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UNIVERSITY OF ALBERTA

THE ACADEMIC SELF-PERCEPTION
OF GRADE-RETAINED CHILDREN REFERRED TO AN
EDUCATIONAL CLINIC

BY



GARRY G. RENTZ

A thesis submitted to the Faculty of Graduate Studies and Research in
partial fulfillment of the requirements for the degree of Master of
Education.

IN

SCHOOL PSYCHOLOGY

THE DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

EDMONTON, ALBERTA

SPRING, 1993



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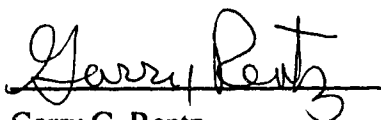
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UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled *The Academic Self-Perception of Grade-Retained Children Referred to an Educational Clinic* submitted by Garry G. Rentz in partial fulfillment of the requirements for the degree of Master of Education in Educational Psychology.



Dr. H. L. Janzen (Chairman)



Dr. F. J. Boersma



Dr. W. H. Worth

April 6, 1993.

DEDICATION

To my wife, Sandie.

Abstract

The major focus of this study was to examine the effects of grade retention on the academic self-perception of children referred to a university education clinic. Academic self-concept was measured using the *Perception of Ability Scale for Students* (PASS) (Boersma & Chapman, 1992), a self-report instrument with subscales rating the child's self-concept in school-related tasks. The children who had repeated a grade were compared with the non-repeaters in the clinical group using *age*, *time since repeating*, and *gender*. A secondary function of the thesis was to provide descriptive information about the clinical population. The study found that there were no significant differences in academic self-perception between the children who had previously been retained in a grade and those who had been continuously promoted. The promoted and non-promoted groups scored lower than the PASS standardization group on about one-third of the comparisons. On one measure, School Satisfaction, the young, recently retained children scored significantly higher than the PASS normative group. The thesis also provided descriptive information about the clinical population; referral reasons, gender ratios, IQ scores, and other demographic data were examined. Boys in the clinical group significantly outnumbered girls when compared to the school population at large. The outcomes of the study should enhance our understanding of the repeating child's self-perception of academic abilities and aid educators in making promotional decisions. The findings support the view that if children experiencing learning difficulties are to profit from non-promotion, they should not simply be "recycled" through a second year of the same program. If the decision to retain a child is made, an individualized plan to account for the child's difficulties should be implemented.

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I. INTRODUCTION

In recent years, educators have been evaluating and questioning their convictions regarding the promotion (or non-promotion) of students. Often two oppositional camps are established. On one side are educators who believe that all children should be automatically promoted, and on the other side are those who state that a child who is passed to the next grade without attaining mastery of the previous year's subject content, will experience continued and increasing difficulties. The adversaries in the debate are attempting to respond to the needs of the child, regardless of the position taken.

Proponents of continuous promotion cite research evidence which suggests that the academic achievement of the child is not enhanced by the repeating of a grade (e.g., Shepard & Smith, 1989; Ziegler, 1992). The failure to be promoted has been linked to a loss of self-esteem (e.g., Nason, 1991), and a survey of childhood stressors by Yamamoto (1980) found that only two life events were felt to be more stressful than being retained: going blind, and losing a parent. School dropout rates have been tied to non-promotion. Dropouts are five times more likely to have repeated a grade than are high school graduates.

Those in favor of continuing the practice of grade-retention state that promoted students who do not have the requisite skills to go on to the next grade fall farther and farther behind their classmates as the work becomes increasingly difficult. Loss of self-esteem has been cited as a characteristic of the child who has been continuously promoted without mastering the basics of previous grades (Alberta Teachers' Association, 1993). Problems arise when the child reaches the high school level and "continuous progress" is no longer in effect. There the child must either pass his courses or be forced

to repeat them. Often teachers are caught in the middle of the debate. In a survey of teacher opinions conducted by the Alberta Teachers' Association (1993), a respondent summarized the dilemma faced by educators: "Now we're made to feel guilty about ever retaining a student, or feel responsible if the student can't read at high school graduation time. Make up your mind! You can't have it both ways" (Alberta Teachers' Association, 1993).

Research Purpose

The purpose of this study was to broaden our knowledge of the repeating child's self-perception of academic abilities. To understand how grade-retained children, individually and in general, perceive their academic ability is important knowledge for all educators, from classroom teachers to administrators. Does one child see non-promotion as a failure, while another child views the experience as a reprieve from an unbearable situation? And what value should be placed upon the child's perception of his or her academic ability when decisions are being made regarding retention or promotion? Research studies examining the self-esteem of children have consistently found strong linkages between a child's confidence in his or her ability to handle a task and the actual performance of the task (e.g., Bandura, 1982). Moderate correlations have been found between academic self-perception, the area under investigation in the present study, and achievement expectations (Chapman, 1985). Children who hold positive self-images tend to try harder and work longer at difficult tasks; those who demonstrate poor self-worth are more likely to reduce their work or give up all together in situations involving difficult assignments (Dweck, 1986).

Are there any differences between the academic self-perception of repeaters and non-repeaters? If the present investigation finds significant differences, indirect evidence

would be provided to show that, depending upon the results of the investigation, either promotion or non-promotion was implicated in the discrepancies. These differences, if they appear, will influence decisions regarding the promotion or non-promotion of children experiencing learning difficulties.

Research Questions

The general research question of the study was this: In a group of elementary school children who were referred to the Clinic because they were considered to be having learning difficulties, was there a relationship between the children's perceptions of their academic abilities and the fact that they had (or had not) repeated a grade in school? The retained and continuously-promoted groups were also compared to a sample based upon the regular school population. Since all of the children in the thesis samples — whether they had or had not been continuously promoted—were referred to the Clinic because of perceived school-based difficulties, comparisons were made between the children in the clinical groups and those in the normative group of the *Perception of Ability Scale for Students* (PASS) (Boersma & Chapman, 1992), the assessment instrument used in the investigation. The PASS standardization group provided a reference point which was used to evaluate differences between the children referred to the Clinic because they were experiencing learning difficulties and children in Subsumed under the research questions listed below, these comparisons were used to test whether the academic self-perception of grade-retained and continuously promoted children who were viewed as having learning difficulties, differed from the general school population. Dependent upon the results of these analyses, a number of tentative interpretations are possible. Based on past research findings regarding the academic self-concept of children experiencing learning difficulties (e.g., Chapman, 1988), in general

terms, the three most likely results and subsequent interpretations follow:

- (a) if the academic self-perception of the grade-retained children is significantly lower than that of the PASS normative group while there are no significant differences between the continuously promoted children and the PASS group, there is indirect evidence to support the view that grade retention negatively impacts academic self-perception.
- (b) if the academic self-perception of the continuously promoted children is significantly lower than that of the PASS normative group, while there are no significant differences between the grade-retained children and the PASS group, there is indirect evidence to support the view that continuous promotion negatively impacts the academic self-perception of children experiencing learning difficulties.
- (c) if the academic self-perception of both the continuously promoted children and the grade-retained children is significantly lower than that of the PASS normative group, there is indirect evidence to suggest that factors other than grade retention may be involved in the lowering of self-esteem among the children in the clinical groups..

To augment and refine the general research question stated above, the three focused questions listed below were pursued. Entailed within each of the research questions were two levels of comparison. Each group, retained and non-retained, was also compared to the PASS normative sample. This comparison related the clinical groups to children based upon the normal school population. When examining each of

these specific research questions, scores on the PASS Full Scale and its six Subscales were compared.

Research Question #1: Overall Differences

- (a) Are there differences in the self-perception of academic ability when all repeaters in the study group are compared to a sample of non-repeaters from the study group?
- (b) Do the clinical groups differ from the PASS standardization group?

Research Question #2: Age Differences and the Time Elapsed Since Repeating a Grade

- (a) Are there differences in the self-perception of academic ability among younger and older children in the clinical samples? Does the child's academic self-concept change with the length of time elapsed since the repetition of a grade?
- (b) Do the younger and older children in the clinical groups differ from the PASS standardization group?

Research Question #3: Gender Differences

- (a) Are there gender differences in the perception of academic ability among the groups?
- (b) Do the boys and girls in the clinical groups differ from the PASS standardization group?

A secondary concern of the thesis was to furnish descriptive information about the clinical population studied in the present investigation. It is hoped that the compilation of these data will provide valuable statistical information regarding the characteristics of the children referred to large clinics. For example, the descriptive information might be used

to assist in the instruction of university-based student-clinicians by providing them with an overview of typical referrals seen in the clinical setting. The statistical synopsis of the clinical group examined in the present study will be included in Chapter Three of the thesis, as part of the description of the Clinic subjects. Further educational and research implications for the use of these data will be discussed in the concluding chapter.

Throughout the thesis, analyses were performed in order to help amplify and enhance the descriptive data, and provide information about the measurement instruments. Following in Chapter Two is a review of the grade retention literature and its relationship to the self-concept of children experiencing learning difficulties. Chapter Three will begin with a description of the clinical group. This will be followed by an examination of the *Perception of Ability Scale for Students (PASS)* (Boersma & Chapman, 1992), the primary test instrument used in the study. In particular, an analysis of the validity indices of the PASS will be undertaken. While the results of this analysis provide interesting information about the self-perception of children experiencing learning difficulties, they are not included as a specific research question because they do not directly address the primary focus of the thesis—differences in the academic self-concept of children who have been retained in a grade for another year, and those who have been continuously promoted.¹ After this, Chapter Three will include a discussion of the various comparisons undertaken in the study, centering upon the methods used to deal with the three research questions. The results of the different analyses undertaken to examine the research questions will be dealt with in Chapter Four. In Chapter Five a brief summary of the thesis results and a discussion of the conclusions reached in the

¹ Included as an appendix to the thesis, is an inquiry into the effects upon the academic self-concept of the child in terms of personality typology. The majority of the children in the thesis group were also given the *Murphy-Meisgeier Type Indicator for Children (MMTIC)* (Meisgeier & Murphy, 1987). The data provided by the MMTIC study, again, are not directly related to the major focus of the thesis—the comparison of children who have been retained in a grade with those who have been promoted each year.

study will be provided. Finally, some observations will be included regarding the implications of the investigation for future research and educational practice.

II REVIEW OF RELATED LITERATURE

Arising from the general and focused research questions, the review of the literature will examine two domains. First, the review will look at the research into the question of grade retention and its effects upon the children who have experienced it. The second region of investigation will be a brief review of the literature that deals with the academic self-perception of children who are experiencing learning difficulties, paying particular attention to those who, in their school histories, have been retained in a grade for a second year.

The use of meta-analysis (Glass, 1977) has proven to be an effective method to compare the results of a large set of studies dealing with a common topic. A number of studies relevant to the themes examined by the thesis used meta-analytic methods. For instance, Holmes (1989) has provided a meta-analysis of 63 studies which dealt with the effects of grade retention, the first area under consideration in the present review. Similarly, Chapman (1988) used the technique of meta-analysis to compare the results of a group of studies dealing with the self-concept of learning-disabled (LD) children. The studies by Holmes and Chapman will be examined in the literature review, and a discussion of meta-analysis will also form a section of the review of the literature.

The Effects of Grade Retention

It almost appears to be a convention that recent studies examining the grade retention literature use as their starting point, the early comprehensive review by Jackson (1975). Working before the development of the meta-analysis technique (Glass, 1977), Jackson used a variation of the vote method to systematically search and review the

literature between 1911 and 1973. Holmes and Matthews (1984) called his effort "the only critical review of the research on grade retention [up to that time]" (p. 226).

After an exhaustive elimination process that narrowed the field to 44 studies reporting original research, Jackson (1975) examined and placed each of these primary studies into one of three design categories. The studies put in the first category compared students who had been held back with those who had been promoted. As Jackson pointed out, this type of study is biased toward the benefits of promotion because it compares students experiencing the greatest academic difficulties with those who have fewer school problems. While some of the studies attempted to match non-promoted and promoted students who were experiencing difficulties, most researchers using this design compared the children on criteria such as age, grade level, IQ, etc. The second largest study design category that Jackson examined was of the test-treatment-test variety. Assessment outcomes were compared before and after retention. Jackson suggested that the results of studies with this design were biased toward grade retention. Gains attributed to retention may have come from improvement in other areas. The third design was experimental in nature. Jackson found only three studies which could be placed in this category. The largest of the three studies (Cook, 1941) was described by Jackson as involving 700 students in Grades One through Seven who were experiencing academic difficulties. The children, matched on the basis of age, intelligence, and personality traits, were randomly assigned to two groups. *The students in the first group were promoted, and the students in the second group were required to repeat their grade.*² The researchers in two of the three experimental studies discussed by Jackson, reported no significant differences between the repeating and non-repeating groups in academic achievement. In the third study using the experimental method, the investigators found that the promoted group

² This method of experimentation, of course, would be considered unethical today.

made greater progress than the retained group but did not report whether the differences were statistically significant.

The results of Jackson's (1975) survey were mixed.³ The strongest conclusion that could be drawn by the author was that the studies examined did not provide a reliable body of evidence to show that grade retention was a more beneficial treatment for children with academic difficulties than grade promotion. Jackson's major recommendation was that more research be done using the experimental design. Interestingly, in discussing the problems inherent in applying the experimental design to the school situation, Jackson barely alluded to ethical problems. He stated that some teachers and principals would be reluctant to assign particular students to a treatment that might be perceived as being less effective than another strategy. Jackson concluded his paper by strongly stating that if "some interested investigators find it impossible to implement an experimental design, they might consider leaving the question to someone else who can do so" (Jackson, 1975, p. 628). Up to the present time, to my knowledge, no researcher has taken Jackson's challenge and devised a study of experimental design with randomly-chosen children asked to flunk a grade in school!

In a more recent survey, Holmes (1989), using the meta-analysis technique, compared 63 studies in which he examined 861 effect sizes⁴ in the areas of academic achievement, personal adjustment, self-concept, attitude toward school, and attendance. The overall effect size (*ES*) of the retained groups was -.15 when weighted by effect and -.26 when weighted by study. As calculated by Holmes, then, the retained groups scored .15 and .26 of a standard deviation lower than the promoted groups, depending on the

³ His study is often cited, however, by opponents of grade retention.

⁴ A discussion of meta-analysis and its attendant terminology will be presented in the latter part of the literature review (beginning on Page 22). A comparison of this study by Holmes and an earlier study by Holmes and Matthews (1984) will also be included.

method of calculation.⁵ The greatest differences between the retained and promoted groups appeared in academic achievement. Interestingly, in the areas of most concern for this thesis, the children in the two groups were relatively close to each other. When compared by study, the children who were held back actually scored higher on self-concept ($ES = +.06$). In their attitude toward school, when weighted by effect the retained children had an ES of $-.05$.

Of the 63 studies analyzed by Holmes (1989), 44 had formed the basis of an earlier survey using the meta-analysis method (Holmes, 1983; Holmes & Matthews, 1984). Holmes and Matthews found an overall ES of $-.37$ when individual effects were compared in the first 44 studies. The 19 studies added to account for research done in the intervening years, lowered the ES from $-.37$ to $-.15$. In order to account for the smaller effect sizes seen in the 1989 analysis, it would appear that the recent studies added by Holmes (1989) show positive effects for students retained. Indeed, Holmes found nine studies, most of which were done since the earlier meta-analysis (Holmes & Matthews, 1984) in which the results showed positive effects when the retained children were assessed. Upon examination of the characteristics of the subjects in these recent positive studies, completed between 1979 and 1987, Holmes (1989) noted that this group was different from the traditional population of retainees who were more likely slow learners with below average IQ's. Although Holmes made an attempt to discount these results, some interesting questions were raised.⁶

The studies by Holmes and Matthews (1984) and Holmes (1989) found the strongest negative effects in the academic achievement area. This finding was reinforced by a meta-analysis of 34 studies completed by Stiirler-Yoshida (1989), who concluded

⁵ Holmes' (1989) two weighting regimes (effect vs. study) will be given further attention later.

⁶ I will pursue these questions in the latter part of the review of the literature. See "Meta-Analysis and Grade Retention."

that grade retention has a negative impact upon future academic achievement across studies of varying designs and methodologies.

In a study that was longitudinal in nature, Peterson, DeGracie, & Ayabe (1987) measured the academic impact of retention and promotion decisions upon primary grade students. Two general comparisons were made. First, repeating students in Grades One, Two, and Three were matched with students who had been promoted, using variables such as sex, ethnicity, chronological age, and achievement scores in reading language, and mathematics. The second part of the study compared two relationships: first, between the retained group and its matched same-grade peers; and second, the relationship between the promoted group and *its* same-grade peers. In the first situation, the same-year comparisons, it was found that after initial gains by the retained group, by the third year after retention, the group members had lost their superiority over their promoted counterparts. The results of the second part of the study yielded different results. Here, the retained groups scored at a higher level than the level attained by the promoted children who had taken the same test a year earlier. The researchers conclude that "there is some evidence to suggest that retention leads to higher achievement even though that achievement occurs one year later" (Peterson, et al., 1987, p. 117). It is noted that these results should be interpreted cautiously because the measurements hovered near the significance level.

Who is Retained?

Typically, when the characteristics of the children who have been retained are examined, two sub-groups appear to dominate: males, and those who are young for their grade. In a study of children who repeated a primary grade, the sample included 69 boys and 37 girls (Peterson, et al., 1987) . Other studies have found male/female ratios varying from 2 to 1 up to 9 to 1 (Lieberman, 1980). The second characteristic common to a

disproportionate number of retainees, is that they were young for their age before being held back. When these two major characteristics are combined, the proportions become rather striking. Surveys have observed figures ranging between 40 and 45 percent for retained boys born in November and December (Ziegler, 1992). Other student characteristics that teachers consider when the retention decision is made, are: small stature, temporary slow learning, social immaturity, neurological immaturity, low self-esteem, and immaturity in assuming responsibility for their own learning (Lieberman, 1980).

Often the geographic location of the child becomes a factor when examining who is retained and who is not. Because of the large variability seen when retention rates in different schools are compared, it is very likely that students who have been retained in one school, would have been promoted if they had attended another school (Overman, 1986).

In an effort to understand and account for grade retention practices, Smith and Shepard (1987) examined a number of schools within one school jurisdiction. Schools with high retention rates were compared with schools with low rates of retention. Five issues represented what the authors considered their best explanation for the practice of retention: (a) educators beliefs about retention, (b) beliefs about child development, (c) school work in kindergarten, (d) parental pressures, and (e) bureaucratization. First, in order to explain teachers' beliefs about retention, Smith and Shepard distinguished between tacit and propositional knowledge. Teachers, the authors argued, relied on tacit knowledge—what they know about instruction, discipline, and the day to day functioning of the classroom. The tacit knowledge of teachers, Smith and Shepard stated, is often superior to their propositional knowledge, which is normally learned from "highly edited and selectively presented evidence that is cited by advocates of one or another ideology"

(p. 131). But tacit knowledge is usually incomplete and often misleading, inducing the teachers in the study to "exaggerate" the benefits of grade retention.

The second issue found by Smith and Shepard (1987) to differentiate schools with high retention rates from those with low rates was related to teachers' beliefs about child development. Teachers who viewed development as a physiological progression of a series of stages, governed by a biological clock, were more likely to believe that very little could be done for the child who was not ready for school-based tasks. These teachers, labeled "nativist" by Smith and Shepard, were more likely to suggest that an extra year to allow the child to catch up developmentally, made more sense than providing extra help and more personal guidance. On the other hand, schools with low retention rates were more likely to have a preponderance of teachers whom Smith and Shepard called "remediationists". This group was more likely to look for alternatives to retention such as arranging for tutors and providing remedial help.

The third area of comparison discussed by Smith and Shepard (1987) was related to the curricular emphasis of the school's kindergarten program. The authors noted that a strong academic component at the kindergarten and Grade One levels had, as a by-product, the development of standards of achievement. The students unable to meet these standards, became candidates for non-promotion. Parental pressure was the fourth issue identified by Smith and Shepard, who argued that parents attempt to give their child every academic advantage possible. It is perceived by parents that early exposure to academic skills is critical, leading again to heavy academic emphasis and the attendant need for measurement of achievement. This is followed by an increased opportunity for retention.

