland and Brown only studied normal siblings of institutionalized retarded persons. Both of these factors seem important and, thus, should be controlled in future investigations so that confounding of results will not occur.

A further difficulty in comparing the results of Farber and Cleveland and Brown is that they had somewhat different foci in their analyses. Farber broke down his subjects into two groups, those who interacted with their retarded siblings on a daily basis and those who did not, while Cleveland and Brown looked at all of their subjects as one group. This methodological difference might also explain their somewhat different findings.

In a well-controlled study Miller (1974) explored sibling relationships in families with retarded children. Her study is very interesting and

valuable in that it provides empirical evidence for significant differences between the way in which normal siblings interact with each other (the "culturally" accepted sibling role) as opposed to the way in which children and their mentally retarded siblings interact with one another (the "deviant" sibling role). She interviewed 34 normal siblings and her results revealed that respondents engaged in more activities of an instrumental nature with their mentally retarded sibling than with their normal siblings, and more expressive activities with their normal siblings than with their mentally retarded sibling. She also found that considerably less negative affect was expressed toward the mentally retarded sibling by the respondents than toward their normal siblings, whereas just the opposite occurred with the expression of positive affect. These findings suggest that there are differences between the ways that normal children relate to normal siblings and the ways they relate to retarded siblings. Miller (1974) posits that such differences can affect the adaptation of normal siblings in either a positive or a negative way.

Taylor (1974), employing a very small sample of 10 subjects, suggests three patterns of sibling adjustment to a mentally retarded brother or sister. Of the three patterns she identifies, the first two point to the adverse effects a retarded child can have on siblings, while the last pattern suggests a more neutral effect. Taylor's patterns of adjustment are as follows: (1) the aggressive self-centered pattern--which includes children who are angry and embittered over the problems they feel they are encountering because of the retarded child; (2) the neurotic-inhibited pattern--which includes children who have trouble

dealing with their negative feelings towards their mentally retarded sibling, difficulty advocating for their own needs, and painful self-doubts due to their identification with the retarded sibling; and (3) the balanced-integrated pattern--which consists of children who have achieved an integration of their self-needs along with concern for their retarded sibling and who do not experience painful self-doubts because of excessive identification with the retarded child.

Although Taylor's (1974) study was based only on a very small number of siblings, other investigators have documented similar, as well as additional, adjustment difficulties in siblings of the mentally retarded. Farber (1959), for example, examined the role tensions and anxiety levels of siblings of retarded children. He hypothesized that, in families in which there is a retarded child, the expectations and responsibilities are increased for the normal siblings with a result being an increase in the role tension of the normal siblings. Employing the Sibling Role Tension Index, his findings confirmed his hypothesis but also indicated that several other factors such as the sex of the normal sibling and the place of residence of the retarded sibling influence the degree of role tension experienced.

Fowle (1968) also examined the role tension of siblings of mentally retarded children and her findings are in support of Farber's. Again, other factors were also indicated as playing a role in moderating the degree of role tension expressed by siblings. It seems, upon examining this literature, that there is a tremendous need to examine some of these moderating variables in depth. An additional problem in both Farber's and Fowle's studies is the lack of objective measures. The measuring

instrument employed by both of these researchers was the Sibling Role Tension Index, which is an indirect measure since it depends on ratings by mothers and not on the direct self-report of siblings. As such, the available findings are based on parental perceptions of sibling tension and may be inaccurate and unreliable. Measuring instruments which have good validity and reliability need to be employed in order to lend accuracy to results.

Key Dependent Variables Relating to Sibling Adjustment

Peer relationship and social adjustment. In view of the evidence presented above which outlines some of the ways in which a handicapped child may adversely affect his or her siblings, it is not surprising that some investigators have hypothesized that peer relationships and social life of siblings may be affected in such a family situation. At present, however, there does not seem to be a complete consensus of opinion with regard to whether a handicapped child has an adverse impact on the social life and peer relationships of his or her siblings or no impact at all.

Graliker, Fishler and Koch (1961-62) interviewed 21 teenaged siblings of severely mentally retarded children who lived at home. In all cases, the retarded child was the youngest in the family. The interview procedure covered four areas including: (1) description of the teenager, (2) relationships in the home, (3) attitudes toward the mentally retarded sibling, and (4) attitudes toward institutionalization of the mentally retarded child. The results of the study revealed that all but four of the teenagers participated in some group or club activity in the school and that all siblings felt comfortable in having their

friends visit their homes and meet the mentally retarded child. In addition, Graliker et al. (1961-62) found that all but one of the teenaged siblings were quite willing to explain the situation if asked. The researchers concluded that "these teenagers, on the whole, lead a normal life with adequate social outlets and positive relationships with their peers" (p. 843).

Caldwell and Guze's (1959-60) study revealed many similar findings. Based on responses to a structured clinical interview, these researchers found that none of the normal siblings in their two groups (siblings of home reared retarded children and siblings of institutionalized retarded children) felt that they had fewer friends because of their retarded brother or sister.

While the findings of a positive peer adaptation by normal siblings of retarded children is an important one, both of the studies described above suffer from methodological problems and therefore the conclusions reached by these observers must be seriously questioned. Firstly, both studies' conclusions are derived from interview data solely. More rigorous measures such as behavioural data (e.g., at home, at school) were not employed to empirically validate the interview information. The validity of this interview data is also questionable in the Caldwell and Guze study since the questions asked of the siblings pertaining to their peer relationships were rather direct (e.g. "Have your friends asked questions about X?"; "Do you think you have fewer friends because of X?"). Such questions might have minimized reports that would reveal socially undesirable characteristics. Secondly, these studies did not employ control groups and this serious omission severely limits their

conclusions. Finally, in the Graliker et al. (1961-62) study, it is possible that the young age of the mentally retarded child was responsible for his or her acceptance by siblings. Since all of the mentally retarded children in this study were the youngest members in their families, they may have been viewed exactly the same was as any younger brother or sister. Remediation of these methodological problems is definitely required. Collection of behavioural data accompanied by interview information would be an asset in this regard. Control group(s) should also be included in order to clarify the effects of having a retarded sibling on children's adjustment.

In contrast to the above studies which concluded that normal siblings are not adversely affected in their peer relationships and social life by a mentally retarded sibling are the findings of several other investigators. Kaplan-Grossman (1972) reports that most of her subjects felt that they could tell only their good friends about their mentally retarded brother or sister, and then only if their friends would have to come into contact with the retarded child. According to Schild (1971), normal siblings must learn how to deal with their peers and peer reactions since they are frequently taunted and teased about their retarded sibling by their playmates. Supporting Schild's statement is Schonell and Watts' (1956-57) finding that many normal siblings complained about adverse comments having been made at school about their subnormal siblings. Likewise, Liberthson (1968) has found in her experiences with normal siblings of retarded children that many feel that they have suffered from teasing by their peers. Love (1970) has even found that many of the normal siblings he has had

contact with are afraid to bring their friends home because they do not want to be teased.

Researchers have found that the peer relationships and social life of siblings also suffers because of parents' excessive attention to the mentally retarded child and the consequent neglect of their normal children's needs as well as distortion in family relationships and roles. Schonell and Watts (1956-57) reported that, in 50 percent of the cases they studied, visits by the family to the houses of other people were curtailed on account of the mentally retarded child and in 20 percent of the cases there was a curtailment of other children's activities due to the parents' preoccupation with the mentally retarded child. According to Farber (1959), Schild (1971) and Poznanski (1973), the extra responsibility on the part of the normal sibling, particularly the oldest female sibling, to care for the retarded sibling limits opportunities for social contact.

