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AFFECTIVE DIFFERENCES BETWEEN LEARNING DISABLED AND
NORMALLY ACHIEVING ADOLESCENTS

by

Margaret Hunter
B.Ed., University of British Columbia, 1970

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS (EDUCATION)
in the Faculty
of
Education

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AFFECTIVE DIFFERENCES BETWEEN LEARNING DISABLED

AND NORMALLY ACHIEVING ADOLESCENTS

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ABSTRACT

Researchers increasingly emphasize the importance of self-concept in determining a student's achievement level. Academic self-concept, the student's view of him/herself as a learner, may be the most influential affective measure contributing to academic achievement. Studies have indicated that learning disabled (LD) children have lower academic self-concepts and lower expectations for future academic achievement than normally achieving children. It has also been suggested that the poor performance of the LD child results in a similarly negative view of the student on the part of the teacher, and that parents of LD children share the child's own pessimistic view of future achievement.

It may be hypothesized that low academic perceptions and expectations on the part of students, teachers, and parents are present in the case of LD adolescents as in LD children, but little empirical data exist in this area. The present thesis investigates this hypothesis. Firstly, it seeks to determine whether there is a difference between the ways in which LD and normally achieving adolescents view themselves as learners in the present and in terms of expectations regarding future achievement. Secondly, the study investigates whether teachers' perceptions of LD adolescents and their academic prospects are different from teachers' perceptions of normally achieving adolescents and their academic prospects. Thirdly, this study considers whether there is any difference in the academic expectations of parents of LD and normally achieving adolescents and in the stress levels experienced by those parents.

A survey was made of 82 students in grades 8 and 10, in six Vancouver secondary schools, and of the teachers and parents of those adolescents. The students' expectations for academic achievement were estimated by the Projected Academic Performance Scale, and modified versions of this scale were used to ascertain the expectations of teachers and parents. Students' academic self-concepts were assessed with the Student's Perception of Ability Scale. Teachers evaluated student behaviors on the Devereux Adolescent Behavior Rating Scale. Parental stress was determined through the State-Trait Anxiety Inventory.

The results showed that the self-concepts of the LD and normally achieving adolescents and their teachers' perceptions of them differ significantly on all but two of the dimensions tapped. There were no significant differences in Penmanship/Neatness and Heterosexual Interest. LD adolescents have lower academic self-concepts and expectations for the future, and their teachers and parents share their negative perceptions. Levels of stress between the parents were nonsignificant.

The significance of the present study lies in providing an empirical base to the common assumption that LD adolescents hold negative academic self-concepts and pessimistic expectations for academic success. The educational implications and the cautions and limitations in the data interpretation are discussed.

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CHAPTER ONE

INTRODUCTION

Since 1963 the educational community has become increasingly aware of the term 'learning disabled' (Kirk, 1981). Prior to that date the learning problems of many children were considered the fault of the child him/herself. These students were variously labelled as stupid, lazy, unmotivated, and poorly behaved. During the last twenty years, however, research has resulted in new perceptions of the causes of the learning difficulties encountered by such children. It has been found that the heterogeneous group of students described as 'learning disabled' (LD) experience various degrees of frustration and failure throughout their formal schooling period. Analysis of their problems in processing information in the school setting has provided the basis for remedial programs.

Hitherto, programs for treatment of learning disabilities have emphasized the provision of diagnostic and remedial services in reading, spelling, writing, and arithmetic problems. But focusing on these academic deficiencies has led to an inadvertent neglect of manifestations of problems in the affective and social realms (Bloom, 1976; Bryan, 1974; Bryan & Bryan, 1979; Mouly, 1973). The assumption has been that the emotional problems experienced by many LD students were secondary effects of the academic difficulties and would disappear as scholastic performance improved. Educational and psychological researchers, however, have increasingly pointed to the influence of affective variables, and in particular self-concept, on the level of academic performance of all students

(Adelman, 1978; Bloom, 1976; Kronick, 1978; Mouly, 1973).