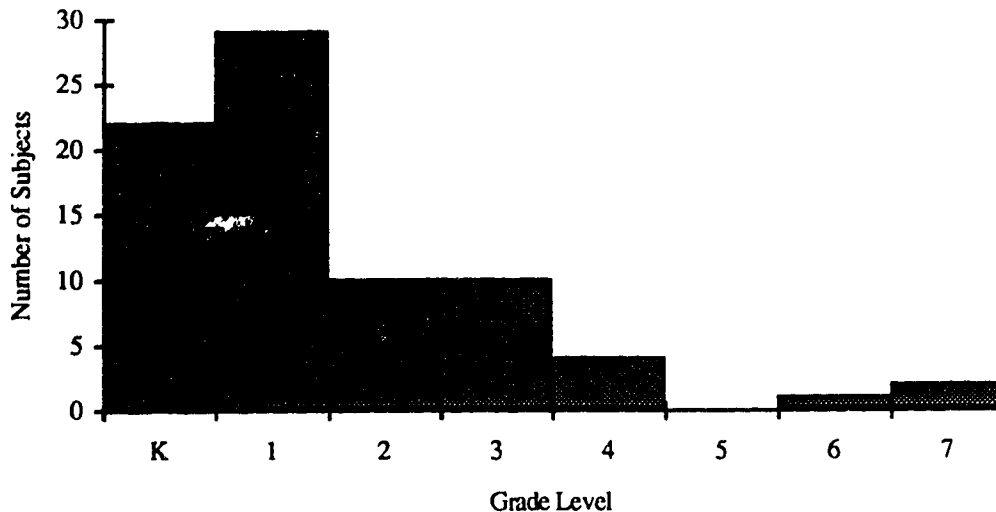
Smith and Shepard's (1987) final discussion point concerned the levels of bureaucratization and stratification found in the high retention and low retention schools. Some principals operated their schools "on the model of a factory" with highly layered curriculum plans, and promotion standards strongly in place. Teachers were required to stay within the boundaries established by the various bureaucratic levels and creativity was discouraged.

Repeating a Grade - The Earlier, the Better?

Perhaps the research finding that has been the least clouded and that has produced the fewest number of arguments, is that children who were retained in the higher grades exhibited more negative effects from being held back than children retained while in the primary grades.⁷ Present retention practices by educational jurisdictions appear to be based upon the finding that negative effects become amplified as the age and grade level of the retainees increase. The decision to repeat a child is more readily made in the early

⁷This does not mean, however, that the case for early retention has been clearly established. See for example, Shepard and Smith (1987)

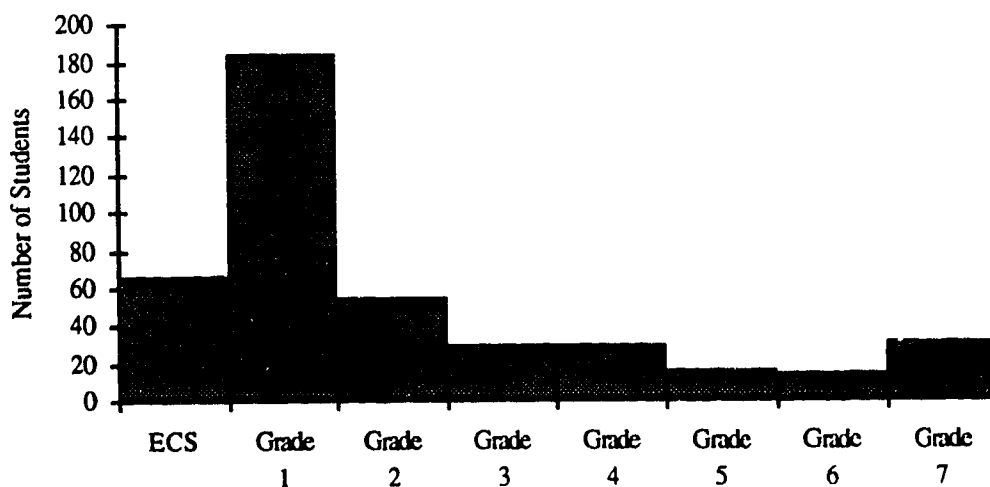
Chart II-1: Grade at Which Subjects Were Retained



grades, with more children being held back in Grade One than in any other grade (Rose, Medway, Cantrell, & Marus, 1983). Of the 78 subjects who had been retained in the present study, 29 were required to remain in Grade One, a number significantly higher than any other grade (Chart II-1, shows the breakdown of retainees in the thesis group by grade). In a recent survey of children retained in the Red Deer (Alberta) Public School System (1992), of 498 pupils not promoted from Kindergarten to Grade 9, 184 or about 37% were held back in Grade One (See Chart II-2 for a visual representation).

In an early study of 57 boys who were repeating one of the first three grades (Reinherz & Griffin, 1970), it was found that a larger number of Grade One boys than Grade Two or Three boys ($p = .05$) made "satisfactory" achievement in their repeated year on a measure which included the child's grade point total and a standardized reading test. While 84 per cent of the first graders made "satisfactory" achievement, 50 per cent of the second and third graders showed "fair" or "poor" achievement. The

*Chart II-2: Grade at Which Students Were Retained
Red Deer Public Schools 1989-1992*



authors pointed out that their results coincided with the belief held by many educators that the retention of young children is more effective than holding back children in the upper grades. In recent years, this view has come under attack from those who are opposed to retention at any level.

Pomplun (1988) examined the hypothesis that there is a trend of decreasing retentional benefits as children move into the later grades. Semirural children were compared at three different levels: a primary group, consisting of Grade One and Two students; an intermediate group with third and fourth graders; and a secondary group, comprised of students in Grades Seven and Eight. At the primary, intermediate, and secondary levels, the two-year study examined three subgroups. First, there were those children retained after the first year of the study. The second subgroup was comprised of borderline students. These children were on retention lists in the spring of the first year of the study but were eventually passed to the next grade. The third group was made up of students who were neither retained nor on the spring retention lists. Pomplin's general

finding was that a *positive* answer could be given to the question posed in the title of the study: "Retention: The Earlier the Better?" Requiring students to repeat a grade loses its educational effectiveness as grade level increases.

Lorrie Shepard has taken issue with "the earlier, the better" argument and has taken a strong position against the retention of children at any grade level. Shepard (1989) reviewed the research on the retention of children in kindergarten and concluded that the practice is ineffective. Kindergarten retention is a recent phenomenon, intended to shield the academically unready or immature child from future school failure. Many jurisdictions have developed programs for the child deemed not ready for Grade One. The most widely used extra-year program is the transition room. The advocates of transition rooms view them as an intermediate step between kindergarten and the first grade, providing an appropriate curriculum for the child judged to be unready for the requirements of the regular grades. Another form of kindergarten retention is the developmental or pre-kindergarten. From this class, the child goes into the regular kindergarten program and then into the first grade.

In the first major review of studies that examined the effects of placing at-risk children in pre-Grade One transition classes, Gredler (1984) found that most children placed in such programs do not perform as well as at-risk children placed in a regular Grade One class. At best, a number of studies found the levels of achievement of the two groups to be equal (e.g., Raygor, 1972). Perhaps the primary reason for the lack of performance by children who have been held back in kindergarten is that these children are not exposed to as many hours of school. Often kindergarten programs are run on a half day basis so pre-reading exposure time is limited. Children in Grade One have more opportunities during the school day for pre-reading and reading activities.

The kindergarten retention practices of a Colorado school district were studied by Shepard and Smith (1989). The authors reported that when children who had repeated kindergarten were compared at the end of Grade One with matched control children, no differences were found in mathematics achievement but the retained group showed a one month advantage in reading achievement.⁸ The parents of the repeating children were interviewed by Shepard and Smith. Interestingly, the parents reported simultaneously positive and negative effects regarding the non-promotion of their child. While the parents rated the extra year as a positive experience, negative side-effects were also noted. But once the decision to retain the child has been made, it would seem that all the concerned parties, including the child, "get on board." The persons involved become committed to the belief that they have made the correct decision. The researchers also surveyed the teachers of the children in the two groups. Teacher ratings showed no benefit for the retained children in social maturity, learner self-concept, or attention at the end of Grade One.

Longer Term Effects of Grade Retention

There is evidence to support the view that over the long term, the effects of grade retention are diminished. In the Red Deer (Alberta) Public School System's (1992) survey cited above, the grades obtained by 28 students at the end of their retained year (1984-1985) were compared to the final grades obtained by the same students seven years later. In June of the year that the students had been held back, 88% were given a grade of either A, B, or C in Math, and 84 % were given a grade of A, B, or C in Language Arts. The final grades that the 28 students attained at the end of the 1990-1991 school year (seven years later) were next examined. Nine of the students had since been placed in modified programs such special classes for LD children or integrated occupational programs. The June, 1991 grades of the 19 students still in the regular stream were much

⁸ While Shepard and Smith (1989) stated that this difference was statistically significant, they did not give level of significance.

lower than they were seven years earlier. In Math, less than 50% received A's, B's, or C's. Similar patterns were seen in the Language Arts results.

A similar picture from a slightly different frame of reference was painted when the results of Alberta Education's province-wide elementary school achievement tests were examined (Alberta Education, 1991a; Alberta Education, 1991b). In June, 1991, Grade Three children were given a Science test and Grade Six students were given a Mathematics test. Of the Grade Three children of normal age (eight and nine year-olds) writing the Science test, 70.1% met the deemed acceptable standard. Only 44.3% of the overage children reached the acceptable standard. The Grade Six Math results showed an even sharper contrast between the normal and overage groups (71.3% versus 38.1% meeting the set standard). These achievement test results appear to reinforce one of the most salient findings of the research on grade retention—the benefits of retention diminish over time.

Parent and Educator Views On Grade Retention

Byrnes & Yamamoto (1986) surveyed parents and educators to ascertain their views on grade retention at the elementary school level. Their *chi*-square analysis of questionnaires filled out by 1063 parents, 145 teachers, and 35 principals showed strong support for school retention by each of the groups. While 59% of the parents, 65% of the teachers, and 74% of the principals felt that requiring children to repeat a grade was appropriate, there were significant differences between the groups when they were asked to choose among five reasons for retaining a child. The subjects were asked to respond with a "yes" or a "no" to the following choices: (a) chronic nonattendance, (b) parent request, (c) emotional immaturity, (d) academic failure due to reasons other than lack of basic skills, and (e) lack of basic skills. To each question, educators answered positively with greater percentages than parents. Excessive absence was deemed an important

reason for holding a student back by 69% of the principals and only 14% of the parents ($p < .0001$). Teachers fell between the principals and parents on the nonattendance question with 39% answering positively. In a similar pattern, academic failure was judged by a larger proportion of principals (57%) than teachers (37%) or parents (30%) to offer cause for retention ($p < .006$). Educators, more than parents, felt that emotional immaturity ($p < .0001$) and lack of basic skills ($p < .0001$) were appropriate reasons for non-promotion.

Manley (1989) surveyed 314 primary teachers using a 35-item questionnaire with a five-point Likert-type scale to elicit their attitudes regarding grade retention. The teachers were asked to respond to the items by checking one of the following categories: strongly agree, agree, neutral, disagree, or strongly disagree. The teachers who, during the school term immediately previous to the survey, had recommended that children in their classes repeat the grade, saw grade retention in a more positive light than the teachers who had promoted all of their pupils. A second interesting finding of the study was that older teachers had stronger attitudes toward grade retention, whether those attitudes were positive or negative.

The "Excellence in Education" movement and grade retention

The review of the retention literature by Jackson (1975), set in motion a series of arguments against asking children to remain in a grade for a second year. And the effects of the resulting debate have become important issues for school jurisdictions across North America. Coinciding with, and in many cases, running counter to, the arguments of the opponents of grade retention, has been the rise of the "Excellence in Education" movement. Concerned about declining standards, as shown on the standardized testing of high school seniors, the excellence reformers are asking for an overhaul of the system and its leaders. Implicit within the point of view of the advocates of excellence in education,

is an opposition to social promotion, the wide-spread practice of passing those students who have not met academic grade requirements, but are sent on with their age-peers, regardless of their level of achievement. In a 1983 Gallop Poll cited by Shepard and Smith (1989), 75% of those polled agreed with the statement, "children should be promoted from grade to grade only if they can pass examinations" (p. 4). There appears to be a growing dichotomy between the views of the general public and the philosophies of educators. A 1985 British Columbia Gallop Poll compared the views of the public and those of educators regarding standardized student evaluation. 94% of the public regarded standardized evaluation as important, while only 15% of the educators rated it important. When asked about the importance of standardized teaching materials, the figure for the public again was 94%, while 20% of the educators gave the need for standardized teaching materials an important rating.*

But get-tough reforms are found to be extremely difficult to implement in the real world. Ellwein and Glass (1989) tracked the attempts of one school division to establish promotion/retention standards and, in doing so, to raise academic standards. After an initial push to establish a scientific, test-based selection system, implementation and follow-up evaluation proved to be elusive. After the school district was unable to provide the authors with evaluative information, the authors were left to make inferences based upon the available data. They concluded that they could not find a definitive link between test performance and retention/promotion decisions. It was pointed out by Ellwein and Glass that the discrepancies between proposals and resultant actions are not unique to the school district under study. Other cases presented by the authors showed that the initial flurry of activity created a feeling in the taxpayers that steps were being taken to improve the standards, even though the final analysis (if it could be completed) revealed that little had changed.

* Cited in an address by Joseph P. Freedman, a parent and advocate of higher educational standards, to the University of Calgary Senate, November 7, 1992.

Grade Retention and Self-Concept

It would appear to be a truism that children experiencing learning difficulties should view their academic abilities in a negative light, and indeed, the research findings on academic self-concept support these perceptions. Chapman (1988) surveyed the literature, examining studies that dealt with the self-concepts of LD children in terms of general versus academic self-perception, age and grade level effects, and educational placement effects.

Chapman (1988) employed the meta-analysis technique in his review of the self-concepts of LD children. First, general self-concept was examined by Chapman. Of the 22 studies which researched general self-perception, only five showed that the LD children in the study were significantly lower than the non-handicapped children. Academic self-concept, however, provided a different theme. Significantly lower scores for LD children were found in all 20 studies in the academic self-concept category. In examining age and grade level factors Chapman found that older LD children did not necessarily have lower scores on academic self-perception than their younger counterparts. Chapman noted that differences between LD and "average" children usually arise by the third grade and remain rather constant until high school. Self-concept and educational placement was also studied. While there was not enough information to arrive at definitive conclusions, it appears that children who have been identified as LD but are not receiving special help, have lower academic perceptions of themselves than those in remedial placements.

General self-concept as it relates to grade retention, is perhaps the domain in which the smallest negative effects have been found. For example, in the meta-analysis

completed by Holmes and Matthews (1984), when effect sizes were compared by study mean, the overall *ES* was $-.34$ and *ES* for academic achievement was $-.43$. The *ES* for the nine studies measuring self-concept was only $-.02$. In the update of his earlier study with Matthews, Holmes (1989) found that the *ES* for general self-concept had moved into positive territory ($+.06$ for 11 studies).

White and Howard (1973) examined the relationship between the failure of elementary students to be promoted and their self-concept. Drawing Grade Six subjects (292 boys and 332 girls), the researchers classified the subjects using the following categories: (a) students who had experienced continuous promotion (84 per cent of the sample), (b) students who had repeated one grade (12 per cent), (c) students who had repeated two or more grades (four per cent). The children were administered the Tennessee Self-Concept Scale (Fitts, 1965), an instrument with ten subtests that examine the following: identity, self-satisfaction, behavior, the physical self, moral-ethical self-concept, the personal self, the family self, the social self, and a total positive self-concept.

Although White and Howard concluded that failure to be promoted was related to the self-concept of the children in the study, the results appear to indicate that the association between retention and self-concept may be rather tenuous. When the three groups of students were compared on a subtest-by-subtest basis, only the group that had never repeated and the group that had been retained two or more times showed consistent differences ($p < .05$). Interestingly, the differences did not reach the $p < .05$ level on *any* of the ten subtests, when a comparison was made between the children who had been continuously promoted and those who had been held back one time. There were differences between the two groups of retained children ($p < .05$) on four of the ten subtests. White and Howard concluded that failure to be promoted is related to self-concept. But because significant differences were not found between the group that had

experienced continuous promotion and the group that had been held back for only one school year, it would appear that the effects that could be attributed to retention, may not have been major causal factors in the lower level of self-esteem of the two groups that had experienced retention. I am not arguing that grade retention has no effect upon self-concept; it would appear that the accumulation of academic failures, probably on a day to day basis, results in the loss of self-esteem.

Pierson (1989) studied the academic performance and school adjustment of students retained in elementary school, as compared with three matched samples of non-retained children. The first group was matched according to ability level, the second group had been socially promoted, and the third group was chosen by stratified random sample. Three areas were examined: general self-esteem, perceived social competence, and perceived academic confidence. The results showed no significant differences between the four groups in general self-esteem and no significant differences in perceived social competence. However, the retained group was significantly lower than stratified random sample and the group of matched ability in perceived academic confidence. Interestingly, the retained group scored higher than the group given social promotions on the measures in which academic confidence was self-rated. Pierson interviewed seven of the retained students to discover their views on grade retention. These children saw retention as an effective strategy.

The impact of grade retention on the social development of children was examined by Plummer and Graziano (1987). The hypothesis explored by the authors was that peer discrimination may be a contributing factor to the negative effects of grade retention. They found, however, that in general retained children had higher self-esteem than children who had never been held back.

Negative impacts for retained children were found by Byrnes and Yamamoto (1985) who interviewed retained and promoted children in Grades One, Three, and Six. Nested within longer discussions of school in general, were questions about the students feelings about retention, their perceived reasons for being held back, and how the retained children were informed that they would be retained. The manner in which children were told that they would be repeating a grade provides food for thought. When the children in the study were asked if they had found out from their parents, their teacher, report card, or some other way, 42% answered that they read in their report card, 31% were told by their parents, and *only 20% were informed by their teacher*. Distressingly, one child answered, "the list of names on the door at the beginning of this school year" (p. 118).

Byrnes and Yamamoto (1985) also found that children expressed anxiety about the reactions of their peers to their being held back, and a rather large number did not admit to the interviewer that they were repeating. The girls in the study were particularly sensitive, with 43% not including themselves when asked if they, or any students in their class had been held back. 81% of the boys admitted to being retained. Another concern of the retained children was that the repeated term was simply a rehash of the previous year's curriculum. The major conclusion of the study was that grade retention was of dubious effectiveness and was seen by the children as a negative and confusing experience.

Meta-Analysis and Grade Retention

Because of the influence of the meta-analysis done by Holmes and Matthews (1984), a review of the development of the concept is introduced at this point of the review of the literature. This will be followed by an examination of the two meta-analyses introduced earlier and conducted by Holmes (Holmes, 1989; Holmes & Matthews, 1984).

The use of meta-analysis (Glass, 1977) has proven an effective method to compare the results of a large set of studies dealing with a common topic. As Light and Smith (1971) reasoned in an early paper, "Little headway can be made by pooling the *words in the conclusions* of a set of studies. Rather, progress will only come when we are able to pool, in a systematic manner, the original data from the studies" (p. 443). The meta-analytical technique was designed to statistically examine the quantitative findings of a large number of individual studies, and Glass developed a measure to make such comparisons possible. This measure, called the *effect size (ES)*, is arrived at in a rather straightforward manner. In the experimental situation, the difference between the means of the study group and the control group is divided by the standard deviation of the control group. When two different experimental conditions are compared, the *ES* is the difference between the two means divided by within group standard deviation. Glass expressed the *ES* as a formula in the following manner:

$$ES = \frac{\bar{X}_E - \bar{X}_C}{s_c}$$

This formula results in a measure of group differences which can be compared with the effect sizes of other studies which used a variety of statistical calculations. The *ES* is expressed as a proportion of a standard deviation. For example, if the *ES* is calculated to

be $-.50$, this means that the score of the experimental group is one-half a standard deviation less than that of the control group.