While the studies documenting adverse effects on the social life and peer relationships of normal siblings also suffer from methodological problems such as omission of control groups and evidence based on clinical experiences and observations, the majority of research conducted on this topic suggests that having a mentally retarded sibling adversely affects the normal siblings' social life and peer relationships. Again, however, more rigorous examinations of social adjustment must be undertaken prior to being able to make any definitive statements about this aspect of adjustment.

Behavioural adjustment. The literature on siblings of handicapped children also contains some references to behaviour disorders in this

population. Poznanski (1969), for instance, notes that she has encountered "behavioural reactions" in siblings of handicapped children. She feels that these reactions are a consequence of the emotional neglect experienced by these siblings. Poznanski states that the presence of a handicapped child in the family stresses the total family adjustment and, frequently, because of the additional time and attention the handicapped child requires or is given, relationships of the mother with her other children become distorted. Although based on clinical examples and not more rigorous behavioural data, she suggests that the other children tend to interpret this as meaning they are less favoured and loved. Some siblings express their reaction to this behaviourally.

San Martino and Newman (1974) provide support for Poznanski's theory that siblings of the handicapped are at a higher risk for behavioural problems. Based on their clinical observations, they theorize that via the mechanisms of introjection and identification the normal sibling, in some cases, assumes some of the characteristics of the retarded sibling. They posit that this identification serves as a defense to ward off anxiety and may lead to parental attention and acceptance. They also suggest that, in other cases, the siblings' feelings may lead to such behaviour problems as overcompliance, nonlearning, or a masochistic search for punishment.

Thus far there are only a couple of studies that have empirically examined the behavioural adjustment of siblings of handicapped children per se. Tew and Laurence (1973) looked at siblings of children with neural tube malformation, and they found empirical support for Poznanski's

and San Martino and Newman's (1974) theorizing. In evaluating sibling personality reactions and adjustment to the neural tube malformation of their brother or sister, these researchers found a surprising incidence of psychopathologic conditions in the non-handicapped siblings. Although they do not indicate what type of psychopathy prevailed in this sibling population, they found that the incidence of maladjustment in these siblings was approximately four times that of the normal control children.

Similarly, Minde et al. (1972) who studied severely handicapped retarded and non-retarded children and their families, noted that there was a significant increase in behaviour disorders in their normal sibling group. Among other design difficulties, these researchers provide no information on the degree of increase, type of behavioural disorders observed, or on the method by which information on the behaviour disorders was collected (e.g., parents' ratings, teachers' ratings). Most seriously, however, they did not include a control group in their study. Clearly then, research documenting these variables is most important.

Emotional adjustment--self-esteem. One area of sibling personality adjustment that has been almost totally ignored in the literature is the self-esteem of siblings of handicapped children. This variable, when explored, has only been examined indirectly. Most certainly, however, sibling responses from a variety of interview data suggest its importance. Further, in light of the large majority of the sibling literature which points to the adverse effects on adjustment of having a handicapped sibling, one would expect siblings' levels of self-esteem to be affected.

Sagers (1973) is the only investigator who concerned himself with this subject matter. In a comparative study of the personality traits of siblings of mentally retarded institutionalized persons, siblings who had a retarded brother or sister on the waiting list for admission to an institution, and persons without a retarded sibling, he found that siblings with a mentally retarded brother or sister in an institution compared favourably or had higher self-concepts than siblings with a retarded brother or sister at home or siblings with no retarded brothers or sisters. This finding is quite surprising and points to the need for further research on this very important area of sibling adjustment.

Summary

Although some investigators have found or suggest that normal siblings are unaffected by or even benefit from the experience of having a handicapped sibling, a large majority of the literature points to the adverse effects a handicapped child, particularly a retarded child, has on siblings. However, just as the literature on parental adjustment to having a handicapped child revealed that numerous variables may interact to produce greater or lesser effects on parental adjustment, the literature on sibling adjustment has pointed to several variables which may influence or moderate the type and degree of impact a handicapped child may have on his or her siblings. Such factors as the place of residence, sex, age, and length of institutionalization of the handicapped child, and the severity and saliency of the handicap have all been subject to some scrutiny by investigators. Minimal attention has been given to the size of the family and SES of the family. The literature pertaining to all of these independent variables will

be examined below.

Independent Measures Influencing Sibling Adjustment

Institutionalization versus home care. Farber (1959) found that the place of residence of the retarded child in interaction with the sex of the normal sibling were critical variables in determining the degree of impact a retarded child had on normal siblings. His study revealed that normal sisters were helped (had lower role tension scores) on the average, by institutionalization of the retarded child. The opposite was true for normal brothers. They were adversely affected (had higher role tension scores) by institutionalization of their mentally retarded sibling. In support of Farber's findings are those of Fowle (1968) who reported that the role tension of female normal siblings was higher when the retarded sibling lived at home and lower when the retarded sibling lived in an institution. Apparently, these variables seem to be very important ones.

Also suggested by Farber was that neither the sex of the retarded child nor the SES of the family influenced the adjustment of normal siblings. Substantiating the finding on sex of the handicapped child are the results of Dunlap and Hollinsworth (1977). The work of Kaplan-Grossman (1972), however, somewhat contradicts these findings on the lack of significance of the sex of the retarded child. She found that the sex of a retarded child, in relation to the sex of the normal sibling, does indeed have an impact on adjustment of the normal sibling. In her study, normal siblings described more embarrassment over a same-sex retarded sibling than over one of the opposite sex. She also found that, in general, the presence of a retarded boy has more adverse impact

than the presence of a retarded girl. The discrepant results on the variable of sex suggest that further study of this factor is required.

Age. Another moderating factor commented on by Kaplan-Grossman (1972) is the age relationship between the normal sibling(s) and the retarded sibling. She found that older brothers and sisters coped significantly better with their mentally retarded sibling than younger brothers and sisters. Likewise, Sagers (1973) found that older siblings of retarded children had higher self-concepts than younger siblings of retarded children. Further with regard to the age variable, Farber (1959) found that regardless of the age of the normal siblings, they are more affected by a retarded sibling when he or she is young than when he or she is older. Opposing these results are those of Dunlap and Hollinsworth (1977), who did not find the age factor to be at all significant. These contradictory findings suggest that further research is necessary on this variable as well.

Length of institutionalization. Although discussion in the literature on the influence length of institutionalization of a retarded child has on sibling adjustment contains discrepancies, this variable has been the subject of study by some researchers. Farber, for example, found that placing a retarded child in an institution early in his or her life had a more beneficial effect on female normal siblings' adjustment than later placement. This was not so for male normal siblings however, since they were found to be adversely affected by the institutionalization of their retarded sibling. Kaplan-Grossman's work, on the other hand, revealed that for normal female siblings, the earlier and the more total the institutionalization of a retarded sibling, the less

well the normal sibling coped with the idea of having a retarded sibling and the more embarrassed she felt about this sibling. The same relationship between the extent of institutionalization and coping, approached, but did not reach, significance for normal male siblings. Here again, additional research seems necessary in order to determine the role this independent variable plays in moderating sibling adjustment to a handicapped brother or sister.