Self-concept, a system of attitudes towards oneself, influences the motivation, attitudes, character formation, and adjustment of an individual (Bernard, 1971; Mouly, 1973; Strang, 1957). The narrower construct of 'academic self-concept', considered by Bloom (1976) to be the strongest of the affective measures influencing scholastic achievement, is the student's view of him/herself as a learner. To a great extent school experiences determine the quality of a child's academic self-concept. Because of the fishbowl nature of the classroom, children have numerous opportunities for measuring their achievement against that of their peers, and they can do so on a number of levels, most notably that of intellectual competence. Overreaction on the part of teachers and/or peers to a student's mistakes, failures or personal inadequacies can contribute to the development of negative self-views and expectations on the part of the less able pupil (Brookover, Erickson & Joiner, 1967; Covington & Beery, 1976; Mouly, 1973).

Prior success generally leads to expectations of subsequent success in performing similar tasks, while prior failure leads to expectations of future failure. Thus, once a history of academic failure is established the student is unlikely to put forth the effort required to change that pattern (Chapman, Cullen & Boersma, 1979). Several studies indicated that LD children have lower expectations for future academic achievement than their normally achieving classmates (Boersma & Chapman, 1979b; Chapman & Boersma, 1979a; Dunn, Pearl, & Bryan,

1981). If the role of expectancy variables can be determined, it should be possible more easily to differentiate between the contributions of expectancy variables and skill deficiencies to low achievement.

The social problems of the LD child may also exacerbate the low achievement syndrome, and this aspect of the problem, once neglected, has recently received greater attention. Within the last eight years the social problems of the LD child have been examined in the school setting (Bryan, 1976; Garrett & Crump, 1980; Keogh, Tchir, & Windeguth-Behn, 1974). The information gathered indicated that the LD child's lack of social perception resulted in rejection of and hostility towards the child on the part of teachers and peers (Blair & Jones, 1965; Bryan & Bryan, 1979; Rosenberg & Gaier, 1977; Scranton & Rykman, 1979). This suggests a complex of problems. LD students may be prevented by their deficiencies in language and overall perceptiveness from comprehending the expectations of others. In turn, disappointment over the student's lack of academic achievement may foster hostility on the part of peers and teachers (Bryan 1974, 1976).

Studies done on achievement expectations of significant others, especially teachers and parents, indicate that children's achievement levels are influenced by these expectations through differential interaction patterns (Chapman, Cullen, & Boersma, 1979). Early failure experiences of LD children lead to development of low expectations for future success on the part of teachers and parents. These attitudes lead in turn to low goal setting for these children and negative interaction

patterns with them (Bloom, 1976; Boersma and Chapman, 1979b). Boersma and Chapman conducted several studies of the relationship between the affective variables (self-concept, expectation, and locus of control) and school performance in the elementary schools. They found that LD children held lower self-concepts and expectations and were more externally motivated than normally achieving students. It may be hypothesized that adolescents are similarly affected by expectations of others, but this awaits full investigation.

It seems reasonable to assume that low academic self-perceptions and expectations would characterize the LD adolescent as well as LD children, and this has been tentatively explored. Kronick (1978) offers theoretical and indirect support for the position that many LD adolescents exhibit primary interactional social disabilities. In terms of total life functioning, social ineptitude tends to be far more disabling than academic dysfunction (Johnson & Myklebust, 1967). The adolescent stage can be regarded as a 'crisis' period when the transition from childhood to adulthood must begin. The impact of social dysfunction on LD students during this vulnerable phase can inhibit the realization of human potential in adulthood (Blair & Jones, 1965; Deshler, 1978).

The social problems of LD adolescents have been investigated with a view to developing a variety of programs designed to improve social learning (Deshler, 1978; Kronick, 1978). Meanwhile, the academic self-concepts and expectations of LD adolescents have been neglected, and there is a paucity of

information on problems in this area (Prillaman, 1981; Thomson & Hartley, 1980). This lack of empirical data hinders our understanding of the extent to which the affective variables of academic self-concept and academic expectations contribute to the LD adolescent's poor scholastic performance. It is a reasonable assumption that these affective variables interact with the adolescent's deficiencies in basic skills and study strategies.