Glass (1977) described a number of situations in which the *ES* could be computed even though some of the necessary information was missing. For example, if the means of two comparison groups and the value of *F* were given but the standard deviations were absent, the *ES* could be calculated by choosing the correct algebraic path. Therefore, if a study did not provide all the data necessary to calculate the *ES* directly, it could often be found by going back to the formulae and solving for the missing data. Holmes (1984) pointed out that in some cases, a level of significance such as $p < .05$ given in a study can lead to a ballpark *F* value, from which, in turn, the *ES* can be estimated. If, however, the means and *SDs* of the groups are reported, the *ES* can be computed without intermediate calculations.

Holmes and Matthews (1984) versus Holmes (1989)

In the first comprehensive collection of the research evidence lined up against the practice of grade retention (Shepard & Smith, 1989), Holmes (1989) updated a highly influential meta-analysis of the research findings dealing with grade retention. The original study (Holmes & Matthews, 1984) examined 44 retention studies.⁹ The results of this study provided the proponents of continuous promotion of all students with strong evidence for the deleterious effects of asking children to repeat a grade in school.

In the Holmes meta-analyses (Holmes, 1989; Holmes & Matthews, 1984), two sets of effects were calculated. First, the results were computed using individual effects which were spread out over all the studies; and second, the effects of each study were averaged to produce an *ES* for each study. This calculation could then be used to examine

⁹ Cited earlier in the thesis.

differences between studies. The effects were then grouped by topics such as academic achievement, personal adjustment, and self-concept.

The first meta-analysis (Holmes & Matthews, 1984) produced stronger negative results than the more recent study (Holmes, 1989). When the overall individual effects of the first 44 studies in the first meta-analysis were calculated, Holmes and Matthews found an *ES* of $-.37$. As noted above, the 19 studies added to account for research done in the intervening years, lowered the overall mean *ES* from $-.37$ to $-.15$. It follows, then, that the recent studies added to the meta-analytic pool must have, in general, produced results showing positive effects when the retained children in the newer studies were compared to their controls. To test this hypothesis, a comparison of the two papers by Holmes (Holmes, 1989; Holmes & Matthews, 1984), was undertaken.¹⁰ Although Holmes used two units of comparison in his analyses (individual effects and study effects), the present investigation examined only the comparison of individual effects. Not enough data was presented by Holmes (1989) to examine the within-study effects and calculate a mean for each study. Table II-1 describes the effects presented by Holmes in 1984 and 1989 plus the *ES*s for the 19 recent studies. Since Holmes did not present the *ES*s for the new studies, these values were calculated based on the information given in the two articles.

The results of the analysis of the effects in the 19 new studies incorporated by Holmes (1989) as presented in Table II-1, present a rather incongruous picture when compared with past research. It would appear that the new data entered by Holmes represent a sharp curve in the road heading toward universal agreement regarding the lack of benefits in asking children to repeat a grade. The mean effect sizes of each of the areas

¹⁰ It should be noted that I did not access the primary data in the 19 new studies added by Holmes. I worked from the initial results reported by Holmes and Matthew (1984) and the update by Holmes (1989).

categorized by Holmes, except for one, was seen to demonstrate benefits for retention.¹¹ In his description of the positive studies in his new sample, Holmes (1989) noted that they were conducted in suburban settings with subjects who were "systematically more able than the traditional population of retainees who were more likely slow learners with below average IQ and achievement" (p. 25). Holmes (1989) provided a description of the typical retention plans of the positive studies. Potential failures were red-flagged early and were given special assistance. When retention was thought to be of benefit, the parents were consulted for permission. A detailed individualized program plan was prepared to use in remediation. The children were given an enhanced curriculum and not recycled through the same program. Special classes with low student-teacher ratios. were utilized. In the seven studies based roughly on the above model, and completed in the 1980's, Holmes noted a mean effect size of +.60 using 112 *ESs* in the area of academic achievement.

Conclusions

The review of the related literature found that the cumulative evidence from the research appeared to support the view that the negative effects of grade retention outweigh the positive effects. In general, when measurements of school achievement were used by research studies to compare grade-retained and continuously promoted students, the strongest negative effects were noted. The overall self-esteem of retained children appeared to be less impacted. Falling between achievement and general self-concept was the academic self-perception of the retained child.

¹¹ I did not have enough information to calculate significance levels for the positive effects seen in the additional studies.

Table II-1: Effect Sizes for Holmes' (1989) Newly Added Studies

	MATTHEWS & HOLMES (1984)		HOLMES (1989)		NEW INCLUDED IN HOLMES (1989)	
	No. of Es	ES	No. of Es	ES	No. of Es	ES
<i>Overall effect size</i>	575	-.37	861	-.15	286	+.29
<i>Academic Achievement</i>	367	-.44	536	-.19	169	+.35
<i>Language Arts</i>	85	-.40	106	-.16	21	+.81
<i>Reading</i>	75	-.48	144	-.08	69	+.35
<i>Mathematics</i>	77	-.33	137	-.11	60	+.17
<i>Work Study Skills</i>	32	-.41	not given	n/a	not given	n/a
<i>Social Studies</i>	7	-.35	7	-.35	0	n/a
<i>Grade Point Average</i>	4	-.58	4	-.58	0	n/a
<i>Personal Adjustment</i>	142	-.27	234	-.09	92	+.19
<i>Social Adjustment</i>	60	-.27	101	-.09	41	+.17
<i>Emotional Adjustment</i>	9	-.37	33	+.03	24	+.18
<i>Behavior</i>	13	-.31	24	-.13	11	+.08
<i>Self Concept</i>	34	-.19	45	-.13	11	+.06
<i>Attitude Toward School</i>	26	-.16	39	-.05	13	+.17
<i>Attendance</i>	6	-.12	7	-.18	1	-.54

From the present author's reading of the literature, the meta-analysis of 44 studies regarding grade retention presented by Holmes and Matthews (1984) provided much of the present-day impetus to abolish the practice of asking children to repeat a grade in school. Data from the studies analyzed clearly painted a negative picture. However, when Holmes (1989) updated his review, the newly-added studies, completed mainly in

the 1980's, seriously diluted the original findings. Because of the very strong effects reported in Holmes and Matthew's (1984) original investigations, however, the total effect size of the recent review (Holmes, 1989) was still robustly negative. As the present author's analysis of the 19 recent studies showed, equally strong positive effects were viewed when the various *effect sizes* were isolated. This group of recently completed investigations reported by Holmes (1989) showed that careful planning and the implementation of a series of remedial strategies to help the repeating child, yielded significantly positive results. Further research to examine the factors which led to the positive results, would appear to be warranted.

One of the more striking findings of the literature review is the definitive nature of the conclusions reached by the opponents of retention. For example, the first point in a summary of the retention/promotion research findings by Lynch (1991) is that "retention in grade has no benefit for academic achievement" (p. 1). An examination of the references provided by Lynch was undertaken. Of the 26 publications, 20 were classified as opinion pieces or second-person summaries of research, and six were primary research studies. Interestingly, two of the six reported benefits in grade repetition. As reviewed above, Pomplin (1988) found that his results "supported the effectiveness of retention at the primary level especially in comparison to the secondary level" (p. 281). Pomplin's overall results, however, indicated that repeating a grade loses its educational effectiveness as grade level increases. In a second primary research source cited by Lynch, (Peterson, et al., 1987) one of the conclusions of the researchers was that "there is some evidence to suggest that retention leads to higher achievement even though that achievement occurs one year later" (p. 117).

The update of one of the most widely-cited studies in arguments against grade retention (Holmes, 1989), leaves questions, which, for the large part, have been ignored.

But while the research findings are not as cut and dried as Lynch would have us believe, it is still incumbent upon the proponents of grade retention to prove that the benefits of retention significantly outweigh the detriments.

In general, the review of the literature showed that when school achievement was measured, the strongest negative effects were produced among grade retained children. Overall self-concept appeared to be least affected by retention. The academic self-perception of grade repeaters, the focus of the present study, appeared to be more negatively affected than was overall self-concept. It is hoped that the examination of academic self-perception in the clinical setting by the present study, will add to the fund of knowledge regarding the grade-retained child.

III METHOD

The study sample provided a rich source of descriptive information about the children referred to the Clinic for diagnostic assessment. Along with the descriptive data, this chapter will examine the main test instrument used in the study—the *Perception of Ability Scale for Students* (PASS) (Boersma & Chapman, 1992). As noted in the introductory chapter, an analysis of the three validity indices of the PASS was undertaken. The responses of the children who were referred to the Clinic because they were experiencing learning difficulties, were compared to the PASS standardization group. In particular, the responses that could lead to questions about the validity of the individual test results, were examined. For example, if a child responded with too large a number of "no" responses, questions would be raised regarding negative response bias. While the findings of this validity study, in a number of cases, proved significant, they were placed in the methods chapter in order to limit the research questions to the major focus of the thesis—the comparison of grade-retained and continuously promoted children referred to the Education Clinic.

A description of the total group of students who were given the PASS as a component of the clinical assessment, follows below. While the group as a whole contained a number of students referred for reasons besides learning problems, unless otherwise noted, the samples drawn for comparative purposes are made up of LD referrals. However, in order to provide descriptive data regarding the composition of the group referred to the Clinic, all the children who were given the PASS comprised the general clinical population.

subjects

The subjects in the various thesis study groups were drawn from a population of 245 students who were referred to the University of Alberta's Education Clinic during the 1990-91 and 1991-92 school terms. The children were given psycho-educational assessments by graduate student-clinicians in the Department of Educational Psychology. Each child was administered a test battery that usually included a test of intelligence, an achievement test, a children's personality type indicator, and a test of academic self-concept. Depending upon the needs of the individual child, other various instruments were added to the battery. The clinicians filled out a questionnaire for each child that they assessed (see Appendix F). Included on the form were demographic, school, and test assessment data.

The sample groups which were selected to examine the research questions were confined to repeaters and non-repeaters who were referred to the Clinic because they were experiencing school-related learning difficulties—Table III-1 shows the comparison groups and the sample size of each group. However, in order to provide a picture of the total clinical group, the descriptive data included children referred for other reasons, such as giftedness or behavioral difficulties (see Table III-4, Page 41).

The selection of repeaters and non-repeaters from the clinical population entailed the following assumptions. First, because they were referred to the Clinic, both groups were perceived to be having academic difficulties by important authorities in their lives. Much of the research reported in the literature compared repeaters with non-repeaters chosen randomly from the general school population. The clinical setting, however, offered an opportunity to compare two groups that were matched in the sense that both were viewed as struggling academically. Second, because the referred repeaters were

Table III-1: Comparison Groups: Composition and Size

<i>TYPE OF ANALYSIS</i>	<i>REPEATERS GROUP TYPE</i>	<i>NON-REPEATERS GROUP TYPE</i>
<i>Overall</i>	Repeaters (<i>n</i> = 69)	Non-Repeaters (<i>n</i> = 69)
<i>Time Since Grade Repeated (Age)</i>	Recent Repeaters (<i>n</i> = 10)	Recent Non-Repeaters (<i>n</i> = 10)
	Non-Recent Repeaters (<i>n</i> = 10)	Non-Recent Non-Repeaters (<i>n</i> = 10)
<i>Gender</i>	Male Repeaters (<i>n</i> = 15)	Male Non-Repeaters (<i>n</i> = 15)
	Female Repeaters (<i>n</i> = 15)	Female Non-Repeaters (<i>n</i> = 15)

still perceived by their parents or the school as having difficulties, it would appear that the repeaters in the study were not the success stories of retention. In other words, if grade retention had been successful, in most cases, there would have been no reason to refer the children to the Clinic. The basis of the above two assumptions was that the children in both the retained and non-retained categories were experiencing school-related problems—hence their referral to the Clinic. Because of this, the investigation was provided with an overall level of matching of subjects.

Demographics

The children who had been given the PASS were randomly selected for the various comparison groups used to examine the research questions. As noted above, each of the study samples was comprised of subjects referred because of learning difficulties. The mean age of the total number of students in the study was 10.07 years. The grades of the children ranged from Grade One to Grade Ten, but 95% of the children were in Grades Two to Seven. About three-quarters of the children came from traditional family backgrounds. Approximately 85% of the children were referred by their parents while

about 11% were school referrals. The remainder came from various sources such governmental agencies.

Gender Ratios

There was a significantly higher proportion of boys than girls in the study group when compared to the general population (Males = 156 versus Females = 89, M/F Ratio = 1.75 to 1), $X^2 (1, N = 245) = 18.32, p < .001$. Of the 78 children who had been retained, 54 were boys and 24 were girls. This proportion was similar to that of the boy/girl ratio in the total PASS group and not statistically significant when compared to the whole group, $X^2 (1, n = 78) = 1.04, p > .10$.

The male/female ratios of the various referral groups were studied. First the LD referrals were considered. When a *chi-square* test for goodness-of-fit test was employed, it was found that there were no significant differences between the male/female proportions of the LD group and the male/female ratio of the 245 children in the clinical population (See Table III-2). When the students referred to the Clinic for learning difficulties were compared to the general population, there was a significantly higher proportion of boys than girls identified as having reading, spelling, language, writing, and overall learning difficulties (See Table III-3).

Next the behavioral referrals were examined. Of the 88 children referred for behavior problems, 62 were boys and 26 were girls. The male/female ratio of the behavior referrals was compared with the male/female ratio (156/89) of the total population. No significant differences in male/female proportions were found between the group referred for behavior problems and the total study group . Also, the gender ratios for the subgroups in the three behavior categories did not differ significantly from the male/female ratio of the 245 children in the clinical population (See Table III-2).

Finally the gender ratio of the gifted group was targeted. All eight students referred to verify giftedness were males. The *chi-square* test for goodness-of-fit test showed significance when the gifted students were compared with the total study group and the general population (See Tables III-2 and III-3).

Table III-2: Male/Female Ratios for Various Referral Areas Compared With Study Group Gender Proportions

	<i>Total Referred</i>	<i>Expected Male Frequency^a</i>	<i>Expected Female Frequency^a</i>	<i>Observed Male Frequency</i>	<i>Observed Female Frequency</i>	<i>X²</i>
<i>Learning Difficulties (Overall)</i>	194	123.53	70.47	116	78	1.26
<i>Reading</i>	165	105.06	59.94	102	63	0.25
<i>Math</i>	86	54.76	31.24	51	35	0.71
<i>Writing</i>	86	54.76	31.24	60	26	1.38
<i>Language</i>	80	50.94	29.06	57	23	1.99
<i>Spelling</i>	123	78.32	44.68	76	47	0.19
<i>Behavioral Difficulties (Overall)</i>	88	56.03	31.97	62	26	1.75
<i>Attention Deficit Hyperactivity</i>	54	34.38	19.62	40	14	2.53
<i>Emotional Difficulties</i>	35	22.29	12.71	22	13	0.01
<i>Conduct Difficulties</i>	16	10.19	5.81	12	4	0.89
<i>Gifted</i>	8	5.09	2.91	8	0	4.56*

^a Expected frequencies based on male/female ratios for study population (Males = 156 versus Females = 89, N = 245).

* $p < .05$

*Table III-3: Male/Female Ratios for Various Referral Areas
Compared With General Population Gender Proportions*

	<i>Total Referred</i>	<i>Male Frequency</i>	<i>Male Percentage</i>	<i>Female Frequency</i>	<i>Female Percentage</i>	χ^2
<i>Learning Difficulties (Overall)</i>	194	116	59%	78	41%	7.44**
<i>Reading</i>	165	102	62%	63	38%	9.22**
<i>Math</i>	86	51	59%	35	41%	2.98
<i>Writing</i>	86	60	70%	26	30%	13.44**
<i>Language</i>	80	57	71%	23	29%	14.45**
<i>Spelling</i>	123	76	62%	47	38%	6.84**
<i>Behavioral Difficulties (Overall)</i>	88	62	70%	26	30%	14.73**
<i>Attention Deficit/Hyperactivity Difficulties</i>	54	40	74%	14	26%	12.52**
<i>Emotional Difficulties</i>	35	22	63%	13	37%	2.31
<i>Conduct Difficulties</i>	16	12	75%	4	25%	4.00*
<i>Gifted</i>	8	8	100%	0	0%	8.00**

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

Table III-4: Gender Ratios of Referral Groups

<i>REFERRAL CATEGORY</i>	<i>M/F RATIO</i>	<i>REFERRAL CATEGORY</i>	<i>M/F RATIO</i>
<i>Learning Difficulties (Overall)</i>	1.5 to 1	<i>Behavioral Difficulties (Overall)</i>	2.4 to 1
<i>Reading</i>	1.6 to 1	<i>Attention Deficit/Hyperactivity Difficulties</i>	2.9 to 1
<i>Math</i>	1.5 to 1	<i>Emotional Difficulties</i>	1.7 to 1
<i>Writing</i>	2.3 to 1	<i>Conduct Difficulties</i>	3 to 1
<i>Language</i>	2.5 to 1		
<i>Spelling</i>	1.7 to 1	<i>Gifted</i>	8 to 0

In conclusion, males outnumbered females in each of the referral categories with ratios ranging from a high of 8 to 0 for the small gifted group ($n = 8$) to 1.5 to 1 for the overall LD group and the math group (See Table III-4). Except for the gifted group, there were no significant differences between the various referral subgroups and the total clinical group. Significant differences, however, were found when these subgroups were compared to the general school population. (Table III-3).

Referral Reasons

The referrer was asked the reason for seeking clinical assistance. In general terms, the children could be placed in three major categories: (a) learning difficulties, (b) behavior problems, (c) giftedness. The classifications were not considered exclusive and more than one category could be entered. The various combinations are shown in Table III-4. Of the 194 children referred for learning difficulties, 165 were reported to have problems with reading, 86 had problems in the mathematics area, 80 had language difficulties, 86 presented with problems in writing, and 123 were reported to have spelling difficulties. Here again, the problems were not exclusive and more than one difficulty was often identified. Of the 88 children referred for behavior problems, 54 were thought to have difficulties in the attention deficit/hyperactivity (ADHD) areas, 35 checked off emotional difficulties (ED), and 16 referrers suggested conduct disorders (CD). At the time of assessment, 88 of the students (35.92%) of the children were receiving resource room aid. As noted above, eight of the students in the study were referred to assess giftedness.

Table III-5: Referral Reasons

<i>REFERRAL REASON</i> (<i>N = 245</i>)	<i>NUMBER</i>	<i>PERCENT</i>
<i>Learning Difficulties only</i>	134	54.69%
<i>Behavior Problems only</i>	27	11.02%
<i>Gifted only</i>	8	3.27%
<i>Learning Difficulties and Behavior Problems</i>	60	24.49%
<i>Other</i>	16	6.53%

Ability and Achievement Data

Each of the 245 children in the PASS group, was also administered a test of intelligence; 78 subjects were given the *Stanford-Binet Intelligence Scale: Fourth Edition* (SBIV) (Thorndike, Hagen, & Sattler, 1986) and 167 were given the *Wechsler Intelligence Scale for Children - Revised* (WISC-R) (Wechsler, 1974). On the Verbal Reasoning Scale of the SBIV the mean of the thesis group was significantly higher than that of the standardization group ($SS = 104.32, t(77) = +2.75, p < .01$). The mean of the study group on the WISC-R Performance Scale was also significantly higher ($SS = 104.27, t(166) = +3.74, p < .001$). The remainder of the total study group scores on the SBIV and WISC-R did not reach the level of significance when compared to the standardization groups of the two intelligence tests. When the scores of the students referred for learning difficulties were isolated by dropping the children referred only for behavior problems or to test for giftedness, in general, the scores were closer to the standardization group means. The Short Term Memory mean of the LD sample, however, was significantly lower than that of the SBVI norm group ($SS = 94.79, t(57) = -3.03, p = .01$). The Composite mean of the LD group given the SBVI was also significantly lower than SBVI norm group ($SS = 96.31, t(57) = -2.36, p = .05$). The

means and standard deviations for the IQ study groups are found in Tables III-6 and III-7.