Severity of handicap. San Martino and Newman (1974), and Tew et al. (1977), briefly refer to the fact that the severity of the handicap plays a role in influencing the type and degree of impact on siblings. These researchers do not, however, provide empirical documentation for their claims. In fact, all of the studies conducted to date on siblings of handicapped children, with the exception of Sagers (1973), have focused on siblings of severely handicapped children only. The impact of a mildly, moderately or profoundly handicapped child has not received serious attention. Sagers did include "degree of mental retardation" as one of the variables in his study and found that the more severely retarded a child was, the lower the self-concept of his or her siblings. This is a very important finding and strongly suggests that this variable merits further consideration.

Saliency of handicap. The saliency of the handicap has been mentioned as a possible moderating factor but it has received minimal attention. San Martino and Newman, and Caldwell and Guze (1959-60) are the only ones who comment on this variable. The former claim that how apparent the retardation is and whether or not physical defects are present are important factors in determining the kinds of fantasies that

normal siblings develop. The latter mentioned investigators hypothesized that the salience of retardation was a variable worthy of experimental consideration. As such, they classified mongoloid children as representing high salience and controlled their two groups on this factor. Their study, which compared the adjustment of families who had a retarded child living at home with families who had a retarded child living in an institution, did not reveal any significant differences between the groups. They did not, however, look at whether different degrees of saliency differentially affected family adjustment.

Family size. The influence of the size of family on sibling adjustment has not been the subject of much discussion in the literature. Kaplan-Grossman (1972), in fact, is the only researcher who comments on this variable. She found that college students from larger families adjusted better to a retarded sibling than college students from smaller families. While this finding is interesting, this variable seems quite secondary in comparison to the ones discussed previously.

It thus seems evident that a number of the variables discussed above influence the strength of results of studies on sibling adjustment in families with a handicapped child. These variables, however, require rigorous experimental study if one is to attain clearer comprehension of the way they influence sibling adjustment.

Summary and Conclusions

It should be obvious from this review of the literature that the research conducted to date is not unanimous in its findings on the affect of a handicapped child, particularly a retarded child, on siblings. While most researchers claim that a handicapped child adversely affects

siblings' social, behavioural and emotional adjustment, some investigators state that a handicapped child does not adversely affect siblings and can even be a beneficial experience. It should also be quite apparent that the research in this subject area is not very rigorous or systematic and, hence, the conclusions reached are not definitive or generalizable. For the most part, studies suffer from serious methodological flaws with the most serious mentioned throughout this review being failure to enlist appropriate control groups, employing non-comparable groups, small sample sizes, and collection of data largely by means of interview. All of the studies that have been undertaken have focused on the siblings of severely retarded children. Further, much of the literature consists of clinical impressions, observations, and anecdotes which are informative but require experimental validation. As indicated above, numerous factors have been suggested as potentially important moderating variables but results of studies looking at these factors are equivocal. It seems best to consider the research to date as merely preliminary--setting the stage for future research. It has served to identify the area of normal siblings' adjustment to having a retarded sibling as an important one and, it has emphasized that having a retarded brother or sister can very easily have a variety of effects upon normal siblings. Further research is needed then to examine both the positive and negative effects experienced by children with retarded siblings. This research should be methodologically rigorous and should also include examination of factors that may act to moderate either the positive or negative adjustment of children who have retarded siblings. Hopefully, such research will clarify the assets and liabilities of families where there is a retarded child

and will stimulate the development of prevention and/or intervention programs that improve the quality of life in such families.

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APPENDIX B

LETTER TO FAMILIES WITH A CHILD IN ST. AMANT CENTRE

UM

THE UNIVERSITY OF MANITOBA

DEPARTMENT OF PSYCHOLOGY

WINNIPEG, CANADA
R3T 2N2

Dear Parents:

Allow me to introduce myself. My name is Sharon Tritt. I am 23 years old and I was the sister of a mentally retarded child. My mentally retarded sister was born when I was almost eight years old and I sincerely believe that she had a very powerful impact on my life. I have frequently thought that as a result of my experience of growing up with a mentally retarded sister I am a different person than I might have been otherwise - I feel that I am more sensitive to the needs of other people, as well as a variety of other things. I often wonder whether my experience is similar to that of other siblings of retarded children.

With the support of St. Amant and the University of Manitoba, I am conducting a research project for my master's degree under the direction of Dr. Lillian Esses, Department of Psychology, University of Manitoba. The study deals with the satisfactions, dissatisfactions, and adjustment of children from both families in which there is a handicapped child and families in which there is not a handicapped child. The project should provide valuable information which will assist us in determining the concerns of parents and siblings of mentally handicapped children.

If you are interested in learning more about the study and possibly participating in it, I would appreciate your taking a few minutes to answer the questions on the enclosed form, including the identifying information (name, address, and phone number). If you express interest in the study, I will be phoning you within the next month to explain more about the study and to see whether you and your child(ren) will be willing to participate. All people who fill out the form with the identifying information will be sent a summary of the results when the study is completed. Even if you are not interested in learning more about the study, you can still help me greatly by answering the questions on the enclosed form, excluding any identifying information.

Please place the completed questionnaire in the self-addressed, stamped envelope and mail it to me as soon as possible. If you have any questions, please feel free to contact me at home at 452-2229 after 6:00 p.m. Thank you very much for your cooperation.

Sincerely

Sharon Tritt,
M.A. Student,
Department of Psychology,
University of Manitoba

APPENDIX C

QUESTIONNAIRE FOR FAMILIES WITH INSTITUTIONALIZED CHILD

Appendix C

Whenever possible, for reasons of consistency, it would be appreciated if the mother of the household would fill out the following questionnaire by checking off (✓) the most appropriate response category or categories.

Name of Respondent _____

Address _____

Phone Number _____

1. Date of Birth of each parent:

   Father Date of Birth _____ Age _____

   Mother Date of Birth _____ Age _____

2. Marital Status — Number of years married

   1. Married _____ _____
   2. Widowed _____ _____
   3. Separated _____ _____
   4. Divorced _____ _____

3. Race

   1. White _____
   2. Black _____
   3. Oriental _____
   4. Native or Metis _____

4. Religion

   1. Protestant _____
   2. Catholic _____
   3. Jewish _____
   4. None _____
   5. Other _____

5. Children

   a. Number of children _____

b. Names of Children | Ages | Sex

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

6. Education

	Father	Mother
7 - Graduate or professional training	_____	_____
6 - University graduate	_____	_____
5 - Partial University training	_____	_____
4 - High School graduate	_____	_____
3 - Partial high school	_____	_____
2 - Junior high school	_____	_____
1 - Less than 7 years of school	_____	_____

7. Work

a. Do you have a job?