The first step in investigating this assumption must be to determine whether there is in fact a difference between the ways in which LD adolescents and normally achieving adolescents view themselves as learners and perceive their prospects for academic achievement. At the same time, it will be useful to determine whether teachers have perceptions of LD adolescents and their expectations of success different from their perceptions of normally achieving students.

To these ends an empirical investigation was conducted to collect data on differences between LD and normally achieving adolescent students in the realms of academic perception and academic expectation. For this purpose questionnaires, believed to be empirically sound, were used to determine the academic self-concepts and expectations for future academic achievement of both LD and normally achieving students in grades eight and ten. In order to determine if LD students were perceived more negatively than the normally achieving students, the teachers were asked to rate students on behavioral scales and to indicate their expectations of the

students' academic futures. Parents were also surveyed to determine their expectations of their children's scholastic achievement. A secondary objective was to determine whether there was a difference in stress levels of parents of LD and normally achieving teenagers.

On the basis of indirect evidence (Boersma & Chapman, 1979a; Bryan & Pearl, 1979; Kronick, 1978) it was predicted that LD adolescents would view themselves as learners more negatively than their normally achieving peers, and that their expectations of future scholastic improvement would similarly be lower. It was further predicted that teachers would view students and their prospects for academic success in a negative light (Algozzine, Mercer & Coutermine, 1977; Bryan & McGrady, 1972). It was also conjectured that parents of LD adolescents would expect their children to be unsuccessful in future academic endeavors, and that the parents themselves would experience greater stress and anxiety than those of normally achieving students (Abrams & Kaslow, 1977; Spielberger, 1972).

If these predictions were substantiated, then remedial strategies should incorporate these affective dimensions of learning into more complete and efficient remedial programs for LD adolescents.

CHAPTER TWO
REVIEW OF THE LITERATURE

Despite the growing trend towards early identification of and intervention programs for children with learning problems, many students reach the age for secondary schooling with their learning difficulties unalleviated. If they have average or above average intelligence and are achieving well below their grade level with no other plausible explanation for their performance, they can be labelled learning disabled (LD). By the age of adolescence the behavioral descriptions of learning disabilities applied to elementary school children are no longer suitable. Attentional deficits, impulsivity, perceptual disorders, and activity levels have changed. Only the learning problems remain the same, usually clouded in heavily negative affective variables and further complicated by social inadequacies (Bendell, Tollefson, & Fine, 1980; Cruickshank, 1977; Wiederholt, 1978).

The present review of literature focuses on certain affective variables pertaining to school, such as academic self-concept and expectation, teacher and parent expectation of students' academic achievement, teacher perception of students, and stress levels among parents.

Little research has dealt directly with the problems of the LD adolescent, and little of that concerns the affective variables. Wiederholt (1978) states that there is little empirical support for any educational program for LD adolescents. He calls for ecological assessments to be made of

these students in order to determine the influence of environmental factors upon creating and maintaining the observed problem. He asks that students' educational and social/emotional needs be evaluated in several natural environments. Similar exhortations have been made by Bryan (1974, 1976) and Kronick (1978). Clearly, the problem of learning disabilities in the secondary schools is only beginning to be explored by educational and psychological researchers.

Affective Variables

It has long been recognized that at least average intellectual ability is a prerequisite for school success, but affective characteristics can account for up to one-fourth of the variance on relevant cognitive achievement measures (Bloom, 1976). Therefore, the affective characteristics of a learner have recently been receiving more attention from researchers.

Certain problems are encountered in investigating affective states. Subjective experiences can be neither proved nor disproved: they can only be studied. But there is a dearth of validated procedures for such studies and thus a need to rely on procedures which are susceptible to biasing effects. The two most common approaches are to use personality and motivational tests or personal reports. These suffer from a lack of precision in measurement owing to the confusion and haziness resulting from lack of precision in terminology, assumptions, and concepts in the area of affective variables.