The clinical results of the achievement batteries proved difficult to compare in a standardized fashion. Because it is necessary to expose the student clinicians to a variety of achievement tests, consistency in reporting is difficult.¹² Standard scores were sometimes reported using age norms, and in other instances, grade norms were utilized by the clinicians. Four major achievement batteries were used,¹³ each, of course, with its own standardization group. Based upon referral information, the clinicians rated the present school achievement level of the child on the summary sheet (see Appendix F). Of the 245 children in the PASS group, the current achievement of 19 clients was seen as Above Average, 83 were viewed as Average, and the majority, 143, were seen to be presently functioning below average. The results of the achievement testing are shown in Table III-8. Caution should be used in the examination of these scores.

Repeaters Versus Non-repeaters

As noted earlier, of the 245 children who were administered the PASS, 78 (31.84%) had repeated at least one grade in their school careers. The percentage rose to 35.57% when the data for the children who were referred because of learning difficulties were isolated (69 students out of 194 LD referrals). The average age of the repeaters was 10.36 years versus 9.88 years for the non-repeaters. The mean age of the total

¹² Because the achievement test data did not form an integral part of the thesis and was not part of the comparisons, the descriptions of the results are rather sketchy. The data would have had to have been sorted by going back to each achievement test protocol. Therefore, the achievement test used by the clinician was noted and the results were converted to a percentile without any attempt to discover whether the reporting was in terms of age norms or grade norms.

¹³ The Peabody Individual Achievement Test (PIAT), (Dunn & Markwardt, 1970); the Canada Quick Individual Educational Test (QUIET), (Wormeli & Carter, 1990); the Wide Range Achievement Test (WRAT), (Jastak & Wilkinson, 1984); and the Woodcock-Johnson Psycho-Educational Battery, (Woodcock, 1977).

*Table III-6: Mean Scores and Standard Deviations of
Children in PASS Group Given WISC-R*

<i>POPULATION: WISC-R</i>			
<i>N = 167</i>			
	<i>VERBAL</i>	<i>PERFORMANCE</i>	<i>FULL SCALE</i>
<i>Mean</i>	100.01	104.27	102.16
<i>SD</i>	15.00	14.77	14.46

<i>LD REFERRALS GIVEN WISC-R</i>			
<i>N = 136</i>			
	<i>VERBAL</i>	<i>PERFORMANCE</i>	<i>FULL SCALE</i>
<i>Mean</i>	97.76	102.21	99.77
<i>SD</i>	13.79	13.98	13.02

*Table III-7: Mean Scores and Standard Deviations of Children
in PASS Group Given Stanford-Binet IV*

<i>POPULATION: SBIV</i>					
<i>N = 78</i>					
	<i>VERBAL REASONING</i>	<i>ABSTRACTVISUAL REASONING</i>	<i>QUANTITATIVE REASONING</i>	<i>SHORT TERM MEMORY</i>	<i>COMPOSITE</i>
<i>Mean</i>	104.32	98.20	100.21	98.65	100.56
<i>SD</i>	13.87	15.74	14.19	14.81	13.90

<i>LD REFERRALS GIVEN SBIV</i>					
<i>N = 58</i>					
	<i>VERBAL REASONING</i>	<i>ABSTRACTVISUAL REASONING</i>	<i>QUANTITATIVE REASONING</i>	<i>SHORT TERM MEMORY</i>	<i>COMPOSITE</i>
<i>Mean</i>	100.52	98.81	96.81	94.79	96.31
<i>SD</i>	11.66	13.69	13.69	13.11	11.92

Table III-8: Mean Percentile Rankings For Achievement Batteries

	<i>MATH</i>	<i>READING: WORD RECOGNITION</i>	<i>READING: COMPREHENSION</i>	<i>SPELLING</i>
<i>PIAT (N = 29)</i>	49.45	51.14	49.27	38.43
<i>WRAT - R (N = 99)</i>	30.16	34.46	Not Given	27.19
<i>Woodcock-Johnson (N = 42)</i>	38.49	37.00	37.43	Not Given
<i>BC QUIET (N = 65)</i>	30.88	23.69	23.45	21.53

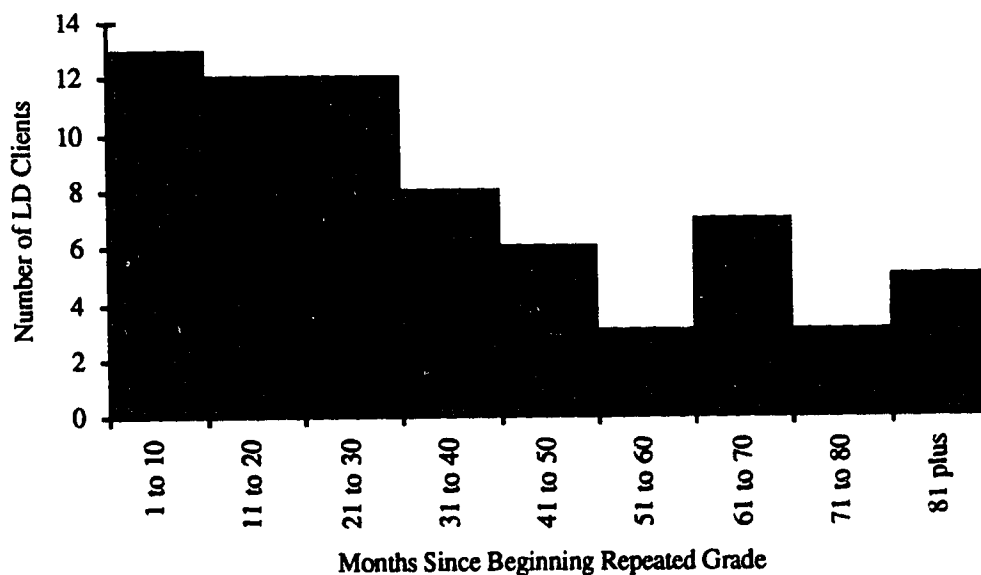
NOTE: Figures represent the mean percentile reported. Some scores standardized by age, some by grade.

group was 10.07. The promotion/retention status of six (2.45%) children in the study was unknown.

The time elapsed since the child repeated a grade was calculated. The beginning of the repeated school year was chosen as a common reference point from which to calculate the length of time elapsed since the subject repeated a grade. Two critical time periods of social and emotional distress for the repeating child have been identified by Foster (1985), who interviewed 20 retained Junior High School students. The first traumatic event for the children was being told in June that they would not be promoted to the next grade. The second difficult period experienced by Foster's subjects was the beginning weeks of the repeated year when promoted friends were seen in the upper grade and the student was concerned about losing these friends and making new ones. While both times are worrisome for the repeating child, an arbitrary decision was made to use the beginning of the new school year as a common starting point for calculating the length of time since non-promotion.

The results, presented in Chart III-1, indicate that the majority of the children were held back within three years of referral to the Clinic. Perhaps this is merely a function of the average age of the subjects in the study group. It is more likely, however, that non-promotion is seen by educators as a more viable alternative at the primary levels. Chart II-1, shown in the literature review (Page 15), provided a breakdown of the subjects in the clinical group and the grades at which they were retained. Of the 78 children in the study who had experienced non-promotion, a significantly high proportion (65.38%) were held back in either kindergarten or the first grade (Kindergarten, $n = 22$; Grade 1, $n = 29$). A *chi-square* test was used to examine the proportions of students retained in the eight levels from Grades K to 7, $X^2 (7, N = 78) = 80.56 p < .001$. In a recent survey of children retained in the Red Deer (Alberta) Public School, similar proportions were shown (See Chart II-2 on Page 15 for a visual representation). Using a *chi-square* test to measure differences in proportion for independent samples, the Kindergarten/Grade One and the Grade Two/Grade Three

Chart III-1: Time Since Repeating a Grade



groups in the clinical sample were compared with their cohorts in the Red Deer survey. The ratios between the two groups were similar and contained non-significant statistical differences, $X^2 (1, n = 300) = 0.226, p > 0.10$.

As noted above the demographic, school, and test assessment data were compiled from a questionnaire filled out by the graduate clinicians who did the clinical assessments. The files and original reports were then searched for data missing from the questionnaire and the results were then compiled on a large computer spreadsheet.

Measurement Instrument

As noted above, the PASS (Boersma & Chapman, 1992) was the major assessment instrument of the study. A brief description of the PASS is included below. This is followed by an examination of the three PASS Validity Indexes as they relate to the clinical LD group. The present study will compare the Validity Index scores obtained by the University of Alberta clinical sample of children referred for learning difficulties with those of the PASS standardization group. The psychometric properties of the two tests of intelligence used in the study, the *Wechsler Intelligence Scale for Children - Revised* (WISC-R) (Wechsler, 1974) and the *Stanford-Binet Intelligence Scale: Fourth Edition* (SBIV) (Thorndike, Hagen, & Sattler, 1986), are well-known, so they will not be examined.

Perception of Ability Scale for Students (PASS)

The *Perception of Ability Scale for Students* (PASS) (Boersma & Chapman, 1992) was designed to appraise children's feelings about their academic abilities—their academic self-concept. As noted in the introduction to the thesis, Boersma and Chapman view academic self-concept as a relatively stable cluster of feelings and dispositions

regarding the child's evaluation of ability in school-related tasks. Academic self-concept is seen as being related to, but still distinct from, general self-concept or self-esteem.

Description of the PASS

The PASS contains 70 statement items that describe feelings students may have about their school-related abilities. Each item is forced-choice to be answered "yes" or "no." Results are presented in terms of Raw Scores, *T*-scores, and Percentiles. The test provides a Full Scale score as well as six Subscale scores that examine the self-concept of the child in the following areas: Perception of General Ability, Perception of Math Ability, Perception of Reading/Spelling, Perception of Penmanship and Neatness Skills, School Satisfaction, and Confidence in Academic Ability. Table III-9 lists representative items from the six Subscales.

The PASS standardization group was comprised of 831 American children in Grades 3 to 6. This group was made up of 432 boys and 399 girls. Upon analysis of the standardization group results, it was found that the girls in the study scored significantly higher than the boys, as shown on the PASS Full Scale. Here the Raw Scores of the girls averaged 3.38 points higher than the boys, $t(829) = 3.91, p < .01$. These gender-related differences were taken into account by the PASS authors and the manual provides boys' and girls' norms as well as combined norms. The present study used PASS Raw Scores throughout with no adjustments made for gender differences. The means and standard deviations of the PASS norm sample showing male, female, and combined results are presented in Table A-3, Appendix A.

Table III-9: Typical PASS Subscale Items

Perception of General Ability

I find it hard to understand what I have to do.
I have difficulty thinking up good stories.

Perception of Math Ability

I am poor at subtraction.
I like math.

Perception of Reading/Spelling Ability

My friends read better than I do.
I usually spell words right.

Perception of Penmanship and Neatness Skills

I am a messy writer.
My teacher thinks I am good at printing.

School Satisfaction

I like to sound out words.
I like telling my friends about schoolwork.

Confidence in Academic Ability

Tests are easy for me to take.
I am a smart kid.

The development of the PASS has been ongoing for the past 15 years. Over this period of time, a number of studies have helped establish the reliability and validity of the instrument. The scores of development groups involving earlier studies of Canadian children correlated highly when estimates of internal consistency were compared between groups. Item analyses of the norm group showed a continuity from the earlier stages. While the Subscales which measure the child's self-perception of ability in the subject areas (i.e., Math, Reading/Spelling, and Penmanship and Neatness) are relatively defined and concise, the differences between perception of general ability, school satisfaction, and confidence in academic ability seem to be less straightforward. This observation is perhaps verified in the PASS manual (Boersma & Chapman, 1992). The authors used the point-biserial (RPB) correlation method to compare individual items within a subscale with the subscale score in question. The highest correlating items within the three more

specific areas (Math, Reading/Spelling, and Penmanship/ Neatness) ranged from .71 to .75. On the other hand, the most highly correlated items within the three subtests measuring the broader categories (Perception of General Ability, School Satisfaction, and Confidence in Academic Ability) showed correlations between .55 and .66. In general, reliability is a strength for the PASS. Various studies have shown internal reliability estimates ranging from .91 to .93. Subscale reliability estimates have been adequate, and test-retest stability is good. For a detailed description of the reliability and validity studies concerning the PASS, refer to the manual (Boersma & Chapman, 1992).

In summary, the PASS is an easy-to-use instrument that provides reliable information about a child's personal evaluation of his or her ability to deal with school-related tasks. The psychometric properties of the PASS are excellent when it is compared with other instruments used to measure within the affective realm.

PASS Validity Indices

Included in the PASS are three validity indices. The first PASS validity scale is the Response Bias Index (RBI). It was designed to inventory the "yes" and "no" responses to ensure that the child is not either negatively or positively biased. If the subject answers "yes" to 41 or more questions, a potential acquiescent response bias may be indicated. Conversely, less than 20 "yes" responses may point to a potential negative response bias.

The Inconsistency Index (ICI) is used to detect random response patterns. It examines 15 pairs of items such as "I have problems printing neatly," and "I am good at printing," which, if responded to in a contradictory manner, suggest that the child may be answering haphazardly. Inconsistently responding to four or more such pairs may indicate an indiscriminate response to test items, revealing questionable validity. The ICI

as developed for the PASS is similar in function to the Inconsistency Index on the Piers-Harris Children's Self-Concept Scale (Piers, 1984).

The Misrepresentation Index (MRI) was developed to identify the subjects who either consciously or subconsciously misrepresent their academic self-perceptions (Chapman & Boersma, 1991). The validity of the responses of the student who consistently chooses unrealistic answers such as "My spelling is always right" can be determined with the MRI. If the child responds positively to five or more such items, validity concerns should be raised.

The clinicians who administered the PASS to the subjects of the present study did not calculate scores for the three validity indices. These indices are a feature of the latest published edition on the PASS (Boersma & Chapman, 1992). Therefore, the PASS protocols were located and the validity scales were hand-scored. The results were compiled on the computer spreadsheet.

An Examination of the PASS Validity Indices

A study was set up to compare the PASS Validity Index responses of the children referred for learning difficulties in the University of Alberta clinical group with those of the PASS normative group (Boersma & Chapman, 1992). Of the 194 children referred to the Clinic for learning difficulties, the PASS protocols of 191 were located. These 191 students formed the study group whose validity index responses were looked at in relation to the results obtained by the PASS normative study. The thesis LD group produced the following numbers of students whose responses to the PASS items fell within the bands of questionable validity: PBI Negative, 4 students; RBI Acquiescence,

24 students; ICI, 17 students; and MRI, 9 students. The proportion of students in the clinical group, the validity of whose responses was suspect, was compared with the proportion of PASS norm group children falling within the range of questionable validity on the three indices. The LD sample and PASS normative data are presented in Table III-10.

A series of *chi-square* tests were performed to look for significant proportional differences between the 191 children in the LD sample and the norm group children. The RBI For Negativism, the RBI for Acquiescence, and the ICI of the two groups were compared. The PASS manual did not provide the number or percentage of students in the standardization group scoring 5 or higher on the MRI, so this comparison could not be made.

Negative bias as shown on the RBI was not observed in the LD sample when it was compared with the norm group. The proportion of students giving a significantly low number of "yes" responses (< 20) in the sample did not differ from that of the PASS standardization boys and girls, $X^2(1, n = 191) = 0.57, p > .10$. However, when the two groups were compared using the opposite pole of the RBI, differences were discerned. Here, 24 children in the LD sample gave a significantly high number of "yes" responses (Acquiescent Bias), compared to only 17 in the much larger PASS norm group. The number of children responding with a "yes" to more than 40 PASS items, was highly significantly larger in the LD sample, $X^2(1, n = 191) = 105.84, p < .001$.¹⁴

The Inconsistency Index (ICI) was next examined. The authors of the PASS suggest that the validity of the results can be questioned when four or more pairs of

¹⁴ After hand-scoring over 200 PASS protocols, I was left with the intuition that many of the borderline cases of Acquiescent Bias did not represent threats to the validity of the results.

Table III-10: PASS Validity Indices

	STUDY GROUP (n = 191)	NORM GROUP (N = 831)
<i>Negativity Bias (Neg. RBI)</i> (Less than 20 "Yes" responses)		
Students Giving a Significantly Low Number of "Yes" Responses	4	12
% of Students Giving a Significantly Low Number of "Yes" Responses	2.09%	1.44%
<i>Acquiescence Bias (Acqu. RBI)</i> (More than 40 "Yes" responses)		
Students Giving a Significantly High Number of "Yes" Responses	24	17
% of Students Giving a Significantly High Number of "Yes" Responses	12.57%	2.05%
Mean Number of "Yes" Responses	32.19	29.99
Standard Deviation Number of "Yes" Responses	7.07	5.36
<i>Inconsistency (ICI)</i> (4 or more pairs of inconsistent responses)		
Students Giving a Significant Number of Inconsistent Responses	17	6
% of Students Giving a Significant Number of Inconsistent Responses	8.90%	0.72%
Mean Number of ICI Responses	1.45	1.03
Standard Deviation Number of ICI Responses	1.51	1.13
<i>Misrepresentation (MRI)</i> (5 or more responses implying perfection)		
Students Giving a Significant Number of Unrealistic Responses	9	not given
% of Students Giving a Significant Number of Unrealistic Responses	4.71%	not given
Mean Number of MRI Responses	1.43	1.70
Standard Deviation Number of MRI Responses	1.51	1.63

inconsistent responses are encountered in scoring the test. Of the 191 children in the LD sample, 17 presented a significant number of pairs of inconsistent responses. This number was contrasted with only 6 students in the PASS standardization group. Based upon the frequency of invalid ICI results in the PASS norm group, only about one or two students in the LD sample would be expected to show such inconsistency. The results of the *chi*-square analysis showed the significance of the high proportion of inconsistent responders in the LD sample, $X^2(1, n = 191) = 178.23, p < .001$.

The PASS manual does not provide data for the number of students in the norm group scoring within the band of questionable validity on the Misrepresentation Index (MRI). It would appear that the number of students in the standardization group offering a significantly high number of unrealistic responses (in terms of their mastery of school-based tasks)¹⁵ is larger than that of the clinical LD sample. The mean number of MRI responses for the norm group was 1.70 ($SD = 1.63$) compared to a mean of 1.43 ($SD = 1.51$) for the LD sample. However, when the norm group mean and sample mean were statistically studied, no significant differences were found ($t(190) = -0.64, p > .10$).

The results of the present study indicate that LD children are more likely to provide "yes" answers to PASS items when compared to the regular school population. They also may be prone to provide inconsistent responses to the PASS items. In general, a rather large proportion of the LD subjects responded to the requisite items on one or more of the three indices in such a way as to make the validity of their responses suspect ($n = 38, 19.90\%$ of total study group). Further study appears warranted, however, to examine the Validity Scale responses of LD children.

¹⁵ Items such as "My printing is perfect" could be taken figuratively by the child, not as ego-inflating..

The Research Questions

The selection of the comparison groups to be examined in the study was based upon the research questions. The academic self-perception of the retained and promoted students was compared using a number of different variables. Table III-11 summarizes the comparison groups. The examination of the three research questions (overall, age, and gender differences) involved the utilization of two statistical procedures. First, in dealing with each question, the samples were compared to each other using either a one-factor ANOVA (as in the study of overall differences—Research Question #1) or a two-factor ANOVA (age and gender questions—Research Questions #2 and #3). Second, the sample means were compared with the mean of the PASS norm group using the *t* statistic. In both phases of the statistical analysis, the Full Scale Raw Scores as well as the six Subscale Raw Scores were compared. In both phases, subgroup size and composition were the same (*overall*, two groups with 69 students in each group; *age*, four groups of ten students; and *gender*, four groups of 15 students). Depending upon the research situation, random selection with replacement or matching of variables was used. The statistical analysis of overall, age, and gender differences, then, used two levels of controls. First, when the clinical groups were compared to each other in the above three categories (*overall*, *age*, and *gender*), the continuously promoted students acted as controls. Next, when the clinical groups (both retained and promoted) were compared to the PASS norm group, the PASS group was used as a control. Care was taken in each of the studies (including the matched sets) to use a random selection table whenever more than one choice was possible. Also, scores to be compared were always hidden during the selection process. The tables containing the ANOVA data are presented in Appendices B, C, and D.