	Father	Mother
4 - Full-time	_____	_____
3 - Half-time	_____	_____
2 - Part-time	_____	_____
1 - No job	_____	_____

b. Occupation (if employed)

	Father	Mother
8 - Higher executive, major professional proprietor of large concern	_____	_____
7 - Business manager, lesser professional, propietor of medium sized business	_____	_____
6 - Administrator, owner of small business, minor professional	_____	_____
5 - Clerical or sales worker, technician, owner of little business	_____	_____

	Father	Mother
4 - Skilled manual employee	_____	_____
3 - Machine operator, semi-skilled employee	_____	_____
2 - Unskilled employee	_____	_____
1 - None	_____	_____

8. Income

a. Total annual income (for the past year)

1. 0 - $2,499 _____
2. $2,500 - $4,999 _____
3. $5,000 - $7,499 _____
4. $7,500 - $9,999 _____
5. $10,000 - $12,499 _____
6. $12,500 - $14,999 _____
7. $15,000 - $17,499 _____
8. $17,500 - $19,999 _____
9. $20,000 - $22,499 _____
10. $22,500 - $24,999 _____
11. $25,000 - $27,499 _____
12. $27,500 - $29,999 _____
13. $30,000 or more _____

b. Source of Income

1. Father's Job _____
2. Mother's Job _____
3. Family/friends _____
4. Welfare _____
5. Life Insurance _____
6. Unemployment insurance _____
7. Savings/investments _____
8. Pension _____
9. Other _____

9. Type of housing

1. House _____
2. Apartment _____
3. Condominium _____
4. Mobile Home _____
5. Other (specify) _____

10. How would you rate your marital happiness? (circle the most appropriate number).

1	2	3	4	5
very unhappy	somewhat unhappy	neither happy nor unhappy	somewhat happy	very happy

b. History of Psychiatric Treatment or Counseling

1. Have either you or your spouse ever received psychiatric treatment or counseling?

Father 1 - Yes _____ 2 - No _____
Mother 1 - Yes _____ 2 - No _____

2. If yes, what type of treatment was received?

	Father	Mother
1 - Paraprofessional counselling, AA groups, peer groups (e.g. CMHA)	_____	_____
2 - Outpatient therapy with a psychologist social worker, or psychiatrist	_____	_____
3 - Partial psychiatric hospitalization	_____	_____
4 - 24-hour psychiatric hospitalization	_____	_____

3. If yes, when did you or your spouse receive psychiatric treatment or counselling?

Father _____

Mother _____

4. Have any of the children ever received psychiatric treatment or counseling?

a. 1 - Yes _____ 2 - No _____

b. Name of child(ren) _____

_____

_____

5. If yes, what type of treatment?

1 - Child Guidance Clinic or school guidance	_____	_____
2 - Outpatient therapy with a psychologist, social worker or psychiatrist	_____	_____
3 - Partial psychiatric hospitalization or placement in a treatment centre	_____	_____
4 - 24 hour psychiatric hospitalization or residential treatment	_____	_____

6. If yes, when did the child(ren) receive treatment or counseling?

_____

7. a. Is there any point in time when you would have wanted treatment or counseling but did not get it.

1 - Yes _____ 2 - No _____

7. b. If yes, what kind of counseling or treatment would you have wanted?

1 - Paraprofessional counseling, AA groups, peer groups _____

2 - Outpatient therapy with a psychologist, social worker or psychiatrist _____

3 - Partial psychiatric hospitalization _____

4 - 24-hour psychiatric hospitalization _____

5 - Other (specify) _____

c. If yes, when would you have wanted this treatment or counseling?

_____

c. Social Supports

1. Rate how satisfied you are with your present social life: (Circle the most appropriate number)

1	2	3	4	5
very unsatisfied	somewhat unsatisfied	neither satisfied or unsatisfied	somewhat satisfied	very satisfied

2a. Are you able to talk about your feelings and problems with anyone?

1 - Yes _____ 2 - No _____

b. If yes, how frequently do you feel able to talk about your feelings and problems?

1 - I can always talk about my innermost feelings _____

2 - I usually can talk about my feelings _____

3 - About half the time I feel able to talk about my feelings _____

4 - I usually am not able to talk about my feelings _____

3. If a problem arises who are you most likely to approach for help?

1 - Your spouse _____
2 - A relative _____
3 - A friend _____
4 - None _____
5 - Other (please specify) _____

4a. Do you ever think that you have let down any of your children at any time?

1 - I do not feel I let them down at all _____

2 - I usually do not feel that I let them down _____

3 - About half the time I feel I let them down _____

4 - Most of the time I feel that I have let them down _____

5 - I let them down completely _____

b. Do you feel that it has been (especially) difficult for you to ensure that you devote a sufficient amount of time to all of the children in your family?

1	2	3
Not at all difficult	somewhat difficult	very difficult

APPENDIX D

LETTER TO FAMILIES WITH CHILDREN IN ST. VITAL SCHOOL DIVISION

UM

THE UNIVERSITY OF MANITOBA

DEPARTMENT OF PSYCHOLOGY

WINNIPEG, CANADA
R3T 2N2

Dear Parents:

Allow me to introduce myself. My name is Sharon Tritt. I am 23 years old and I was the sister of a mentally retarded child. My mentally retarded sister was born when I was almost 8 years old and I sincerely believe that she had a very powerful impact on my life. I have frequently thought that as a result of my experience of growing up with a mentally retarded sister I am a different person than I might have been otherwise. I often wonder whether my experience is similar to that of other siblings of retarded children.

With the support of the Winnipeg School Division and the University of Manitoba, I am conducting a research project for my master's degree under the direction of Dr. Lillian Esses, Department of Psychology, University of Manitoba. The study deals with the satisfactions, dissatisfactions, and adjustment of children from families in which there is a handicapped child. The project should provide valuable information which will assist us in better understanding particular stresses that families with a mentally retarded member experience and ways in which they may be helped to cope with their problems and concerns.

In order to assess difficulties that are particular to families in which there is a mentally retarded child, it is essential to, at the same time, gather comparative information from families wherein no mental retardation exists. I have been given permission by Mr. Al Kircher, who is affiliated with the St. Vital School Division, to select at random participants for this comparative group. It is often difficult to obtain assistance from families who themselves are not in crisis or in need of supportive counselling. The success of this research, however, does depend upon participation of families such as yourselves and would be most appreciated. Your assistance with this study would not require very much of your time and, of course, would be entirely voluntary on your part. All information obtained would be kept entirely confidential.

If you are interested in learning more about the study and possibly participating in it, I would appreciate your taking a few minutes to answer the questions on the enclosed form, including the identifying information (name, address, and phone number). If you express interest in the study, I will be phoning you within the next month to explain more about the study and to see whether you and your child(ren) will be willing to participate.

.../2

../2

All people who fill out the form with the identifying information will be sent a summary of the results when the study is completed. Even if you are not interested in learning more about the study, you can still help me greatly by answering the questions on the enclosed form, excluding any identifying information.

Please place the completed questionnaire in the enclosed, self-addressed, stamped envelope and mail to to me as soon as possible. If you have any questions, please feel free to contact me at home at 452-2229 after 6 p.m. Thank you very much for your cooperation.

Sincerely,

Sharon Tritt,
M.A. Student,
Department of Psychology,
University of Manitoba,
Winnipeg, Manitoba
R3T 2N2

APPENDIX E

QUESTIONNAIRE FOR FAMILIES WITH CHILDREN IN ST. VITAL SCHOOL DIVISION

Appendix E

Whenever possible, for reasons of consistency, it would be appreciated if the mother of the household would fill out the following questionnaire by checking off (✓) the most appropriate response category or categories.