Bloom posits a theory of learning which lays emphasis on three major variables: student characteristics, instruction, and learning outcomes. His central theory is that changes in

the behavior patterns and characteristics with which the student enters school, together with the quality of instruction, will directly affect the level and type of achievement, the learning rate, and the affective outcomes. Although he makes no mention of learning disabilities, it is clear that he views the individual student with his/her particular learning history in much the same way that a LD specialist assesses and plans for a LD student. He is concerned with the learner's history and the congruence of learning tasks with the learner's present schemata. Affective entry characteristics, which are a complex of interests, attitudes, and self-views, vary greatly, running the gamut from interest and pleasure in learning to fear, dislike, and frustration. Bloom ascribes these variations to past and repeated experiences in school tasks. He has examined studies conducted in seventeen developed countries and thus may claim a wide base for his conclusion that there is a high correlation of positive affect with high achievement and negative affect with low achievement and failure. The older the student, the greater the correlation of affect and achievement.

Bloom separates the affective variables into subject-specific affect, general school affect, and academic self-concept. In addition to academic self-concept, self-views of the individual as an effective/ineffective learner include academic self-expectations, the locus of control, and intrinsic motivation.

Academic Self-Concept

'Self-concept' is defined as how people think others view

them, and 'self-esteem' as how people view themselves (Thomson & Härtley, 1980). In the current literature the two terms are used interchangeably together with self-image and self-view. With the initiation of programs for the disadvantaged, such as Head Start, many educationalists came to view the improvement of a student's self-concept as an educational outcome in its own right. Yet the definitions and measurements of self-concept applied at present are imprecise and thus subject to criticism. Research findings in this area are best viewed as tentative rather than definitive. Nevertheless, it is useful to note that most studies depict the LD child as having very low self-esteem or a negative self-image (Algozzine, Mercer, & Coutermine, 1977, Boersma & Chapman, 1979c, Braun, 1976, Rosenberg & Gaier, 1977).

Shavelson, Hubner, and Stanton (1976) divide the general self-concept into four categories: academic, social, emotional, and physical. Academic self-concept, how students view themselves as learners, is the strongest of the affective factors in predicting school achievement (Bloom, 1976). Students will develop negative affect towards subjects in which they consistently see themselves as inadequate. In time, the object of the affect is shifted from the school subject, or the school as a whole, to the individuals themselves. In order to succeed in any academic task, students must see themselves as adequate to the successful performance of the particular task. Students with low academic self-concepts tend to give up very easily or to avoid the tasks altogether if possible, and if

old enough they may discontinue their academic careers. Research done by Kagan and Moss (1968) yielded correlation coefficients in the $+ .70$ range between the child's expectation of failure in problem situations and withdrawal from such situations.

A study by Kifer (1975) suggests that academic self-concept develops during the first three years of schooling. He studied students in the upper and lower fifths of classes in grades one to eight at three different Chicago schools. The Brookover Test of Self-Concept of Ability was administered to these students. The results showed that students in grades one and two were almost identical in their average self-concept of ability, but by grade four the self-concept scores differed and the difference became more marked as the grade level rose. It appears that this variable is well developed before the age of adolescence.

Boersma and Chapman (1977, 1978, 1979a) have developed the Students' Perception of Ability Scale for measuring a student's academic self-concept. They investigated the correlation of report card grades with several affective variables and concluded that the general self-concept did not correlate significantly with academic self-expectations and locus of control. But in using their scale the academic self-concept is isolated from the other aspects of self-concept and correlates significantly with other affective variables and school achievement. They have focused their attention on the elementary school, and have found that by grade three under-achieving students have already developed negative academic

self-concepts.