Table III-11: Research Questions: Comparison Groups

<i>TYPE OF ANALYSIS</i>	<i>REPEATERS GROUP TYPE</i>	<i>NON-REPEATERS GROUP TYPE</i>	<i>STANDARDIZATION GROUP TYPE</i>
<i>Overall</i>	Repeaters	Non-Repeaters	PASS Norm Group
<i>Time Since Grade Repeated (Age)</i>	Recent Repeaters Non-Recent Repeaters	Recent Non-Repeaters Non-Recent Non-Repeaters	PASS Norm Group
<i>Gender</i>	Male Repeaters Female Repeaters	Male Non-Repeaters Female Non-Repeaters	PASS Norm Group

Research Question #1: Overall Differences

The comparisons of overall differences involved two groups with 69 children in each. The PASS Full Scale and Subscale Raw Scores of the 69 children in the clinic group who had been retained at least once in their school careers were compared with the Raw Scores of a matched random sample from the group that had been continuously promoted. Matching was based upon referral to the Clinic for learning difficulties. Since 69 of the students¹⁶ in the group of retained children were referred to the Clinic because of learning problems, a similar number were randomly selected from the non-retained group. Next the mean scores of the two study groups were contrasted with those of the PASS standardization group using the *t* statistic.

Research Question #2: Age Differences; and the Time Elapsed Since Repetition

Does the academic self-concept of the child change with the length of time elapsed since the repetition of a grade and are there differences in the self-perception of academic ability among younger and older children in the clinical samples? The clinical

¹⁶ A student whose IQ score fell in the low Educable Mentally Handicapped range was dropped from the retained group.

population yielded ten young children who were tested at the University Clinic in the fall, shortly after beginning their repeated grade (nine in Grade Two and one in Grade Three). Because of the homogeneity of age and grade seen in this sample, comparison groups of $n = 10$ were chosen by matching age, grade, and sex. If, for example, the size of the group of students just beginning the repeated grade had been increased to the more desirable $n = 15$, the grade range would have had to include Grade Seven. Therefore, a tradeoff between group size and group homogeneity was made with the decision to use smaller, more homogeneous groups.

The four samples selected for this part of the study were as follows: (a) recent young repeaters, (b) young non-repeaters matched to the first group in age and gender, (c) older children who had previously been held back in kindergarten or the first grade, and (d) older children who had not repeated a grade and were matched to the third sample group by age and gender. Only students who had been referred because of learning difficulties were included in the groups. Table III-12 provides a summary of the descriptive data for each of the groups.

Research Question #3: Gender Differences

Gender differences were the next area to be investigated. As in the previous Research Question, a series of two-factor ANOVAs were used to test the PASS Full Scale and Subscale scores of the sample subjects. This was again followed by a comparison using the t statistic for examining the sample means as they related to the PASS norm group. Repeating and non-repeating males were compared with repeating and non-repeating females. The samples (four groups of $n = 15$) were derived from the clinical population of 245 children who had been administered the PASS. In order to help eliminate confounding variables, two criteria were employed. First, because the

*Table III-12: Time Since Repeating a Grade
Descriptive Data*

<i>SAMPLE GROUPS</i>	<i>n</i>	<i>MEAN AGE</i>	<i>GRADES^a</i>	<i>MONTHS^b</i>	<i>GENDER^c</i>
Young Repeaters	10	8.31	Grade 2 - 9 Grade 3 - 1	2.20	M=8, F=2
Young Non-Repeaters	10	8.30	Grade 2 - 3 Grade 3 - 6 Grade 4 - 1	n/a	M=8, F=2
Older Repeaters	10	12.13	Grade 5 - 2 Grade 6 - 8	68.30	M=8, F=2
Older Non-Repeaters	10	11.92	Grade 6 - 10	n/a	M=8, F=2

^a Breakdown of students by grade.

^b Mean number of months since beginning repeated grade.

^c Breakdown of students by gender.

PASS norms were set using children in Grades Three to Six, Junior High School Students were eliminated. Second, students who were referred for reasons other than learning difficulties were also excluded. The above procedure eliminated 79 children, the majority of whom were non-repeating males. There were 104 non-repeating males in the clinical population. Because many in this group had been referred for behavior problems rather than learning difficulties, their number was reduced to 57 when the above two criteria were applied.

Next, a random sample table was employed to select 15 students in each group. The research question, then, was this: In a group of elementary school girls and boys who were referred to the Clinic because they were considered to be having learning difficulties, is there a relationship between the children's gender and the fact that they have (or have not) repeated a grade in school as seen through their perceptions of their academic abilities?

Ethical Considerations

The parents of each child seen in the Clinic signed a release form, allowing assessment data to be used for research purposes in a confidential and anonymous manner. This agreement was adhered to strictly. A copy of the parent release form is found in Appendix F.

IV. RESULTS

As described in Chapter III, each of the research questions involved two levels of analysis. First, the grade-retained children were compared with their continuously promoted counterparts using the criteria defined within each question. Next the groups, both retained and non-retained, were compared to the PASS norm group. The first level of analysis employed either one-way or two-way ANOVAs, depending upon the number of study groups dictated by the particular research question. The results are presented below under each research question.

Research Question #1: Overall Differences

As was to become a general pattern, the ANOVAs which examined the differences in the academic self-concept of the 69 retained children and 69 continuously promoted children referred for learning difficulties, did not produce levels of significance. The ANOVA results for this comparison of overall differences are presented in Appendix B. Next, when the mean scores of the two study groups were contrasted with those of the PASS standardization group using the t statistic, significant differences were seen. This analysis revealed sample Full Scale scores which were different from the PASS standardization group Full Scale mean. Also, a majority of the means of the Subscale Raw Scores in the two sample groups differed significantly from those of the norm group.

Both the retained group and the continuously promoted group scored significantly lower than the standardization group on the PASS Full Scale ($t(68) = -5.14, p < .001$, and $t(68) = -4.04, p < .001$, respectively). The retained group and the continuously promoted group rated their general ability significantly lower than the PASS norm group; $t(68) = -4.66, p < .001$, and $t(68) = -3.62, p < .001$, respectively. It was on questions

related to ability in reading and spelling that the children in the overall sample groups gave themselves the most critical ratings. The group that had been held back at least once in their school careers and the promoted group rated themselves far lower than their standardization group cohorts in reading and spelling;

$t(68) = -6.80, p < .001$, and $t(68) = -5.55, p < .001$, respectively. Both sample groups were also significantly below the PASS norm group on the Confidence Subscale ($t(68) = -3.80, p < .001$, and $t(68) = -4.00, p < .001$, respectively). School satisfaction was an area of the PASS in which no significant differences were found ($p > .05$ for both the non-promoted and promoted groups). To summarize the t statistic analysis for Research Question #1 (overall differences), the two clinical groups generally moved in tandem when their Full Scale and Subscale means were compared to the children in the PASS standardization group (see Table IV-1). And as the ANOVAs revealed with their non-significant findings, the two groups generally shared common feelings of academic self-concept.

Table IV-1
Overall Differences Between Groups Experiencing Learning Difficulties
PASS Raw Scores: Means and Standard Deviations

<i>SAMPLE GROUP</i>	<i>FULL SCALE</i>	<i>GENERAL ABILITY</i>	<i>ARITH-METIC</i>	<i>READING SPELLING</i>	<i>PENMAN -SHIP</i>	<i>SCHOOL SATISFACTION</i>	<i>CONFID -ENCE</i>
<i>Retained with LD (n = 69)</i>	38.71^{***} 12.57	6.25^{***} 3.15	8.45[*] 2.96	5.93^{***} 3.87	6.97^{**} 3.21	7.42 2.93	3.70^{***} 2.05
<i>Continuously Promoted with LD (n = 69)</i>	40.59^{***} 12.13	6.61^{***} 3.24	7.84^{***} 3.12	6.80^{***} 3.45	7.65 3.22	7.41 3.02	3.72^{***} 1.91

NOTE: a) Boldface type values denote *means*. Lightface type values denote *standard deviations*.

b) Statistical analysis assumed two-tailed tests.

c) Significance levels based upon differences between sample means and PASS normative data.

^{*} $p < .05$

^{**} $p < .01$

^{***} $p < .001$

Research Question #2: Age Differences and the Time Elapsed Since Repetition

The academic self-concepts of the students in the four age-based groups were compared using two-way ANOVAs to analyze the Raw Scores of the PASS Full Scale and the six Subscale Scores. The ANOVAs yielded no significant inter-group distinctions. Because the ANOVAs failed to discover significant differences between the groups, post hoc comparisons were not necessary. (See Appendix C).

As in Research Question #1, the sample groups were compared to the PASS standardization group using the t statistic for examining sample means. Because of the smaller sample sizes ($n = 10$), fewer sample means reached criterion levels of significance. Confidence was the only Subscale in the age study in which continuously promoted children rated themselves lower than the PASS standardization group. The level of academic confidence was significantly lower among the older non-retained children when compared to the children in the norm group, $t(9) = -2.53, p < .05$.

One of the more interesting findings of the statistical analysis was observed when the results of the School Satisfaction Subscale were tabulated for the young retained children. The ten subjects had just begun repeating their grade when assessed at the University Clinic. On average they were 2.2 months into the repeated term. At this point in the school year, they were satisfied with school, as measured on the PASS School Satisfaction Subscale, $t(9) = +2.82, p < .05$ ¹⁷ The means, standard deviations, and significance levels reached are summarized in Table IV-2.

¹⁷ See Chapter V for a discussion of this finding.

Table IV-2: Age Differences : PASS Raw Scores
Means and Standard Deviations

SAMPLE GROUP	FULL SCALE	GENERAL ABILITY	ARITH-METIC	READING SPELLING	PENMAN-SHIP	SCHOOL SATISFACTION	CONFID-ENCE
<i>Young Retained</i>	41.50 16.24	5.70 3.68	8.30 3.65	7.70 3.62	7.30 3.06	9.50* 2.51	4.40 2.88
<i>Young Non-Repeating</i>	46.20 18.83	8.70 3.33	8.00 3.37	8.20 4.26	9.00 3.43	8.20 3.55	4.90 3.03
<i>Older Retained</i>	41.80 10.88	7.30 3.43	8.90 3.14	6.40 4.12	7.50 3.54	7.10 2.18	4.10 2.28
<i>Older Non-Repeating</i>	43.80 12.45	6.80 3.61	9.50 1.43	7.10 4.79	8.40 2.99	8.30 1.64	2.80* 2.30

NOTE: a) Boldface type values denote *means*. Lightface type values denote *standard deviations*.
 b) Statistical analysis assumed two-tailed tests.
 c) Significance level based upon differences between sample means and PASS normative data.
 * $p < .05$

Research Question #3: Gender Differences

The first part of this study consisted of a series of two-factor ANOVAs. First the students were compared using their PASS Full Scale Raw Scores. This analysis was followed by two-way ANOVAs on each of the six Subscales. The results are summarized in the tables in Appendix D. None of the statistical analyses yielded significant differences between the four groups (girls who had repeated, non-repeating girls, boys who had repeated, and non-repeating boys). The results indicate that there are no statistical differences in academic self-perception between boys and girls who have been regularly promoted and those who have been retained. The only difference that came close to approaching significance in the ANOVA computations was evidenced on the Penmanship Subscale of the PASS. The difference here was gender-related rather than a promotion/non-promotion issue as more girls than boys rated their handwriting high in the study groups ($F(1,56) = 3.15, p < .10$). Because each ANOVA showed non-

significance, no post hoc analysis was utilized. Based upon the ANOVA results, it appears that asking children to repeat a grade has not affected, in a significantly different manner, the academic self-concept of girls or boys who are presently experiencing academic difficulties (as indicated by the fact that they were referred to the Clinic). The ANOVA results are shown in Appendix D.

The four gender sample groups were again compared to the PASS standardization group employing the *t* statistic for examining sample means. One of the most consistent results to be seen in the examination of the *t* statistic analysis is the low rating each of the four gender groups gave themselves in the Reading/Spelling portions of the PASS. Each of the four groups scored significantly low on this Subscale (see Table IV-3). While individual groups scored significantly low on scattered areas of the PASS, the gender results appear to indicate that no other consistent patterns emerged.

*Table IV-3: Gender Differences : PASS Raw Scores
Means and Standard Deviations*

<i>SAMPLE GROUP</i>	<i>FULL SCALE</i>	<i>GENERAL ABILITY</i>	<i>ARITH-METIC</i>	<i>READING SPELLING</i>	<i>PENMAN -SHIP</i>	<i>SCHOOL SATISFACTION</i>	<i>CONFID -ENCE</i>
<i>Retained Boys</i>	35.47^{***} 8.76	5.60^{**} 2.97	8.27 2.94	4.87^{***} 3.29	6.13[*] 3.14	6.53 2.85	3.13^{**} 1.92
<i>Non-Repeating Boys</i>	39.27 14.10	6.60 2.95	8.67 3.56	6.40^{**} 3.40	6.80 3.47	7.13 4.00	4.20 1.90
<i>Retained Girls</i>	38.47[*] 12.65	5.67[*] 3.52	7.07[*] 3.47	5.87^{**} 3.96	8.20 3.51	8.33 2.89	3.60[*] 1.50
<i>Non-Repeating Girls</i>	38.07[*] 11.54	6.27 3.65	8.33 2.29	5.20^{***} 3.41	7.80 3.28	7.27 2.89	3.33^{**} 1.59

NOTE: a) Boldface type values denote *means*. Lightface type values denote *standard deviations*.
b) Significance levels based upon differences between sample means and PASS normative data.
* $p < .05$ ** $p < .01$ *** $p < .001$

V. CONCLUSIONS AND IMPLICATIONS

The major focus of this study was to examine the effects of grade retention on the academic self-perception of children referred to a university education clinic. Academic self-perception was assessed using the *Perception of Ability Scale for Students* (PASS) (Boersma & Chapman, 1992). The children who had repeated a grade were compared with the non-repeaters in the clinical group using age, time since repeating, and gender. These groups were also compared to the normative group of the PASS in order to relate the clinical samples to the general school population. A secondary function of the study was to provide a description of the clinical population.

Discussion of Research Questions

The study found that there were no significant differences in academic self-perception between the children who had previously been retained in a grade and those who had been continuously promoted. When they were compared to the PASS standardization group, however, both the promoted and non-promoted groups demonstrated significantly lower academic self-perception on about one-third of the effects measured.¹⁸ Because both groups generally rated themselves more negatively than the PASS standardization group, it is reasonable to conclude that the general finding of this investigation appears to offer indirect evidence that neither promotion nor non-promotion accounted for the discrepancies.

How, then, can the lower measures of academic self-concept found among the clinical samples of both promoted and non-promoted students be explained? Perhaps:

¹⁸ With the exception of School Satisfaction among young, recently retained children. On this measure, the young, retained group scored significantly higher than the PASS normative group

after an accumulation of setbacks that children with learning difficulties (whether they have been continuously promoted or whether they have repeated) begin to see themselves as not as adept at school-related tasks as their successful classmates. White and Howard (1973) found, for example, that there were no significant differences in self-concept between the continuously promoted children in the study and those who had been held back one time in their school careers. Lower self-concept was found, however, in those children who had been subjected to multiple repetitions. The study by White and Howard appeared to provide evidence that as the failures began to accumulate, effects became noticeable.

The only measure in which a retained group scored significantly higher than its control, was seen in the comparison between newly retained younger children and the PASS normative group in the area of school satisfaction. The finding that recently retained younger children enjoyed more school satisfaction than their older counterparts provides support for the line of research cited in the thesis literature review, that showed early benefits for retained students (e.g., Peterson, et al., 1987; Reinherz & Griffin, 1970). A number of studies and surveys, however, have shown that the positive effects of grade retention become diminished as the child moves into the higher levels (Alberta Education, 1991a; Alberta Education, 1991b; Pomplin, 1988). The rather high level of school satisfaction seen in the young, recently retained group can perhaps be attributed to a "honeymoon effect." At the time of assessment, these children were about two months into the repeated year. It is possible that they were satisfied with their school role at this early stage because they dealing with the familiar; they understood classroom routines better than their promoted counterparts and felt that they were keeping up. This study appeared to lend some support to past research findings that there are short-term benefits to grade retention.

The fact that older children who had repeated a grade did not express the same level of satisfaction with school as the younger repeaters, might be seen as support for the view that it is an accumulation of negative experiences that leads to a lowering of academic self-perception in children experiencing difficulties. The argument that the lowering of academic self-perception is based upon an accumulation of negative events, would have been enhanced if the older promoted and non-promoted children had appraised their school-based skills to be low. This was not the case, however. When the results from the two older groups were examined, only one of 14 effects was rated as significantly below the scores attained by the PASS standardization group. The academic self-perception of the older groups was not, in general, lower than that of the PASS norm group.

Discussion of the Descriptive Data

The children in the clinical population were, in many aspects, representative of the children who are generally spotlighted for extra attention because they are having difficulties with school-related tasks. A larger proportion of boys than girls were found in the study group than would be expected in a normal school population (Males = 156 versus Females = 89, M/F Ratio = 1.75 to 1). These proportions were rather consistent throughout the clinical referral groups, although some studies have found the male/female ratio of children with behavior disorders to be as high as eight or nine boys to one girl (Coleman, 1992). Worth (1959) suggested that an attempt be made to discover the factors contributing to the retaining of more males than females, and that administrative and curricular policies take this gender difference into consideration.

As noted in the body of the study, comparisons of individual achievement were difficult to ascertain. In the clinical training setting, it is important to expose the graduate

diagnosticians to a variety of achievement batteries. The clinicians doing the assessments in the present study used at least four different instruments, each with their own normative data. The problem in comparing scores was compounded when some standard scores were presented using age norms and others were reported using grade level as the standard. But because achievement scores did not form an integral part of the thesis, these difficulties did not appear to affect the results.

But it should be noted that finding and using comparative achievement information is an ongoing problem in educational research, and a repeating child presents a dilemma for the reporter of test results. Because the repeater is no longer with his or her age-mates, should age or grade norms be used? Another difficulty arises when the inter-test normative data of achievement batteries are examined. For example, in the present study group, the scores on the four areas covered by the PIAT (Math, Word Recognition, Reading Comprehension, and Spelling) ranged from the 38th percentile to the 51st percentile. The children who were given the Canada QUIET fell between the 21st and 30th percentiles in the four areas. Because of the sizes of the two groups ($n = 29$ and 65), it is unlikely that these discrepancies can be attributed to chance. Future researchers investigating student achievement would find the comparison and interpretation of results simplified if the clients were assessed using a common instrument.

Discussion of the PASS

In general, the results of the present study reinforce the findings of previous research (e.g., Chapman, 1988; Janzen, Boersma, Fisk, & Chapman, 1983) relating to the effectiveness of the PASS as an aid in distinguishing children whose school achievement is below average from those children within the average range. Children with learning

difficulties, whether they had been continuously promoted or had retained, generally saw themselves as having more problems with school-related tasks than did children from the regular school population.

Rather consistent differences were seen between the children in the clinical samples and the children in the PASS standardization group. However, when grade-retained and continuously promoted samples of children drawn from the clinical group were compared on the various individual subtests of the PASS, no significant differences were encountered. In many cases, the means of the comparison groups were rather far apart but these differences were not statistically significant. This lack of significance can be attributed to the wide variance among scores in both the retained and promoted groups. The variance appears to be related to the wide range of possible feelings toward school as shown on the PASS. Children referred to the Clinic come from a variety of situations. Some come from educational environments in which they are given the opportunity to experience success on their own terms without the attached feelings that they are not doing as well as their classmates. The school atmosphere for others may have involved competitions in which the child came out as the loser, either explicitly or inferred. This variation in client backgrounds made it difficult to tease out subtle differences such as those between grade-retained and non-retained students. However, the purpose of the PASS is to assess the child's academic self-perception at an individual level. The present results confirm the nature of the instrument, and show that the PASS is sensitive to the wide range of self-perceptions experienced by children. The PASS does show that children with difficulties in school, whether or not they have been retained, have lower academic self-perceptions than those who have experienced success in their school careers.