Name of Respondent _____

Address _____

Phone Number _____

1. Date of Birth of each parent:

   Father Date of Birth _____ Age _____

   Mother Date of Birth _____ Age _____

2. Marital Status — Number of years married

   1. Married _____ _____
   2. Widowed _____ _____
   3. Separated _____ _____
   4. Divorced _____ _____

3. Race

   1. White _____
   2. Black _____
   3. Oriental _____
   4. Native or Metis _____

4. Religion

   1. Protestant _____
   2. Catholic _____
   3. Jewish _____
   4. None _____
   5. Other _____

5. Children

   a. Number of children _____

b. Names of Children | Ages | Sex

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

6. Education

	Father	Mother
7 - Graduate or professional training	_____	_____
6 - University graduate	_____	_____
5 - Partial University training	_____	_____
4 - High School graduate	_____	_____
3 - Partial high school	_____	_____
2 - Junior high school	_____	_____
1 - Less than 7 years of school	_____	_____

7. Work

a. Do you have a job?

	Father	Mother
4 - Full-time	_____	_____
3 - Half-time	_____	_____
2 - Part-time	_____	_____
1 - No job	_____	_____

b. Occupation (if employed)

	Father	Mother
8 - Higher executive, major professional proprietor of large concern	_____	_____
7 - Business manager, lesser professional, propietor of medium sized business	_____	_____
6 - Administrator, owner of small business, minor professional	_____	_____
5 - Clerical or sales worker, technician, owner of little business	_____	_____

	Father	Mother
4 - Skilled manual employee	_____	_____
3 - Machine operator, semi-skilled employee	_____	_____
2 - Unskilled employee	_____	_____
1 - None	_____	_____

8. Income

a. Total annual income (for the past year)

1. 0 - $2,499 _____
2. $2,500 - $4,999 _____
3. $5,000 - $7,499 _____
4. $7,500 - $9,999 _____
5. $10,000 -$12,499 _____
6. $12,500 -$14,999 _____
7. $15,000 -$17,499 _____
8. $17,500 - $19,999 _____
9. $20,000 - $22,499 _____
10. $22,500 - $24,999 _____
11. $25,000 - $27,499 _____
12. $27,500 - $29,999 _____
13. $30,000 or more _____

b. Source of Income

1. Father's Job _____
2. Mother's Job _____
3. Family/friends _____
4. Welfare _____
5. Life Insurance _____
6. Unemployment insurance _____
7. Savings/investments _____
8. Pension _____
9. Other _____

9. Type of housing

1. House _____
2. Apartment _____
3. Condominium _____
4. Mobile Home _____
5. Other (specify) _____

10. How would you rate your marital happiness? (circle the most appropriate number).

1	2	3	4	5
very unhappy	somewhat unhappy	neither happy nor unhappy	somewhat happy	very happy

b. History of Psychiatric Treatment or Counseling

1. Have either you or your spouse ever received psychiatric treatment or counseling?

Father 1 - Yes _____ 2 - No _____
Mother 1 - Yes _____ 2 - No _____

2. If yes, what type of treatment was received?

	Father	Mother
1 - Paraprofessional counselling, AA groups, peer groups (e.g CMHA)	_____	_____
2 - Outpatient therapy with a psychologist social worker, or psychiatrist	_____	_____
3 - Partial psychiatric hospitalization	_____	_____
4 - 24-hour psychiatric hospitalization	_____	_____

3. If yes, when did you or your spouse receive psychiatric treatment or counseling?

Father _____

Mother _____

4. Have any of the children ever received psychiatric treatment or counseling?

a. 1 - Yes _____ 2 - No _____

b. Name of child(ren) _____

_____

_____

5. If yes, what type of treatment?

1 - Child Guidance Clinic or school guidance	_____	_____
2 - Outpatient therapy with a psychologist, social worker or psychiatrist	_____	_____
3 - Partial psychiatric hospitalization or placement in a treatment centre	_____	_____
4 - 24 hour psychiatric hospitalization or residential treatment	_____	_____

6. If yes, when did the child(ren) receive treatment or counseling?

_____

7. a. Is there any point in time when you would have wanted treatment or counseling but did not get it.

1 - Yes _____ 2 - No _____

7. b. If yes, what kind of counseling or treatment would you have wanted?

1 - Paraprofessional counseling, AA groups, peer groups _____

2 - Outpatient therapy with a psychologist, social worker or psychiatrist _____

3 - Partial psychiatric hospitalization _____

4 - 24-hour psychiatric hospitalization _____

5 - Other (specify) _____

c. If yes, when would you have wanted this treatment or counseling?

_____

Social Supports

1. Rate how satisfied you are with your present social life: (Circle the most appropriate number)

1	2	3	4	5
very unsatisfied	somewhat unsatisfied	neither satisfied or unsatisfied	somewhat satisfied	very satisfied

2a. Are you able to talk about your feelings and problems with anyone

1 - Yes _____ 2 - No _____

b. If yes, how frequently do you feel able to talk about your feelings and problems?

1 - I can always talk about my innermost feelings _____

2 - I usually can talk about my feelings _____

3 - About half the time I feel able to talk about my feelings _____

4 - I usually am not able to talk about my feelings _____

3. If a problem arises who are you most likely to approach for help?

1 - Your spouse _____
2 - A relative _____
3 - A friend _____
4 - None _____
5 - Other (please specify) _____

4a. Do you ever think that you have let down any of your children at any time?

1 - I do not feel I let them down at all _____

2 - I usually do not feel that I let them down _____

3 - About half the time I feel I let them down _____

4 - Most of the time I feel that I have let them down _____

5 - I let them down completely _____

b. Do you feel that it has been (especially) difficult for you to ensure that you devote a sufficient amount of time to all of the children in your family?

1	2	3
Not at all difficult	somewhat difficult	very difficult

APPENDIX F

OUTLINE OF TELEPHONE INTERVIEW

Appendix F

Outline of Telephone Interview

I would like to speak with Mrs _____, please. Hello, Mrs. _____, my name is Sharon Tritt and I am with the Department of Psychology at the University of Manitoba. A few weeks ago you filled out a questionnaire I sent you about the study I am doing for my Master's degree. Do you remember this? Thank you very much for taking the time to complete the questionnaire and sending me the information.

At that time, you indicated to me an interest in learning more about the study. Are you still interested? Good. If you have a few minutes right now, I would like to tell you more about the study. What I am interested in studying is children from families in which there is an institutionalized retarded child and children from families in which there are no retarded or otherwise handicapped children. I would like to learn more about the personal satisfactions, dissatisfactions, and various aspects of the adjustment of these children. The findings resulting from the study should provide valuable information regarding the concerns and feelings of children from these two types of families. Would you be interested in taking about an hour of your time and your children's to participate in an interview for this study, or would you like more information about the study?

The study will consist of one appointment in your home which will last for approximately one to two hours. At this time, I will have

both you and your children fill out some brief questionnaires and I will interview your children. All of the information that I collect will be kept strictly confidential and I will send you a summary of the major results of the study when it is completed. Would you be interested in participating in this study? Good.

Your children must be present for part of the appointment. When would be a convenient time for you and your children? Do you have a piece of paper and a pencil handy? My telephone number is 452-2229 in case you need to reach me before the appointment and my name again is Sharon Tritt. Do you have any questions? Thank you very much.

APPENDIX G

FEEDBACK LETTER TO ALL VOLUNTEERS

UM

THE UNIVERSITY OF MANITOBA

DEPARTMENT OF PSYCHOLOGY

WINNIPEG, CANADA
R3T 2N2

Dear

A few months ago I wrote you a letter explaining a study I was doing for my Masters degree in psychology at the University of Manitoba. The study was concerned with how children in families with a retarded child cope with a retarded sibling. You returned a questionnaire to me stating that you were interested in learning more about the study and some of you agreed to be interviewed for the study. Thank you very much for your interest and cooperation. The study is now completed and I would like to share with you some of the major findings.