It was seen that school satisfaction was the one area in which the children in the study group, across samples, rated themselves more positively or as positively as their PASS norm group counterparts. As noted earlier, the younger, recently retained children were significantly more satisfied with school than the children in the standardization group. As well, there were no significant differences in school satisfaction between the clinical samples and the PASS group in the overall study or the gender study. On the opposite side of the coin, the various groups, retained and promoted, in general rated themselves low in reading and spelling when compared to the PASS standardization group. The PASS, therefore, appears to be sensitive enough to isolate subscale differences reported by the clinical referees. The children themselves were able to articulate the source of their difficulties and the reason that they were referred to the Clinic, while at the same time expressing their satisfaction with school in general. Perhaps it can be assumed, then, that the schools from which the children were referred, were providing a supportive atmosphere for these children who recognized their own academic problems.

In some cases the children in the clinical group responded in such a way as to raise concern about the validity of their answers. Each of the items of the PASS require a forced choice "Yes" or "No" response. A significantly large number of students in the study gave more "Yes" responses than would normally be expected (12.57% in the clinical group versus only 2.05% in the PASS standardization group). More children than would be expected showed inconsistency in their responses to pairs of items such as "I have neat printing" and "I have problems printing neatly" (8.90% of the children in the study group compared to 0.72% in the PASS standardization group). An unpublished study by Chapman (1991) comparing the PASS Validity Scale responses of learning disabled and non-learning disabled New Zealand students found no significant differences. The number of students scoring outside the error bands of PASS Validity

Scales was not provided in the study by Chapman, who compared the mean number of Validity Scale responses for the two groups. Overall, the number of students in the clinical group who gave questionable answers was a rather high 38 students, representing 19.90% of the total study group. This large number appears to be an indication that children with learning difficulties have a tendency to respond in such a way as to show themselves in the best light possible, perhaps as a defense or coping mechanism.

Summary of Conclusions

1. The results of the study indicated that there were no significant differences in academic self-perception between promoted and non-promoted children. Therefore, factors based on clear research findings such as the long-term impact of retention upon achievement should be considered initially when making promotion/non-promotion decisions.
2. The study results reinforced earlier research findings which showed that the PASS is effective in its ability to distinguish between the academic self-perception of children who are experiencing learning difficulties and children in the normal school population.
3. The children in the study groups, whether they had been continuously promoted or had been retained during their school careers, viewed themselves as being satisfied with school. It can be concluded that the schools are providing a supportive environment for children experiencing learning problems.

Implications for Educational Practice

The general finding of the investigation was that both the promoted and non-promoted children viewed themselves as having problems in school-based competencies. And the fact that these children were also seen to be experiencing learning difficulties by adults in their lives, reinforced the reality of their perceptions. How, then, should these difficulties be handled in the educational setting? What steps can be taken to ameliorate the problems? In grade-retention studies that showed positive effects (e.g., Dolan, 1982), the children were not simply "recycled" through a second year of the same program. Children considered to be candidates for retention were identified early and special help was given. Parents were involved in the decision-making process. A comprehensive educational plan was developed and implemented in classes with a low teacher-pupil ratios.

It can be argued that a carefully planned program negates the need for retention in the first place. Leinhardt (1980) compared the progress of retained children with extra help and promoted children with extra help. It was found that the promoted children made better progress. Also, the rather strong evidence that over the long term, initial positive effects of grade retention are diminished, (e.g., Alberta Education, 1991a; Alberta Education, 1991b), appears to support the case for promotion with a remedial program in place for the child experiencing difficulties.

Can the results of this investigation aid in the making of decisions regarding the promotion of pupils? Because no significant differences were found between the promoted and non-promoted children in the study, perhaps factors other than academic self-perception should first be explored. For instance, past research evidence suggests that long-term academic gains should not be expected as a result of grade retention, and that

the use of non-promotion as a means to improve achievement has not proved to be effective. Also decisions based upon a projected remediation plan might be part of promotional decision-making. Making initial decisions based upon projected academic achievement and the viability of an educational plan does not take away from the importance of the child's academic self-concept. Research has shown that children who hold a positive self-perception tend to try harder and work longer at difficult tasks (Dweck, 1986) and this factor should be an important consideration as the educational plan is put into effect.

The descriptive information compiled in the thesis study has a number of possible applications in the educational setting. At the university level, the data could be used to assist in the instruction of student-clinicians by providing them with an overview of typical referrals seen in the clinical setting. Directors of clinics might utilize the present data to aid in the assignment of clinician caseloads and in decision-making regarding the purchase of assessment materials. There are a number of possible school-related uses of the descriptive information. For example, psychologists and administrators in school jurisdictions may find the descriptive data useful when decisions are being made regarding the placement of students in special programs or when specialized referrals are considered. It is also hoped that the descriptive data will be of benefit to classroom teachers, contributing to the skills used in the identification of children experiencing academic difficulties.

Implications for Further Research

It would seem important that future research answer the following question: Are the results of the clinical study (or clinical studies in general) applicable to the schools? For example, a comparison of the academic self-concept of grade-retained children

sampled from clinical referrals and non-promoted children from the general school population, could test the assumption that children referred to the clinical setting are experiencing more academic difficulties than are the retained children not referred. A study of this nature might help provide a reference point in the interpretation of the clinical study, and provide a test for the appropriateness of studying a clinical population. It was found, for instance, that 85% of the referrals in the present investigation were initiated by parents and only 11% by the school. Was parental concern a factor in the results of the study? A study comparing clinically-referred and school-based non-promoted children would help clarify the role of the parent in the development of a child's academic self-concept.

Since this study did not strongly implicate the role of non-promotion in the low academic self-perception of children experiencing learning difficulties, the future investigation of other influences such as the role of peers, teachers, and types of programs would appear to be warranted. Advanced statistical procedures such as LISREL might be utilized to help account for other factors which lead to the lowering of academic self-esteem.

A finding of this study was that on two of the four PASS validity measures, a significantly high proportion of children in the clinical group fell outside the error bands of the instrument. An investigation of a group similar to that of the thesis group by Chapman (1991), failed to find differences between LD children and a control sample drawn from the general school population. Rather than comparing the proportions of children scoring outside the error bands, however, Chapman compared the mean number of responses of questionable validity for each PASS Validity Index. Perhaps further research can help clarify the differences found between the study by Chapman and this investigation.

Concluding Comments

As the end of the school year approaches, teachers, principals, and parents must make decisions about the futures of the children in their care. The author recently completed a psycho-educational assessment of a bright Grade One child who, at the half-way point of the school year, had not untangled the reading puzzle. Reading simply did not make sense to her and she did not understand what the big fuss was about. She had her friends in the classroom and on the playground and everything was fine in her world. When examined at an intuitive level, it appeared that this child would benefit by repeating Grade One. School tasks were not important to her and she seemed to need another year to "grow up." But research studies indicated that, over the long term, asking this child to repeat Grade One would probably be of little benefit, and indeed, there loomed a possibility that harm might be done. The evidence from the present study shows that if this student continues to have difficulty in school she is likely to view her academic ability more negatively than her classmates, whether or not she has been continuously promoted or she has been retained in a grade.

REFERENCES

- Alberta Department of Education. (1991a). *Grade Six Mathematics Achievement Tests: School Report, June, 1991*. Edmonton: Alberta Department of Education.
- Alberta Department of Education. (1991b). *Grade Three Science Achievement Tests: School Report, June, 1991*. Edmonton: Alberta Department of Education.
- Alberta Teachers' Association. (1993). *Trying to teach*. Edmonton: Alberta Teachers' Association.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37, 122-147.
- Boersma, F. J., & Chapman, J. W. (1992). *Manual for the Perception of Ability Scale for Students*. Los Angeles: Western Psychological Services.
- Byrnes, D. A., & Yamamoto, K. (1985). An inside look at academic retention in the elementary school. *Education*, 106(2), 208-214.
- Byrnes, D. A., & Yamamoto, K. (1986). Views on grade repetition. *Journal of Research and Development in Education*, 20(1), 14-20.
- Chapman, J. W. (1988). Learning disabled children's self-concepts. *Review of Educational Research*, 58, 347-371.
- Chapman, J. W. (1991). *Perception of Ability Scale for Students: Performance of students with learning disabilities on validity indexes..* Unpublished Manuscript, Massey University, Palmerston North, New Zealand.
- Chapman, J. W., & Boersma, F. J. (1991) *Perception of Ability Scale for Students: Performance of students with learning disabilities*. Unpublished Manuscript, University of Alberta, Edmonton.
- Coleman, M. C. (1992). *Behavior disorders: Theory and practice*. Boston: Allyn and Bacon.

- Cook, W. W. (1941). *Grouping and promotion in the elementary school*. Minneapolis: University of Minnesota Press.
- Dolan, L. (1982). A follow-up evaluation of a transition class program for children with school and learning readiness problems. *The Exceptional Child*, 29, (2), 101-110.
- Dunn, L. M., & Markwardt, F. C., Jr. (1970). *Peabody Individual Achievement Test*. Circle Pines, MN: American Guidance Service.
- Dweck, C.S. (1986). Motivational processes affecting learning. *American Psychologist*, 41, 1040-1048
- Ellwein, M. C., & Glass, G. V. (1989). Ending social promotion in Waterford. In L. A. Shepard & M. L. Smith (Eds.), *Flunking grades: Research and policies on retention*. London: Falmer Press.
- Fitts, W. H. (1965). *Tennessee Self-Concept Scale*. Nashville, TN: Counselor Recordings and Tests.
- Foster, A. (1985) *The effects of grade repetition at the Junior High School level*. Unpublished master's thesis, University of Alberta, Edmonton.
- Glass, G. V. (1977). Integrating findings: The meta-analysis of research. In L. S. Shulman (Eds.), *Review of research in education* (pp. 351-379). Itasca, IL: Peacock.
- Gredler, G. R. (1984). Transition classes: A viable alternative for the at-risk child? *Psychology in the Schools*, 21, 463-470.
- Holmes, C. T. (1983). The fourth R: Retention. *Journal of Research and Development in Education*, 17, 1-6.
- Holmes, C. T. (1984). Estimating effect size in meta-analysis. *Journal of Experimental Education*, 52, 106-109.

- Holmes, C. T. (1989). Grade level retention effects: A meta-analysis of research results. In L. A. Shepard & M. L. Smith (Eds.), *Flunking grades: research and policies on retention* (pp. 16-33). London: Falmer Press.
- Holmes, C. T., & Matthews, K. M. (1984). The effects of non-promotion on elementary and junior high school pupils: A Meta-analysis. *Review of Educational Research*, 54, 225-236.
- Janzen, H. L., Boersma, F. J., Fisk, R., & Chapman, J. W. (1983). Diagnosis and predictability of learning disabilities. *School Psychology International*, 4, 129-140.
- Jastak, S., & Wilkinson, G. S. (1984). *Wide Range Achievement Test-Revised*. Wilmington, DE: Jastak Associates.
- Leinhardt, G. (1980). Transition problems: Promoting maturation or reducing education? *Journal of Educational Psychology*, 72(1), 55-61.
- Lieberman, L. M. (1980). A decision-making model for in-grade retention (non-promotion). *Journal of Learning Disabilities*, 13(5), 268-272.
- Light, R. J., & Smith, P. V. (1971). Accumulating evidence: Procedures for resolving contradictions among studies. *Harvard Educational Review*, 41, 429-471.
- Lynch, S. (1991). *Flunking the grade: Summary of research findings*. Curriculum Branch, Alberta Education, Edmonton, Alberta.
- Manley, J. A. (1989). A study of primary teachers' attitudes toward grade retention. *Dissertation Abstracts International*, 4911A, 3310.
- Nason, R. B. (1991). Retaining children: Is it the right decision? *Childhood Education*, 67(5), 300-303.
- Overman, M. (1986). Student promotion and retention. *Phi Delta Kappan*, 67(8), 107-118.

- Peterson, S. E., DeGracie, J. S., & Ayabe, C. R. (1987). A longitudinal study of the effects of retention/promotion on academic achievement. *American Educational Research Journal*, 24(1), 107-118.
- Piers, E. V. (1984). *Piers-Harris children's self-concept scale: Revised manual*. Los Angeles: Western Psychological Services.
- Pierson, L. H. (1989). A study of the effects of grade retention on self-esteem, academic performance, and behavioral adjustment. *Dissertation Abstracts International*, 50(5005A), 1213.
- Plummer, D. L., & Graziano, W. G. (1987). Impact of grade retention on the social development of elementary school children. *Developmental Psychology*, 23(2), 267-275.
- Pomplun, M. (1988). Retention: The earlier, the better? *Journal of Educational Research*, 81(5), 281-287.
- Raygor, B. (1972). *A five-year follow-up study comparing the school achievement and school adjustment of children retained in kindergarten and children placed in a transition class*. Unpublished doctoral dissertation. University of Minnesota.
- Red Deer (Alberta) Public School District. (1992). *Study of Retention*. Red Deer: Red Deer Public School District.
- Reinherz, H., & Griffin, C. L. (1970). The second time around: The achievement and progress of boys who repeated one of the first three grades. *The School Counselor*, 17, 213-218.
- Rose, J. S., Medway, F. J., Cantrell, V. L., & Marus, S. H. (1983). A fresh look at the retention-promotion controversy. *Journal of School Psychology*, 21, 201-211.
- Shepard, L. A. (1989). A review of research on kindergarten retention. In L. A. Shepard & M. L. Smith (Eds.), *Flunking Grades: Research and Policies on Retention*. London: Falmer Press.

- Shepard, L. A., & Smith, L. M. (Ed.). (1989). *Flunking grades: Research and policies on retention*. London: Falmer Press.
- Shepard, L. A., & Smith, M. L. (1987). Effects of kindergarten retention at the end of first grade. *Psychology in the Schools*, 24(4), 346-357.
- Shepard, L. A., & Smith, M. L. (1989). Academic and emotional effects of kindergarten retention in one school district. In L. A. Shepard & M. L. Smith (Eds.), *Flunking Grades: Research and Policies on Retention*. London: Falmer Press.
- Smith, M. L., & Shepard, L. A. (1987). What doesn't work: Explaining policies of retention in the early grades. *Phi Delta Kappan*, 69(2), 129-134.
- Stirler-Yoshida, S. A. (1989). A meta-analysis of the effects of grade retention on the achievement of elementary school children. *Dissertation Abstracts International*, 50.
- Wechsler, D. (1974). *Wechsler Intelligence Scale for Children - Revised*. New York: The Psychological Corporation.
- Thorndike, R., Hagen, R., & Sattler, J. (1986). *Stanford-Binet Intelligence Scale: Fourth Edition*, Chicago: Riverside Publishing.
- White, K., & Howard, J. L. (1973). Failure to be promoted and self-concept among elementary school children. *Elementary School Guidance & Counseling*, 7(3), 182-187.
- Woodcock, R. W. (1977). *Woodcock-Johnson Psycho-Educational Battery*. Allen, TX: DLM Teaching Resources.
- Wormeli, C. P., & Carter, D. E. (1990). *Canadian Quick Individual Education Test*. Surrey, BC: Canadian Edumetrics.
- Worth, W. H. (1959). Promotion vs. non-promotion: II The Edmonton study. *Alberta Journal of Educational Research*, 5(3), 191-203.

Yamamoto, K. (1980). Children under stress: the causes and cures. *Family Weekly, Ogden Examiner*, 6-9.

Ziegler, S. (1992). Repeating a grade in elementary school: What does the research say? *The Canadian School Executive, January*, 26-31.

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Appendix A: Descriptive Data

Table A-1: Family Structure

<i>FAMILY STRUCTURE (N = 245)</i>	<i>NUMBER</i>	<i>PERCENT</i>
<i>Traditional</i>	180	73.47
<i>Blended</i>	24	9.80
<i>Divorced</i>	14	5.71
<i>Single Parent</i>	12	4.90
<i>Widowed</i>	4	1.63
<i>Other</i>	11	4.49

*Table A-2: PASS Norm Groups: Raw Scores
Means and Standard Deviations*

<i>NORM GROUP</i>	<i>FULL SCALE</i>	<i>GENERAL ABILITY</i>	<i>ARITH- METIC</i>	<i>READING SPELLING</i>	<i>PENMAN -SHIP</i>	<i>SCHOOL SATISFACTION</i>	<i>CONFID -ENCE</i>
<i>Total N = 803</i>	46.49 12.59	8.02 3.12	9.39 2.80	9.10 3.13	8.08 2.99	7.26 2.87	4.64 2.26
<i>Boys n = 432</i>	44.87 12.95	7.91 3.18	9.27 2.89	8.72 3.23	7.56 3.05	6.81 2.98	4.59 2.29
<i>Girls n = 399</i>	48.25 .96	8.14 3.05	9.52 2.69	9.52 2.96	8.65 2.82	7.73 2.67	4.69 2.23

NOTE: Boldface type values denote *means*. Lightface type values denote *standard deviations*.