I studied two groups of families, namely those in which there was an institutionalized retarded child and those in which there was no retarded or otherwise handicapped child. These families also had children who ranged in age from four to eighteen years. I sent letters to the parents from these different types of families and some responded, indicating that they would be interested in learning more about the study and possibly participating in it together with their children.

Thirty-two families were then selected for an interview. An attempt was made to choose families who were similar in terms of age, intelligence level, and sex of the children, as well as parental marital status.

All interviews were conducted in the families' homes by me. The children filled out questionnaires dealing with their emotional adjustment, while their mothers completed a questionnaire regarding social adjustment of their children and childhood behaviour problems.

All of the results of the studies were analyzed in terms of average differences between the groups (those with a retarded sibling, those without a retarded sibling) as a whole, not in terms of individual families. Therefore, the method of group comparisons used in analyzing the results of this study cannot be utilized to provide you with information regarding how your own family compared with others.

.../2

On the average, both boys and girls who had retarded siblings reported lower self-esteem and less happiness than boys and girls who did not have a retarded or otherwise handicapped sibling. The lower self-esteem of these children was more prevalent with regards to their family situation and not much difference in the self-esteem of the two groups was found in the school, peer, or general situations. It was also found that children from families in which there was an institutionalized retarded child had more conduct problems (fighting, not doing what they were told by their parents, etc.) than children from families in which there was not a retarded child.

In summary, this study provided valuable information on how children from families with a retarded child adjust to having a retarded sibling. Hopefully, this information will be used to provide better services and resources for children from such families. I will be taking my oral examination for my Masters degree within the next month and, partly through your assistance, I should obtain an M.A. degree in psychology. Thank you again for your cooperation. If you have any questions about the study, please feel free to call me at home in the evening at 452-2229.

Sincerely yours,

Sharon Tritt

APPENDIX H

SELF-APPRAISAL INVENTORY

GRADES K - 3

Appendix H

Self-Appraisal Inventory

Grades K - 3

Subject #_____

Name_____

Sex_____

Grade_____

		Yes	No
1.	Are you easy to like?		
2.	Do you often get into trouble at home?		
3.	Can you give a good talk in front of your class?.		
4.	Do you wish you were younger?		
5.	Are you an important person in your family? . . .		
6.	Do you often feel you are doing badly in school?.		
7.	Do you like being just what you are?		
8.	Do you have enough friends?		
9.	Does your family want too much of you?		
10.	Do you wish you were someone else?		
11.	Can you wait your turn easily?		
12.	Do your friends usually do what you say?		
13.	Is it easy for you to do good in school?		
14.	Do you often break your promises?		
15.	Do most children have fewer friends than you? . .		
16.	Are you smart?		
17.	Are most children better liked than you?		
18.	Are you one of the last to be chosen for games? .		

		Yes	No
19.	Are the things you do at school easy for you?		
20.	Do you know a lot?		
21.	Can you get good grades if you want to?		
22.	Do you forget most of what you learn?		
23.	Do you feel lonely very often?		
24.	If you have something to say do you usually say it? .		
25.	Do you like the teacher to ask you questions in front of the other children?		
26.	Do you get upset easily at home?		
27.	Do you often feel ashamed of yourself?		
28.	Do the other children in the class think you are a good worker?		
29.	Are you hard to be friends with?		
30.	Do you often find it hard to talk in your class? . .		
31.	Are most children able to finish their school work more quickly than you?		
32.	Do members of your family pick on you?		
33.	Are you any trouble to your family?		
34.	Is your family proud of you?		
35.	Can you talk to your family when you have a problem?.		
36.	Do your parents like you even if you have done something bad?		

Taking all things together, how would you say things are these days--would you say you're very happy, pretty happy, or not too happy these days?

Very happy ( ) Pretty happy ( ) Not too happy ( )

APPENDIX I

SELF-APPRAISAL INVENTORY

GRADES 4 - 6

Appendix I

Self-Appraisal Inventory

Grades 4 - 6

Subject #_____

Name_____

Sex_____

Grade_____

		Yes	No
1.	Other children are interested in me		
2.	School work is fairly easy for me		
3.	I am satisfied to be just what I am		
4.	I should get along better with other children than I do		
5.	I often get in trouble at home		
6.	My teachers usually like me		
7.	I am a cheerful person		
8.	Other children are often mean to me		
9.	I do my share of work at home		
10.	I often feel upset in school		
11.	I'm not very smart		
12.	No-one pays much attention to me at home		
13.	I can get good grades if I want to		
14.	I can be trusted		
15.	I am popular with kids my own age		
16.	My family isn't very proud of me		

		Yes	No
17.	I forget most of what I learn		
18.	I am easy to like		
19.	Girls seem to like me		
20.	My family is glad when I do things with them . .		
21.	I often volunteer to do things in class		
22.	I'm not a very happy person		
23.	I am lonely very often		
24.	The members of my family usually don't like my ideas		
25.	I am a good student		
26.	I can't seem to do things right		
27.	Older kids like me		
28.	I behave badly at home		
29.	I often get discouraged in school		
30.	I wish I were younger		
31.	I am friendly towards other people		
32.	I usually get along with my family as well as I should		
33.	My teacher makes me feel not good enough		
34.	I like being the way I am		
35.	Most people are much better liked than I am . . .		
36.	I cause trouble to my family		
37.	I am slow in finishing my school work		
38.	I am often unhappy		
39.	Boys seem to like me		
40.	I live up to what is expected of me at home . . .		

		Yes	No
41.	I can give a good report in front of the class . .		
42.	I am not as nice looking as most people		
43.	I have many friends		
44.	My parents don't seem to be interested in the things I do		
45.	I am proud of my school work		
46.	If I have something to say, I usually say it . . .		
47.	I am among the last to be chosen for teams		
48.	I feel that my family usually doesn't trust me . .		
49.	I am a good reader		
50.	I can usually figure out difficult things		
51.	It is hard for me to make friends		
52.	My family would help me in any kind of trouble . .		
53.	I am not doing as well in school as I would like to be		
54.	I have a lot of self control		
55.	Friends usually follow my ideas		
56.	My family understands me		
57.	I find it hard to talk in front of the class . . .		
58.	I often feel ashamed of myself		
59.	I wish I had more close friends		
60.	My family often expects too much of me		
61.	I am good in my school work		
62.	I am a good person		
63.	Others find me hard to be friendly with		
64.	I get upset easily at home		

		Yes	No
65.	I don't like to be called on in class		
66.	I wish I were someone else		
67.	Other children think I am fun to be with		
68.	I am an important person in my family		
69.	My classmates think I am a poor student		
70.	I often feel uneasy		
71.	Other children often don't like to be with me . . .		
72.	My family and I have a lot of fun together		
73.	I would like to drop out of school		
74.	Not too many people really trust me		
75.	My family usually considers my feelings		
76.	I can do hard homework assignments		
77.	I can't be depended on		

Taking all things together, how would you say things are these days--would you say you're very happy, pretty happy, or not too happy these days?