Appendix B: Research Question #1, Overall Differences

*Table B-1: PASS Overall Comparisons—Full Scale Raw Scores
One-Way ANOVA Data—Retained versus Non-Retained Students*

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Factor</i>	1	122	122
<i>Error</i>	136	20751	153
<i>Total</i>	137	20873	

$$F(1,136) = 0.80$$

$$p = 0.37$$

PASS Overall Comparisons - Subscale Raw Scores
One-Way ANOVA Data - Retained versus Non-Retained Students

PASS General Ability

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Factor</i>	1	8.88	8.88
<i>Error</i>	136	1345.51	9.89
<i>Total</i>	137	1354.38	

$F(1,136) = 0.90$
 $p = 0.35$

PASS Arithmetic

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Factor</i>	1	12.78	12.78
<i>Error</i>	136	1256.32	9.24
<i>Total</i>	137	1269.10	

$F(1,136) = 1.38$
 $p = 0.24$

PASS Reading / Spelling

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Factor</i>	1	26.1	26.1
<i>Error</i>	136	1825.8	13.4
<i>Total</i>	137	1851.9	

$F(1,136) = 1.94$
 $p = 0.17$

PASS Penmanship

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Factor</i>	1	16.0	16.0
<i>Error</i>	136	1405.6	10.3
<i>Total</i>	137	1421.6	

$F(1,136) = 1.55$
 $p = 0.22$

PASS School Satisfaction

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Factor</i>	1	0.01	0.01
<i>Error</i>	136	1201.45	8.83
<i>Total</i>	137	1201.46	

$F(1,136) = 0.00$
 $p = 0.98$

PASS Confidence

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Factor</i>	1	0.03	0.03
<i>Error</i>	136	534.38	3.91
<i>Total</i>	137	534.41	

$F(1,136) = 0.01$
 $p = 0.93$

Appendix C: Research Question #2, Age Differences

*Table C-1: PASS Age Comparisons—Full Scale Raw Scores
One-Way ANOVA Data—Retained versus Non-Retained Students*

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Age</i>	1	11	11
<i>Retention/Promotion</i>	1	112	112
<i>Interaction(Age*R/P)</i>	1	18	18
<i>Error</i>	36	8025	223
<i>Total</i>	39	8167	

$$F(\text{Age}) = 0.05$$

$$F(\text{RetProm}) = 0.50$$

$$F(\text{A*B}) = 0.08$$

Table C-2: PASS Age Comparisons - Subscale Raw Scores
Two-Factor ANOVA Data

PASS General Ability

SOURCE	DF	SS	MS
Age	1	0.2	0.2
Retention/Promotion	1	15.6	15.6
Interaction(Age*R/P)	1	30.6	30.6
Error	36	445.9	12.4
Total	39	492.4	

$$F(\text{Age}) = 0.02$$

$$F(\text{RetProm}) = 1.26$$

$$F(\text{A*B}) = 2.47$$

PASS Arithmetic

SOURCE	DF	SS	MS
Age	1	11.02	11.02
Retention/Promotion	1	0.22	0.22
Interaction(Age*R/P)	1	2.03	2.03
Error	36	329.5	9.15
Total	39	342.77	

$$F(\text{Age}) = 1.20$$

$$F(\text{RetProm}) = 0.02$$

$$F(\text{A*B}) = 0.22$$

PASS Reading / Spelling

SOURCE	DF	SS	MS
Age	1	14.4	14.4
Retention/Promotion	1	3.6	3.6
Interaction(Age*R/P)	1	0.1	0.1
Error	36	641	17.8
Total	39	659.1	

$$F(\text{Age}) = 0.81$$

$$F(\text{RetProm}) = 0.20$$

$$F(\text{A*B}) = 0.01$$

PASS Penmanship

SOURCE	DF	SS	MS
Age	1	0.4	0.4
Retention/Promotion	1	16.9	16.9
Interaction(Age*R/P)	1	1.5	1.6
Error	56	383	10.6
Total	59	401.9	

$$F(\text{Age}) = 0.04$$

$$F(\text{RetProm}) = 1.59$$

$$F(\text{A*B}) = 0.15$$

PASS School Satisfaction

SOURCE	DF	SS	MS
Age	1	13.23	13.23
Retention/Promotion	1	0.03	0.03
Interaction(Age*R/P)	1	15.63	15.63
Error	36	237.1	6.59
Total	39	265.98	

$$F(\text{Age}) = 2.01$$

$$F(\text{RetProm}) = 0.00$$

$$F(\text{A*B}) = 2.37$$

PASS Confidence

SOURCE	DF	SS	MS
Age	1	14.4	14.4
Retention/Promotion	1	1.6	1.6
Interaction(Age*R/P)	1	8.1	8.1
Error	36	251.8	6.99
Total	39	275.9	

$$F(\text{Age}) = 2.06$$

$$F(\text{RetProm}) = 0.23$$

$$F(\text{A*B}) = 1.16$$

Appendix D: Research Question #3, Gender Differences*Table D-1: PASS Gender Comparisons—Full Scale Raw Scores
Two-Factor ANOVA Data*

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Gender</i>	1	12	12
<i>Retention/Promotion</i>	1	43	43
<i>Interaction(Gend*R/T)</i>	1	66	66
<i>Error</i>	56	7961	142
<i>Total</i>	59	8083	

F(Gender) = 0.08

F(RetProm) = 0.30

F(A*B) = 0.46

*Table D-2: PASS Gender Comparisons - Subscale Raw Scores
Two-Factor ANOVA Data*

PASS General Ability

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Gender</i>	1	0.3	0.3
<i>Retention/Promotion</i>	1	9.6	9.6
<i>Interaction(Gend*R/T)</i>	1	0.6	0.6
<i>Error</i>	56	605.5	10.8
<i>Total</i>	59	615.9	

$$F(\text{Gender}) = 0.03$$

$$F(\text{RetProm}) = 0.89$$

$$F(A*B) = 0.06$$

PASS Arithmetic

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Gender</i>	1	8.82	8.82
<i>Retention/Promotion</i>	1	10.42	10.42
<i>Interaction(Gend*R/T)</i>	1	2.82	2.82
<i>Error</i>	56	540.53	9.65
<i>Total</i>	59	562.53	

$$F(\text{Gender}) = 0.91$$

$$F(\text{RetProm}) = 1.08$$

$$F(A*B) = 0.29$$

PASS Reading / Spelling

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Gender</i>	1	0.2	0.2
<i>Retention/Promotion</i>	1	2.8	2.8
<i>Interaction(Gend*R/T)</i>	1	18.1	18.1
<i>Error</i>	56	695.5	12.4
<i>Total</i>	59	716.6	

$$F(\text{Gender}) = 0.02$$

$$F(\text{RetProm}) = 0.23$$

$$F(A*B) = 1.46$$

PASS Penmanship

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Gender</i>	1	35.3	35.3
<i>Retention/Promotion</i>	1	0.3	0.3
<i>Interaction(Gend*R/T)</i>	1	4.3	4.3
<i>Error</i>	56	628.9	11.2
<i>Total</i>	59	668.7	

$$F(\text{Gender}) = 3.15$$

$$F(\text{RetProm}) = 0.03$$

$$F(A*B) = 0.38$$

PASS School Satisfaction

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Gender</i>	1	14	14
<i>Retention/Promotion</i>	1	0.8	0.8
<i>Interaction(Gend*R/T)</i>	1	10.4	10.4
<i>Error</i>	56	571.7	10.2
<i>Total</i>	59	597	

$$F(\text{Gender}) = 1.37$$

$$F(\text{RetProm}) = 0.08$$

$$F(A*B) = 1.02$$

PASS Confidence

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Gender</i>	1	0.6	0.6
<i>Retention/Promotion</i>	1	2.4	2.4
<i>Interaction(Gend*R/T)</i>	1	6.67	6.67
<i>Error</i>	56	169.07	3.02
<i>Total</i>	59	178.73	

$$F(\text{Gender}) = 0.20$$

$$F(\text{RetProm}) = 0.79$$

$$F(A*B) = 1.02$$

Appendix E: Some Relationships Between Personality Type And Academic Self-Perception

Of the 245 children administered the PASS in the thesis group, 231¹ were also given the *Murphy-Meisgeier Type Indicator for Children* (MMTIC) (Meisgeier & Murphy, 1987). These children formed the study group which was used to examine three questions related to the MMTIC. First, this appendix study examined Meisgeier and Murphy's concepts of Clear versus Undifferentiated type preferences, paying particular attention to, and testing the authors' hypothesis that the consolidation of clear type preference is a function of development. Second, the relationship between Clear versus Undifferentiated type preferences, and grade promotion/non-promotion was examined using a series of two-way ANOVAs for comparison purposes. The research question for the second segment, then was this: What is the academic self-concept of the child as it relates to the establishment of type and the effects of grade retention or continuous promotion. Lastly, as a sidebar to the retention/ promotion issues studied in the thesis, a comparison was made of the self-perception of academic ability among children of different personality types. This final inquiry was based upon the following question: Are there differences in the self-perception of academic ability among children of different personality types in the clinical samples?

The MMTIC (Meisgeier & Murphy, 1987) is a self-report instrument used to help establish the type preference of children, based upon the model of the *Myers-Briggs Type Indicator* (MBTI) (Myers & McCaulley, 1985). The MMTIC is made up of 70 items, each of which is formatted so that the subject must choose one of two answers.

¹ Only one of the children given the MMTIC was six years old. For grouping purposes and because the MMTIC was standardized using children in Grades Two to Eight, this subject was dropped from the study, leaving a total of $N = 230$.

For example, an item from the Introvert-Extrovert Preference Scale is, "You like to have: a) Lots of friends, b) A few close friends." The authors of the MMTIC have attempted to show the relevance of the MMTIC in educational situations. The Applications chapter of the manual provides teachers with methods for applying type theory in the classroom by giving teachers strategies to use with children of the various types.

Isabel Briggs Myers, the major author of the MBTI, fashioned the instrument by expanding the type theory of C. G. Jung. Jung (1971) suggested that differences in behavior were the result of preferences related to the way our personalities function to meet the demands of daily living. Myers expanded Jung's original typology to include four pairs of preference alternatives:

Extroverted versus Introverted

Sensing versus Intuitive

Thinking versus Feeling

Judging versus Perceiving

The 16 type categories that arise from these dichotomies form the basis of Myers' type theory. While it is stressed that the alternatives are not "written in stone" but are preferences, subjects are placed in categories according to type.

Unlike the MBTI, however, type preference in the MMTIC is not totally categorical. If a child's score is less than one standard deviation on either side of the scale's midpoint, it is considered to be within the U-band range and the child's type preference is said to be *undetermined*. Because the study of psychological type was not a major focus of the thesis, a detailed discussion of type theory or a description of the 16 psychological types will not be included. The reader is pointed to *Gifts Differing, 10th Anniversary Edition* by Isabel Briggs Myers (1990) and the MBTI Manual (Myers &

McCaulley, 1985). However, to provide a backdrop for the assumption by Murphy and Meisgeier that type preference is a function of the child's development, a very brief examination of the developmental views of Jung and Myers follows.

While not discounting environmental influences, Jung (1971) observed that children often are disposed to exhibiting a typical attitude very early in life. He noted that two young children in the same family may manifest contradictory or different attitudes. Ultimately, Jung asserted, "it must be the individual disposition which decides whether the child will belong to this or that type despite the constancy of external conditions" (Jung, 1971, p. 332). When the individual disposition of the child is violated, by the influence of a domineering parent, for example, the person is likely to become neurotic at a later point. Jung concluded that attempts to reverse the dispositional order usually are harmful to the individual.

Following Jung's theory, Isabel Briggs Myers (1990) hypothesized that type preference is innate and is in-born like left- and right-handedness. Myers suggested that preference can manifest itself at a very young age. For example, the "young thinker [as opposed to feeling type], even at two years old, will do things for reasons but sees no point in doing them for love" (Myers, 1990, p. 169). But at the same time, Myers states that the four processes are used almost at random by young children—until they learn how to differentiate. It is this latter view that Meisgeier and Murphy (1987) develop in the MMTIC. This assumption is tested in the first study of this appendix.

METHOD

In this section of the appendix, the procedures used in each of the three studies will be discussed. The statistical formats of the studies in this paper were similar to those of the main body of the thesis. For example, the comparison groups in Study Question #2 were composed of repeaters and non-repeaters. ANOVAs and *t* statistics were used in the statistical analyses.

MMTIC Study Question #1: Clear and Undetermined Type

One of the assumptions upon which the MMTIC is based, is that the child's dominant function is still developing throughout the early years of the child's schooling. The authors of the MMTIC attempted to account for this lack of dominant function differentiation by using the Undetermined category which is stated in terms of the U-Band; the child whose choice of preference has not been clearly determined is said to score in the U-band. Of the 1506 respondents in the MMTIC standardization group, 578 (38.38%) children showed clear type with no scores falling in the U-band on each of the four scales (EI, SN, TF, JP). The proportion of subjects in the clinical study exhibiting clear type, was compared with that of the MMTIC norm group.

The hypothesis that the child's type preference develops over time as part of overall growth, was tested using the children in the present clinical group. The children in the study were first grouped by age. Then a series of *chi*-square calculations were performed to compare the clear type versus undetermined type proportions of the various age groups with the proportion of the total study group (Clear = 108 versus Undetermined = 122).

A second test of the hypothesis that clear type preference is a function of development was set up. A sample of 20 children was randomly selected from subjects in the youngest quartile. Then a matched sample was selected from children in the oldest quartile. The mean age of the total number of subjects in the younger quartile was 7.92 and the mean age of the group in fourth quartile was 12.52. The subjects in the two age groups were matched according to the following criteria: a) referral to the Clinic for learning difficulties and b) equal gender proportions. The decision was made to use a sample of 20 from each of the first and fourth quartiles rather than all the subjects in each of the quartiles, because of the advantages afforded by matching. The gifted students and those referred only for behavioral or emotional difficulties were eliminated, creating more homogeneous groups for comparison purposes. The null hypothesis, then, stated that there would be no significant difference between the proportions of clear types and undetermined types among the two groups.

The selection process captured fifteen males and five females in each sample. In the younger sample, eight children showed clear type while the types of twelve of the subjects fell within the U-band. The older group revealed seven students with clear type and thirteen whose type was still not totally determined. A *chi-square* goodness of fit test was run, using the younger group's C/U ratio as the expected frequency² and the older group's numbers as the observed frequency.

MMTIC Study Question #2: Retained Versus Promoted Children

This phase of the MMTIC study returned to the major question of the thesis: Are there differences in the academic self-perception of those children referred to the Clinic who have repeated a school grade and those who have not repeated? The differences in

² Murphy and Meisgeier suggest that type becomes determined over the course of development. Therefore the younger group was chosen to offer the expected frequency. It should have fewer clear types than undetermined types. The exercise had a given conclusion, considering the fact that the older group had even fewer clear types (7 out of 20 versus 3 out of 20 for the younger group)

academic self-concept were examined in relation to whether or not clear type had been established in the child. The PASS results of a sample of children with clear type were compared with those of a sample in which at least two of the four scales fell into the U-band.

A series of two-way ANOVAs using four study groups provided the statistical basis for a comparison of differences in academic self-concept between retained and non-retained children of clear type preference and those of undetermined preference. The initial sample was a group of 15 students who had been asked to repeat a grade at least once in their school careers. Each of the children had failed to establish a clear type preference on at least two of the four MMTIC scales. Next a matched group of continuously promoted children with at least two scores in the U-band of the MMTIC was chosen. The final two samples were composed of children of clear type on the MMTIC. One sample of 15 had previously been retained and the other group of clear type had been promoted after each grade completed. Matching was based upon proportional numbers of males and females, and LD referrals. As in the main body of the thesis, the PASS means of the sample groups were next compared to the Full Scale and Subscale means of the PASS norm group using the *t* statistic.

MMTIC Study Question #3: INEPs Versus STs

As will be discussed in the Results section of Study Question #1, a significantly high proportion of the 230 children given the MMTIC exhibited a clear type preference when compared to the standardization group (Clear = 108 versus Undetermined = 122), $X^2(1, N = 230) = 6.88, p < .01$. This group of 108 children formed the basis of the final component of the MMTIC study. The children were categorized as to type, and the results were placed into a type table. *Chi-square* calculations were employed with the results presented in Table E-10 at the end of this appendix. The study group showed

significantly different proportions from the MMTIC standardization group in three of the 16 type categories. The INFP typology had the greatest proportional over-representation in the clinical group when compared to the MMTIC norm group (21.30% versus 8.5%, $p < .001$). Also generating a larger proportion on the study group type table when it was compared to the MMTIC population, was the ISFP category (8.33% versus 3.5%, $p < .05$). The ESFJ group in the thesis study had a significantly smaller proportion than its MMTIC norm group counterpart (7.41% versus 16.3%, $p < .05$).

When only the students referred for learning difficulties ($n = 86$) were compared to the MMTIC standardization group, the same three types (INFP, ISFJ, ESFJ) reached proportions which led to levels of significance (see Table E-11 at the end of the paper for results of the LD analysis). The proportion of INFP children increased in this analysis dealing only with children referred for learning difficulties (up to 24.42% from 21.30% when $n = 108$). Since about 80% of the children in the clear group were referred as LD, it appears that there may be a relationship between the INFP typology and difficulties in school-related tasks.

To examine the relationship between the INFP typology and perceived problems in school-related tasks, an attempt was made to set up a study using the PASS Raw Scores of a sample of clear INFP children with subjects of the typology expressing the greatest polar differences possible. The natural choice for the subjects of this contrasting group would be ESTJ children. The type table for the thesis MMTIC group, however, yielded only seven ESTJ subjects. The decision was therefore made to increase the sample size by using as a study group the twelve children registered as ST and who had stated clear type preference. The academic self-perception of these ST were compared with a group of INFP subjects, matched for age, gender, and proportion of students who had been held back in a grade during their schooling. Of the 12 children in the ST

sample, only one had repeated a grade. Because of this low number, it was not feasible to compare repeaters and non-repeaters in this segment of the thesis. Table E-1 provides a description of the two groups in this part of the study. First, a series of one-way ANOVAs compared the PASS Full Scale and Subscale scores of the two groups. Then, continuing the statistical format of the thesis, the PASS means of the two samples were compared to the means of the PASS standardization groups using the appropriate *t* statistic.

Table E-1: INFPs Versus STs : Descriptive Data

<i>SAMPLE GROUPS</i>	<i>n</i>	<i>MEAN AGE</i>	<i>TYPE BREAKDOWN</i>	<i>GENDER</i>
INFPs	12	9.81	INFP's - 12	M=7, F=5
STs	12	9.85	ESTJs - 7 ISTPs - 3 ISTJs - 1 ESTPs - 1	M=7, F=5

RESULTS

The results of the three studies are presented below. These are followed by a brief discussion of the findings of the comparisons.

MMTIC Study Question #1: Clear and Undetermined Type

When compared to the MMTIC standardization group, the present clinical group had a significantly larger proportion of subjects who manifested clear type (46.96%) on the four scales of the MMTIC (Clear = 108 versus Undetermined = 122), $X^2 (1, N = 230) = 6.88, p < .01$. Of the 108 children demonstrating clear type, 86 (80%) had been referred to the Clinic for learning problems.

One of the suppositions held by the authors of the MMTIC is that the child's type preference develops over time as part of overall growth. Therefore it should follow that as the child matures, there will be less likelihood that his or her test scores will fall within the U-band. This hypothesis was tested using the children in the present clinical group. The results are presented in Table E-2. In the present study, the only age group in which subjects showed a significantly high clear type preference was the ten year-old group (Clear = 29 versus Undetermined = 18), $X^2 (1, n = 47) = 4.10, p < .05$. As Table E-2 shows, all the groups, both younger and older than the ten year-old group had smaller proportions of clear type preference in relation to undetermined preference.

In the second test of the hypothesis that type preference develops over time, a sample of 20 children was randomly selected from subjects in the youngest quartile. Then a matched sample was selected from children in the oldest quartile. The resulting comparisons revealed no significant differences between the proportions of clear and undetermined types in each group.

Table E 2: MMTIC Age Samples:
Clear Versus Undetermined Type Preference

AGE GROUPS ^a	n	CLEAR TYPE	UNDETERMINED	% CLEAR TYPE	% UNDETERMINED	χ^2 ^b
7 Yr-Olds	23	13	10	56.52	43.48	0.84
8 Yr-Olds	47	23	24	48.94	51.06	0.07
9 Yr-Olds	47	18	29	38.30	61.70	1.41
10 Yr-Olds	47	29*	18	61.70*	38.30	4.10*
11 Yr-Olds	30	15	15	50.00	50.00	0.11
12 Yr-Olds	22	6	16	27.27	72.73	3.42
13 Yr-Olds	5	1	4	20.00	80.00	1.46
14 Yr-Olds	9	3	6	33.33	66.67	0.67
TOTALS	230	108	122	46.96	53.04	

NOTE: a) Because there was only one six year-old, she was dropped

b) χ^2 calculation for each age group is based upon overall totals of clinical group (N=230, Clear Type =108, Undetermined = 122)

* Proportion of 10 year-olds showing Clear Type significantly higher than overall totals at the $p < .05$ level.

In summary, the study of the MMTIC Clear/Undetermined type ratios found no evidence to suggest that type becomes differentiated into four clear preferences over time. A movement toward clear type culminated at age ten, but a drop-off occurred as the older groups were examined. The lower proportions of Clear type preferences among the 13 and 14 year-olds may be a result because of the smaller numbers of children in the older age groups in the PASS population. Since the PASS was normed for children in Grades Three to Six, many of the older children referred to the Clinic were not given the MMTIC. Further research investigating the proportions of Clear and Undetermined type preferences in the older age groups would appear to be warranted, as the results of the present study may be related to the fact that most of the children were referred because of learning difficulties.

MMTIC Study Question #2: Retained Versus Promoted Children

The outcomes of the two-way ANOVAs failed to demonstrate any significant differences among the four groups on any of the PASS scales when the grade retained children were compared with those who had been continuously promoted. The variance seen on the PASS scores led to rather high error factors (and non-significant results) when the ANOVAs were calculated. Tables E-8 and E-9 at the end of this appendix show the results of the ANOVAs.

When the four groups were compared to their counterparts in the PASS normative study, the retained children of undetermined type generally rated themselves lower than the other three groups. On the Perception of Reading/Spelling scale, the mean Raw Score of the sample containing repeaters of undetermined type showed the greatest significant difference, $t(14) = -3.19, p < .01$. The group consisting of continuously promoted students of clear type did not differ significantly from the PASS standardization group on any of the PASS scales. Table E-3 shows descriptive statistics for the Raw Score Means and Standard Deviations for the four groups selected for the above comparisons.

MMTIC Study Question #3: INFPs Versus STs

Significant differences were demonstrated when the ANOVAs comparing the ST and INFP children were analyzed. The ST children rated themselves stronger than did the INFP subjects on each of the PASS Scales, and significantly so on five of the seven Scales. It should be noted that the INFP/ST comparison was the only ANOVA series of the thesis in which significant differences were noted. It was also the only set of ANOVAs in which grade promotion versus grade retention did not form the basis for the

Table E-3: MMTIC Clear versus Undetermined Type Comparisons
PASS Raw Scores :Means and Standard Deviations

SAMPLE GROUP	FULL SCALE	GENERAL ABILITY	ARITH-METIC	READING SPELLING	PENMAN-SHIP	SCHOOL SATISFACTION	CONFID-ENCE
<i>Retained With At Least Two Score In U-Band</i>	38.47* 12.70	7.20 4.00	9.33 2.58	6.20** 3.43	5.67* 3.66	7.13 3.02	3.47* 1.96
<i>Non-Repeating With At Least Two Scores In U-Band</i>	41.40 11.96	6.87 2.61	8.87 3.14	6.80* 3.45	8.27 2.52	6.80 3.61	3.53* 1.77
<i>Retained With Clear Type</i>	38.33* 14.43	6.20 3.57	8.40 3.81	6.20* 4.28	6.60 3.02	6.87 3.14	3.80 1.74
<i>Non-Repeating With Clear Type</i>	39.73 12.31	7.80 3.47	7.80 4.09	7.27 4.03	6.93 2.52	5.93 2.69	3.60 1.88

NOTE: a) Boldface type values denote *means*. Lightface type values denote *standard deviations*.
 b) Statistical analysis assumed two-tailed tests.
 c) Significance levels based upon differences between sample means and PASS normative data.
 * $p < .05$ ** $p < .01$ *** $p < .001$

comparison. The results reaching significance are summarized in Table E-4.

Next the sample groups were matched with the PASS standardization group using t statistic calculations. The results of the t calculations reinforced the ANOVA findings. While averages of the scores of the 12 ST subjects did not differ from the PASS norm group on any of the seven PASS Scales, the means of the INFP children were significantly below those of the PASS norm group on each of the seven scales. The INFP students rated themselves particularly low on the PASS Full Scale, $t = -5.20, p < .001$, and the Confidence Scale, $t = -5.36, p < .001$. It is interesting that this analysis of the ST and INFP type groups produced differences which were much more clear

Table E-4
INFP Versus ST: Significant ANOVA Results

STs SIGNIFICANTLY HIGHER ON THESE PASS SCALES

Full Scale - F (1,22) = 12.24, p < .01

Arithmetic - F (1,22) = 5.89, p < .05

Reading/ Spelling - F (1,22) = 4.21 p < .05

School Satisfaction - F (1,22) = 5.36 p < .05

Confidence - F (1,22) = 7.45 p < .05

STs HIGHER BUT NOT SIGNIFICANTLY SO (PASS SCALES)

General Ability - p > .05

Penmanship - p > .05

than any of the comparisons of grade-retained and promoted children. The sample means, standard deviations, and significant differences when compared to the PASS standardization group, are summarized in Table E-5.

CONCLUSION

All of the ANOVA comparisons of academic self-concept of children in the main body of the thesis were based upon the promotion/non-promotion model. Interestingly, the only substudy to produce significant ANOVA results, did not examine differences between children who had been continuously passed with those who had been asked to repeat a grade. It was the ANOVA comparison of the academic self-concept of a group of INFP subjects with ST children that proved to be the exception to a series of

*Table E-5: Differences Between INFPs and STs
PASS Raw Scores—Means and Standard Deviations*

<i>SAMPLE GROUP</i>	<i>FULL SCALE</i>	<i>GENERAL ABILITY</i>	<i>ARITH-METIC</i>	<i>READING SPELLING</i>	<i>PENMAN -SHIP</i>	<i>SCHOOL SATISFACTION</i>	<i>CONFID -ENCE</i>
<i>INFPs</i>	30.42 ^{***} 10.71	5.08 ^{**} 2.75	5.67 ^{***} 4.72	5.25 ^{***} 3.91	5.17 ^{***} 3.07	5.25 2.56	2.25 ^{***} 1.54
<i>STs</i>	43.75 7.72	7.00 3.22	9.58 3.00	8.25 3.22	6.58 2.75	7.17 3.64	4.42 2.27

NOTE: a) Boldface type values denote *means*. Lightface type values denote *standard deviations*.
 b) Statistical analysis assumed two-tailed tests.
 c) Significance levels based upon differences between sample means and PASS normative data.
^{**} $p < .01$ ^{***} $p < .001$

non-significant ANOVA results. Further research with large enough samples to study the academic self-concept of INFPs and ESTJs with learning difficulties matched according to level of academic achievement, could prove interesting.

References

- Jung, C. G. (1971). *Psychological types* (H.G. Baines, Trans., Revised by R.F.G. Hull,). Princeton, NJ: Princeton University Press.
- Meisgeier, C., & Murphy, E. (1987). *Murphy-Meisgeier Type Indicator for Children Manual*. Palo Alto, CA: Consulting Psychologists Press.
- Myers, I. B., & McCaulley, M. H. (1985). *Manual: A guide to the development and use of the Myers-Briggs Type Indicator*. Palo Alto, CA: Consulting Psychologists Press.
- Myers, I. B., with Myers, P. B. (1990). *Gifts differing: 10th anniversary edition*. Palo Alto, CA: Consulting Psychologists Press.

*Table E-6: INFP Versus ST Students—PASS Comparisons—
One-Way ANOVA Data Based on Full Scale Raw Scores*

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Factor</i>	1	1066.7	122
<i>Error</i>	22	1917.2	87.1
<i>Total</i>	23	2983.8	

$$F(1,22) = 12.24$$

$$p = 0.002$$

Table E-7: INFP Versus SP Students - PASS Comparisons
One-Way ANOVA Data: Subscale Raw Scores

PASS General Ability

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Factor</i>	1	22.04	22.04
<i>Error</i>	22	196.92	8.95
<i>Total</i>	23	218.96	

$F(1,22) = 2.46$
 $p = 0.131$

PASS Arithmetic

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Factor</i>	1	92.0	92.0
<i>Error</i>	22	343.6	14.6
<i>Total</i>	23	435.6	

$F(1,22) = 5.89$
 $p = 0.024$

PASS Reading / Spelling

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Factor</i>	1	54.0	54.0
<i>Error</i>	22	282.5	12.8
<i>Total</i>	23	336.5	

$F(1,22) = 4.21$
 $p = 0.024$

PASS Penmanship

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Factor</i>	1	12.04	12.04
<i>Error</i>	22	186.58	186.58
<i>Total</i>	23	198.63	

$F(1,22) = 1.42$
 $p = 0.246$

PASS School Satisfaction

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Factor</i>	1	45.38	45.38
<i>Error</i>	22	186.25	8.47
<i>Total</i>	23	231.63	

$F(1,22) = 5.36$
 $p = 0.030$

PASS Confidence

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>Factor</i>	1	28.17	28.17
<i>Error</i>	22	83.17	3.78
<i>Total</i>	23	111.33	

$F(1,22) = 7.45$
 $p = 0.012$

*Table E-8: MMTIC Clear versus Undetermined Type Comparisons
PASS Full Scale Raw Scores: Two-Factor ANOVA Data*

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>UIC</i>	1	12	12
<i>Retention/Promotion</i>	1	70	70
<i>Interaction(UIC*R/T)</i>	1	9	9
<i>Error</i>	56	9296	166
<i>Total</i>	59	9387	

$$F(U/C) = 0.07$$

$$F(\text{RetProm}) = 0.42$$

$$F(A*B) = 0.05$$

*Table E-5: MMTIC Clear versus Undetermined Type Comparisons -
PASS Subscale Raw Scores - Two-Factor ANOVA Data*

PASS General Ability

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>U/C</i>	1	0	0
<i>Retention/Promotion</i>	1	6	6
<i>Interaction(U/C*R/T)</i>	1	14	14
<i>Error</i>	56	666.9	11.9
<i>Total</i>	59	687	

$$F(U/C) = 0.00$$

$$F(\text{RetProm}) = 0.50$$

$$F(A*B) = 1.18$$

PASS Arithmetic

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>U/C</i>	1	15	15
<i>Retention/Promotion</i>	1	4.3	4.3
<i>Interaction(U/C*R/T)</i>	1	0.1	0.1
<i>Error</i>	56	669.1	11.9
<i>Total</i>	59	688.4	

$$F(U/C) = 1.26$$

$$F(\text{RetProm}) = 0.36$$

$$F(A*B) = 0.01$$

PASS Reading / Spelling

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>U/C</i>	1	0.8	0.8
<i>Retention/Promotion</i>	1	10.4	10.4
<i>Interaction(U/C*R/T)</i>	1	0.8	0.8
<i>Error</i>	56	814.1	14.5
<i>Total</i>	59	826.2	

$$F(U/C) = 0.06$$

$$F(\text{RetProm}) = 0.72$$

$$F(A*B) = 0.06$$

PASS Penmanship

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>U/C</i>	1	6.6	6.6
<i>Retention/Promotion</i>	1	32.27	32.27
<i>Interaction(U/C*R/T)</i>	1	19.27	19.27
<i>Error</i>	56	492.8	8.8
<i>Total</i>	59	544.93	

$$F(U/C) = 0.07$$

$$F(\text{RetProm}) = 3.67$$

$$F(A*B) = 2.19$$

PASS School Satisfaction

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>U/C</i>	1	114.8	114.8
<i>Retention/Promotion</i>	1	36.8	36.8
<i>Interaction(U/C*R/T)</i>	1	93.7	93.7
<i>Error</i>	56	5168.8	92.3
<i>Total</i>	59	5414.2	

$$F(U/C) = 1.24$$

$$F(\text{RetProm}) = 0.40$$

$$F(A*B) = 1.02$$

PASS Confidence

<i>SOURCE</i>	<i>DF</i>	<i>SS</i>	<i>MS</i>
<i>U/C</i>	1	0.6	0.6
<i>Retention/Promotion</i>	1	0.07	0.07
<i>Interaction(U/C*R/T)</i>	1	0.27	0.27
<i>Error</i>	56	189.47	3.38
<i>Total</i>	59	190.4	

$$F(U/C) = 0.18$$

$$F(\text{RetProm}) = 0.02$$

$$F(A*B) = 0.08$$

Table E-10: Total Clear Types

MMTIC Types Study
Gerry Rentz
University of Alberta

University of Alberta Clinic
Referrals 1990-1992

compared with

MMTIC Standardization Group

N = 108

				N	%	I	
ISTJ N = 1 % = 0.93 I = 0.38	ISFJ N = 6 % = 5.56 I = 1.46	INFJ N = 1 % = 0.93 I = 0.67	INTJ N = 2 % = 1.85 I = 3.57	E	63	58.33	0.79***
				I	45	41.67	1.62***
				S	50	46.30	0.81*
				N	58	53.70	1.26*
				T	14	12.98	0.63
				F	94	87.04	1.09
				J	30	27.78	0.81
				P	78	72.22	1.10
ISTP N = 3 % = 2.78 I = 0.67	ISFP N = 9 % = 8.33 I = 2.41*	INFP N = 23 % = 21.30 I = 2.51***	INTP N = 0 % = 0.00 I = 0.00	IJ	10	9.26	1.14
				IP	35	32.41	1.84***
				EP	43	39.81	0.83
				EJ	20	18.52	0.71
				ST	12	11.11	0.70
				SF	38	35.19	0.85
				NF	56	51.85	1.36**
				NT	2	1.85	0.41
ESTP N = 1 % = 0.93 I = 0.22	ESFP N = 15 % = 13.89 I = 0.77	ENFP N = 27 % = 25.00 I = 1.04	ENTP N = 0 % = 0.00 I = 0.00	SJ	22	20.37	0.74
				SP	28	25.93	0.87
				NP	50	46.30	1.29*
				NJ	8	7.41	1.13
				TJ	10	9.26	1.07
				TP	4	3.70	0.31*
				FP	74	68.52	1.27**
				FJ	20	18.52	0.72
ESTJ N = 7 % = 6.48 I = 1.25	ESFJ N = 8 % = 7.41 I = 0.46*	ENFJ N = 5 % = 4.63 I = 1.11	ENTJ N = 0 % = 0.00 I = 0.00	IN	26	24.07	2.02***
				EN	32	29.63	0.97
				IS	19	17.59	1.27
				ES	31	28.70	0.66**
				Sdom	23	21.30	0.75
				Ndo	30	27.78	1.00
				m	10	9.26	0.81
				Tdom	45	41.67	1.29

Note: n = 1% of sample.

Print date: 2/15/93

* < .05. ** < .01. *** < .001

Base total N = 579. Groups are independent.

Calculated values of Chi Square or Fisher's exact probability (underlined)

Type Table Significance			
0.49	0.71	1.00	0.18
<u>0.60</u>	5.34	15.92	<u>0.37</u>
<u>0.16</u>	1.07	0.04	<u>0.23</u>
0.30	5.64	<u>1.00</u>	<u>1.00</u>

E	11.33	IJ	0.15	SJ	2.50	IN	11.23
I	11.33	IP	12.40	SP	0.65	EN	0.04
S	4.58	EP	2.51	NP	4.12	IS	1.04
N	4.58	EJ	2.81	NJ	0.10	ES	<u>8.33</u>
T	3.25	ST	1.63	TJ	0.04	Sd	2.30
F	3.25	SF	1.52	TP	<u>0.02</u>	Nd	0.00
J	1.72	NF	7.20	FP	7.82	Td	0.43
P	1.72	NT	<u>0.29</u>	FJ	2.47	Fd	3.53

Table E-11: Total LD Clear Types

MMTIC Types Study
Garry Rentz
University of Alberta

University of Alberta Clinic
LD Referrals 1990-1992

compared with

MMTIC Standardization Group

N = 86

				N	%	I
ISTJ N = 1 % = 1.16 I = 0.48 :	ISFJ N = 6 % = 6.98 I = 1.83	INFJ N = 0 % = 0.00 I = 0.00	INTJ N = 2 % = 2.33 I = 4.48 ::	E 48	55.81	0.75***
				I 38	44.19	1.71***
				S 40	46.51	0.81
				N 46	53.49	1.26
				T 11	12.79	0.63
				F 75	87.21	1.10
				J 25	29.07	0.85
				P 61	70.93	1.08
ISTP N = 1 % = 1.16 I = 0.28 :	ISFP N = 7 % = 8.14 I = 2.35	INFP N = 21 % = 24.42 I = 2.88***	INTP N = 0 % = 0.00 I = 0.00	IJ 9	10.47	1.29
				IP 29	33.72	1.91***
				EP 32	37.21	0.77
				EJ 16	18.60	0.71
				ST 9	10.47	0.66
				SF 31	36.05	0.87
				NF 44	51.16	1.34*
				NT 2	2.33	0.52
ESTP N = 0 % = 0.00 I = 0.00	ESFP N = 12 % = 13.95 I = 0.78	ENFP N = 20 % = 23.26 I = 0.97	ENTP N = 0 % = 0.00 I = 0.00	SJ 20	23.26	0.84
				SP 20	23.26	0.78
				NP 41	47.67	1.32*
				NJ 5	5.81	0.88
				TJ 10	11.63	1.34
				TP 1	1.16	0.10***
				FP 60	69.77	1.29**
				FJ 15	17.44	0.68
ESTJ N = 7 % = 8.14 I = 1.57	ESFJ N = 6 % = 6.98 I = 0.43	ENFJ N = 13 % = 3.49 I = 0.84 ...	ENTJ N = 0 % = 0.00 I = 0.00	IN 23	26.74	2.24***
				EN 23	26.74	0.87
				IS 15	17.44	1.26
				ES 25	29.07	0.67*
				Sdom 19	22.09	0.78
				Ndom 22	25.58	0.92
				m 8	9.30	0.81
				Tdom 37	43.02	1.33*
				Fdom		

Note: ☉ = 1 person.

Print date: 2/16/93

* < .05 ** < .01 *** < .001

Base total N = 578. Groups are independent.

Calculated values of Chi Square or Fisher's exact probability (underlined)

Type Table Significance			
0.71	1.86	0.40	0.13
0.23	4.20	20.17	0.38
0.06	0.85	0.03	0.38
1.24	5.05	1.00	1.00

E	12.54	IJ	0.53	SJ	0.74	IN	13.75
I	12.54	IP	12.21	SP	1.54	EN	0.54
S	3.63	EP	3.57	NP	4.36	IS	0.79
N	3.63	EJ	2.25	NJ	0.82	ES	6.50
T	2.78	ST	1.73	TJ	0.81	Sd	1.48
F	2.78	SF	0.93	TP	0.00	Nd	0.19
J	0.90	NF	5.36	FP	7.57	Td	0.34
P	0.90	NT	0.41	FJ	2.69	Fd	3.81

Appendix F - Clinic Questionnaire
545 DATA SHEET

FILL OUT THIS SHEET THOROUGHLY AND CAREFULLY

Foster

Client Name: _____ Adopted: _____ Child: _____

Age: _____ Sex: _____ Grade: _____

Family Background Information

Marital Status:	Single	_____	Separated	_____
	Traditional	_____	Divorced	_____
	Blended	_____	Widowed	_____
Ethnicity:	White	_____	Asian	_____
	Black	_____	Hispanic	_____
	Native Cdn.	_____	Other	_____

Number of moves within past three years: _____

Alcoholism/drug problems within family system: Yes _____ No _____

Suspected child abuse: Yes _____ No _____

Mental: _____ Physical _____ Sexual _____

Referral Concern

By Whom: _____

Learning Difficulties: Yes _____ No _____

Reading/Language _____

Math _____

Other _____

Behavior Problems: Yes _____ No _____

Hyperactivity/attention _____

Conduct Disorder _____

Emotional/depression _____

Other _____

Gifted Placement: Yes _____ No _____

ACHIEVEMENT HISTORY

Repeated Grade: Yes _____ No _____

Current achievement level:
(Clinical judgement based on data) Above _____
Average _____
Below _____

TEST DATA

WISC-III (Scaled Score) or SBIV (Scaled Score)

Verbal Scale

Information _____
Similarities _____
Arithmetic _____
Vocabulary _____
Comprehension _____
(Digit Span) _____

Verbal Reasoning _____
Abst/Vis. Reasoning _____
Quant. Reasoning _____
Short-Term Memory _____
Composite _____

Performance Scale

Picture Completion _____
Coding: Part A _____
Part B _____
Picture Arrange _____
Block Design _____
Object Assembly _____
Symbol Search _____
Part A _____
Part B _____

PASS (Raw Score) (T-Score)
General Ability _____
Arithmetic _____
School Satisfaction _____
Reading/Spelling _____
Penman./Neatness _____

FULL SCALE _____

Mazes _____

Validity Indexes (Raw Score)
Response Bias _____ Q*
Inconsistency _____ Q
Misrepresentation _____ Q

VERBAL IQ: _____

PERFORMANCE IQ: _____

FULL SCALE IQ: _____

MMTIC

Continuous Raw Score _____	E	<u>TYPE</u> U	I	(Circle appropriate)
_____	S	U	N	
_____	T	U	F	
_____	J	U	P	
Dominant Function _____	E	or	I	(or N/A)

Appendix G - Parent Release Form



University of Alberta
Edmonton

Faculty of Education
Clinical Services

Canada T6G 2G5

1-135 Education North, Telephone (403) 492-5746

CONSENT FOR RELEASE OF CONFIDENTIAL INFORMATION

I, _____ hereby
authorize Dr. John G. Paterson, Coordinator of Clinical Services, Faculty of Education,
University of Alberta, to forward information concerning myself/son/daughter to:

which by law or otherwise might be considered to be confidential or privileged.

This form or photocopy thereof are equally valid.

SIGNED: _____

WITNESS: _____

DATE: _____