Very happy ( ) Pretty happy ( ) Not too happy ( )

APPENDIX J

SELF-APPRAISAL INVENTORY

GRADES 7 - 12

Appendix J

Self-Appraisal Inventory

Grades 7 - 12

Subject # _____

Name _____

Sex _____

Grade _____

		Yes	No
1.	School work is fairly easy for me		
2.	I am satisfied to be just what I am		
3.	I ought to get along better with other people . . .		
4.	My family thinks I don't act as I should		
5.	People often pick on me		
6.	I don't usually do my share of the work at home . .		
7.	I sometimes feel upset while I'm at school		
8.	I often let other people have their own way		
9.	I have as many friends as most people		
10.	Usually no-one pays much attention to me at home .		
11.	Getting good grades is pretty important to me . . .		
12.	I can be trusted as much as anyone		
13.	I am well liked by kids my own age		
14.	There are times when I would like to leave home . .		
15.	I forget most of what I learn		
16.	My family is surprised if I do things with them . .		
17.	I am not often a happy person		
18.	I am not lonely very often		

		Yes	No
19.	My family respects my ideas		
20.	I am not a very good student		
21.	I often do things I'm sorry for later		
22.	Older kids seem to like me		
23.	I sometimes behave badly at home		
24.	I often get discouraged in school		
25.	I often wish I were younger		
26.	I am usually friendly toward other people		
27.	I don't usually treat my family as well as I should		
28.	My teacher makes me feel as if I am not good enough		
29.	I always like being the way I am		
30.	I am just as well liked as most people		
31.	I cause trouble to my family		
32.	I am slow in finishing my schoolwork		
33.	I am often not as happy as I would like to be . . .		
34.	I am not as nice looking as most people		
35.	I don't have many friends		
36.	I feel free to argue with my family		
37.	Even if I have something to say, I don't often say it		
38.	Sometimes I am among the last to be chosen for teams		
39.	I feel that my family always trusts me		
40.	I am a good reader		
41.	It is hard for me to make friends		
42.	My family would help me in any kind of trouble . .		
43.	I am not doing as well in school as I would like to		
44.	I find it hard to talk in front of the class		

		Yes	No
45.	I sometimes feel ashamed of myself		
46.	I wish I had more close friends		
47.	My family often expects too much of me		
48.	I am not very good in my school work		
49.	I am not as good a person as I would like to be . .		
50.	Sometimes I am hard to make friends with		
51.	I wish I were a different person		
52.	People don't usually have much fun when they are with me		
53.	I am an important person to my family		
54.	People think I am a good student		
55.	I am not very sure of myself		
56.	Often I don't like to be with other kids		
57.	My family and I have a lot of fun together		
58.	There are times when I feel like dropping out of school		
59.	I can always take care of myself		
60.	Many times I would rather be with kids younger than me		
61.	My family doesn't usually consider my feelings . .		
62.	I can't be depended on		

Taking all things together, how would you say things are these days--would you say you're very happy, pretty happy, or not too happy these days?

Very happy ( ) Pretty happy ( ) Not too happy ( )

APPENDIX K

BEHAVIOUR PROBLEM CHECKLIST

Appendix K

Behaviour Problem Checklist

1. Name of child

   _____

2. Age _____

3. Sex _____

4. Name of person completing this checklist

   _____

5. Relationship to child (circle one)

   a. Mother

   b. Father

   c. Other (specify)_____

Instructions:

Please indicate which of the following constitute problems, as far as this child is concerned. If an item does <u>not</u> constitute a problem, encircle the zero; if an item constitutes a <u>mild</u> problem, encircle the one; if an item constitutes a <u>severe</u> problem, encircle the two. Please complete every item.

Appendix K

Behaviour Problem Checklist

0 - no problem; 1 - mild problem; 2 - severe problem

0	1	2	1.	Oddness, bizarre behaviour
0	1	2	2.	Restlessness, inability to sit still
0	1	2	3.	Attention-seeking, "show-off" behaviour
0	1	2	4.	Stays out late at night
0	1	2	5.	Doesn't know how to have fun; behaves like a little adult
0	1	2	6.	Self-consciousness; easily embarrassed
0	1	2	7.	Fixed expression, lack of emotional reactivity
0	1	2	8.	Disruptiveness; tendency to annoy and bother others
0	1	2	9.	Feelings of inferiority
0	1	2	10.	Boisterousness, rowdiness
0	1	2	11.	Crying over minor annoyances and hurts
0	1	2	12.	Preoccupation; "in a world of his own"
0	1	2	13.	Steals in company with others
0	1	2	14.	Shyness, bashfulness
0	1	2	15.	Social withdrawal, preference for solitary activities
0	1	2	16.	Dislike for school
0	1	2	17.	Jealousy over attention paid to other children
0	1	2	18.	Belongs to a gang
0	1	2	19.	Repetitive speech
0	1	2	20.	Short attention span
0	1	2	21.	Lack of self-confidence
0	1	2	22.	Inattentiveness to what others say
0	1	2	23.	Easily flustered and confused
0	1	2	24.	Incoherent speech
0	1	2	25.	Fighting
0	1	2	26.	Loyal to delinquent friends
0	1	2	27.	Temper tantrums

0	1	2	28.	Reticence; secretiveness
0	1	2	29.	Truancy from school
0	1	2	30.	Hypersensitivity; feelings easily hurt
0	1	2	31.	Laziness in school and in performance of other tasks
0	1	2	32.	Anxiety, chronic general fearfulness
0	1	2	33.	Irresponsibility, undependability
0	1	2	34.	Excessive daydreaming
0	1	2	35.	Masturbation
0	1	2	36.	Has bad companions
0	1	2	37.	Tension, inability to relax
0	1	2	38.	Disobedience, difficulty in disciplinary control
0	1	2	39.	Depression, chronic sadness
0	1	2	40.	Uncooperativeness in group situations
0	1	2	41.	Aloofness, social reserve
0	1	2	42.	Passivity, suggestibility, easily led by others
0	1	2	43.	Clumsiness, awkwardness, poor muscular coordination
0	1	2	44.	Hyperactivity, "always on the go"
0	1	2	45.	Distractibility
0	1	2	46.	Distructiveness in regard to his own and/or others' property
0	1	2	47.	Negativism, tendency to do the opposite of what is requested
0	1	2	48.	Impertinence, sauciness
0	1	2	49.	Sluggishness, lethargy
0	1	2	50.	Drowsiness
0	1	2	51.	Profane language, swearing, cursing
0	1	2	52.	Nervousness, jitteriness, jumpiness; easily startled
0	1	2	53.	Irritability; hot-tempered, easily aroused to anger
0	1	2	54.	Enuresis, bed-wetting
0	1	2	55.	Often has physical complaints, e.g. headaches, stomach aches

APPENDIX L

SEMI-STRUCTURED INTERVIEW (EXPERIMENTAL GROUP)

Appendix L

Semi-Structured Interview (Experimental Group)

Before we start let me tell you a little bit about my project. I'm interested in learning as much as possible about what it is like having a retarded brother or sister. I'm going to ask you some questions about yourself and your family. Answer them as best you can. Anything you say will be kept in confidence. I will not tell your parents, other brothers or sisters, or anybody else what your answers are.

1. Do you ever talk about your family with your friends?

   Yes_____ No_____

   If yes -- About what kinds of things?

   If no -- Why not?

2. Do any of your friends know that you have an MR brother or sister?

   Yes _____ No_____

   If yes -- How many?

   All _____ Most _____ Some _____ A few _____

3. Do any of your brothers or sisters look anything like you?

   Yes_____ No_____

   Which one(s)?

4. Does your MR brother or sister look at all like you?

   Yes_____ No_____

5. Does your brother or sister ever get you mad?

   Yes_____ No_____

What do you do when your brother or sister does something that bothers you or gets you mad?

yell_____ hit/fight_____ call mom _____

nothing_____ other_____

Elaborate.

6. Does your MR brother or sister ever get you mad?

Yes _____ No_____

What do you do when your MR brother or sister does something that bothers you or gets you mad?

yell and swear_____ hit/fight_____ Call mom_____

nothing_____ other_____

Elaborate

7. Have your parents ever told you that you should not fight with or get mad at your MR brother or sister because of his or her condition?

Yes_____ No_____

8. Do you ever hug or kiss your brother or sister (or show any other expression of affection)? If yes, how often? frequently_____
sometimes_____
once in a while_____

Yes_____ No_____

9. Do you ever hug or kiss your MR brother or sister (or show any other expression of affection)?

If yes -- How often?

if no -- Why not?

10. In general, how do you feel about your brother(s) or sister(s)?

Like_____ Dislike_____

Elaborate.

11. In general, how do you feel about having an MR brother or sister?

a. Has your experience been good or bad?

b. Has MR's handicap made a difference in your life?

c. Like, dislike.

12. Do you ever feel embarrassed about having an MR brother or sister?

Yes_____ No_____

Elaborate. (when)

(how frequently)

13. Do you ever wish you were an only child?

Yes_____ No_____

If yes -- Why?

How often?

14. What would you like to be when you grow up? Why?

15. Do you think you are good looking/handsome_____

average looking _____

not very good looking/handsome _____

16. Do you ever wish that your father or mother would spend more time with you?

Yes_____ No_____

Which brother(s) or sister(s) do you think they spend the most time with?

_____

17. Do you ever feel that your parents are more concerned about your MR brother or sister than you?

Yes_____ No_____

Why do you feel this way?

18. Do your parents tell you that they would like you to get better marks in school?

Yes_____ No_____

If yes -- How often? frequently_____ sometimes_____ once in a while_____

If yes -- Why do you think they tell you this?

19. How do you think you are doing in school?

not very well (bottom of class) _____

pretty well _____

O.K. _____

top of class _____

20. What kinds of things do you like to do in your spare time?

21. Do you think you have as many friends as other kids you know?

Yes_____ No_____

If no -- Why not?

22. Would you like to have more friends?

Yes_____ No_____

Why?

23. Are you a shy person or an outgoing one? (Do you make friends easily, talk a lot, answer questions in class, etc.)

Shy_____ Outgoing_____

24. Do you feel sorry for your MR brother or sister?

Yes_____ No_____

Why or why not?

25. Do you visit your MR brother or sister regularly?

Yes_____ No_____

26. What kinds of things do you do together with your MR brother or sister when you visit?

27. Would you like to visit your MR brother or sister more often?

Yes_____ No_____

Why or why not?

28. Would you like your parents to bring your MR brother or sister home more often?

Yes_____ No_____

Why or why not?

29. What kinds of things do you do with your other brother(s) and sister(s)?

30. What is wrong with your MR brother or sister? (diagnosis, degree, physical defects)

31. Would you like your parents to tell you more about MR and your MR brother or sister?

Yes_____ No_____

32. Is there any way in which your MR brother or sister is like you?

Yes_____ No_____

How?

33. Is there any way in which you are like him or her?

Yes_____ No_____

How?

34. Have any of your friends ever met your MR brother or sister?

Yes_____ No_____

If yes -- When?

How many?

35. How did you feel when your friend(s) met him or her?

36. Do you ever think about the future of your MR brother or sister?

Yes_____ No_____

(What will happen to him or her? If feels responsible: When did you first think about this?)

37. When did you first learn about your MR brother or sister's condition?

38. Do you ever spend time thinking about your MR brother or sister?

Yes_____ No_____

If yes -- What do you think about?

If no -- Why not?

39. Do you ever ask questions about your MR brother or sister?

Yes_____ No_____

How do you think your family feels about these questions (comfortable - uncomfortable)

Whom do you ask?

Does your family ever discuss your MR brother or sister?

If yes -- how often?

40. Do you think that having an MR child in the family has affected the family as a whole?

Yes_____ No_____

If yes -- how?

41. Can you think of anything that can be done to help your MR brother or sister?

Yes_____ No_____

If yes -- what?

42. Would you say that you MR brother or sister's handicap has had any effect on whether your family will take a trip or go on a vacation?

Yes_____ No_____

43. Do you think it is more difficult for a person to have a MR brother or sister?

Brother_____ Sister_____

44. How do you feel about talking with a stranger about these things?

45. Do you have any additional comments?

APPENDIX M

SEMI-STRUCTURED INTERVIEW (CONTROL GROUP)

Appendix M

Semi-Structured Interview (Control Group)

Before we start let me tell you a little bit about my project. I'm interested in learning as much as possible about what it is like having a brother or sister. I'm going to ask you some questions about yourself and your family. Answer them as best you can. Anything you say will be kept in confidence. I will not tell your parents, other brothers or sisters, or anybody else what your answers are.

1. Do you ever talk about your family with your friends?

   Yes_____ No_____

   If yes -- About what kinds of things?

   If no -- Why not?

2. Do any of your brothers and sisters look anything like you?

   Yes_____ No_____

   Which one(s)?

3. What do you do when your brother or sister does something that bothers you or gets you mad?

   yell_____ hit/fight_____ call mom_____ nothing_____

   other_____

   Elaborate.

4. Do you ever hug or kiss your brother or sister (or engage in any other expression of affection)

   Yes_____ No_____

   If yes -- How often? Frequently_____ sometimes_____ once in a while_____

   If no -- Why not?

5. In general, how do you feel about your brothers or sisters? (like, dislike)

Elaborate.

6. Do you ever wish you were an only child?

Yes_____ No_____

If yes -- How often and why?

7. What would you like to be when you grow up?

Why?

8. Do you think you are good looking/handsome_____

average looking_____

not very good looking/handsome_____

9. Do you ever wish that your mother or father would spend more time with you?

Yes_____ No_____

If yes -- why?

Which brother or sister do they spend the most time with?_____

10. Do your parents tell you that they would like you to get better marks in school?

Yes_____ No_____

If yes -- How often? frequently_____ sometimes_____ once in a while_____

If yes -- Why do you think they tell you this?

11. How do you think you are doing in school?

not very well (bottom of the class) _____

pretty well_____

O.K._____

top of the class_____

12. What kinds of things do you like doing in your spare time?

13. Do you think you have as many friends as other kids you know?

Yes_____ No_____

If no -- Why not?

14. Would you like to have more friends?

Yes_____ No_____

Why?

15. Are you a shy person or an outgoing one? (Do you make friends easily; talk a lot; answer questions in class; etc.)

Shy_____ Outgoing_____

16. What kinds of things do you do with your brothers or sisters?

17. How do you feel about talking to a stranger about these things?

18. Do you have any additional comments?

APPENDIX N

PHYSICAL APPEARANCE RATING SCALE

Physical Appearance Rating Scale

1	2	3
No Physical Defects	Mild Physical Defects	Severe Physical Defects