In a study by Rosenberg and Gaier (1977) students aged 12 to 15 were compared with normally achieving students on the Coopersmith Self-Esteem Inventory. All subjects were male. The authors projected a difference in self-concept related to the number of years of special class placement. Although the LD students had lower self-concepts, significant differences existed only on the dimension of social/self-peer. No differences were noted in relation to time spent in LD classes. It is assumed that the normally achieving students performed their academic work in the company of high achieving peers. The LD subjects had no comparable standard against which they could measure their achievement, and this would explain the lack of difference on the academic self-view measures.

In a study in England, also using the Coopersmith questionnaire, dyslexic children scored much lower overall than the control children, and indicated greatest inadequacy on items in the school/academic and home/parents realms (Thomson & Hartley, 1980). Obviously these children with learning problems felt inadequate to the demands of the school and home.

Hamachek (1973) summarized seven studies completed prior to 1970 concerning self-concept as related to learning and motivation.

1. In terms of their perception of self, individuals have a definite commitment to perform as they do. Other things being equal, those who do not achieve choose not to do so, while those who do achieve choose to do so.

(Roth, 1959).

2. There was a significant positive relationship between immature self-concepts and reading disabilities in a grade 3 and a grade 6 class

(Bodwin, 1957).

3. There was a significant positive relationship between high self-concept and school achievement in a group of 102 fifth and sixth grade children (Coopersmith, 1959).

4. There was a significant positive relationship between self-concept of ability and school achievement over a six year period from grades six to twelve (Brookover, 1967).

5. Measures of self-concept and ratings of egostrength made at the beginning of kindergarten were found to be more predictive of reading achievement two and one-half years later than were measures of intelligence (Wattenberg, 1962).

6. Male achievers feel more positive about themselves than do male underachievers (Shaw, 1960).

7. Underachieving academically capable high school boys were found to have more negative perceptions of self and of others and were less emotionally stable than achievers (Combs, 1964). (Hamachek, 1973: p. 249)

More recent studies also indicate that students' poor perceptions of their abilities do not change in the higher grades (Adelman, 1978; Bendell, Tollefson, & Fine, 1980; Bloom, 1976; Lane, 1980). It would seem that as the weight of accumulated failure grows, the academic self-concept of older children becomes lower.

Academic Self-Expectations

Academic self-expectation refers to how well a student expects to perform in a particular subject area in the future. It is closely linked to the academic self-concept which is predictive and determinative of future academic achievement unless a dramatic change takes place in the student or in the school. The perceptions and expectations of students affect the amount of effort they will invest in a learning task and consequently the level of achievement.

Boersma and Chapman (1979b, 1979c) report studies that suggest that prior success generally leads to expectations of subsequent success on similar tasks, while prior failure leads to expectations of further failure. They undertook an investigation of the relationship of several affective variables, including academic self-expectations, using their Projected Academic Performance Scale (1978). Their subjects were 162 children in grades three to six who were matched on the basis of age, grade, sex, and intelligence. Despite the attempt at matching, the nonlearning-disabled students had a significantly higher mean IQ score although all scores were within the average range. Analyses of the data revealed that LD subjects

had statistically lower overall expectations for future success in Reading, Arithmetic and Spelling. Their predictions with regard to Science, Social Studies and Language Arts did not differ significantly from the control groups' predictions. The authors felt that this was because these three subject areas are not clearly conceptualized in young children.

In a further study of 376 children, Chapman, Cullen and Boersma (1979) found that individual academic self-expectations correlated with report card marks. They found that the older the children the higher the correlation. In a third study by Boersma and Chapman (1979b) the LD subjects again had lower overall expectations of future achievement than did control subjects. These lower scores were reflected in all areas except Science.

Boersma and Chapman are undertaking longitudinal studies of academic self-expectations, and until the results are known it can only be hypothesized that LD adolescents have low expectations of academic success. A wider age range is needed so that developmental trends may be carefully examined.

Locus of control and intrinsic motivation, although not the focus of this research, are similar to the academic self-concept in their relationship to level of academic performance. Gilmer (1978) states that research has demonstrated that internal control expectancies mediate achievement behavior. For this reason the literature on these two topics will be briefly covered.

Locus of control. Locus of control is a construct which

determines whether learners feel that the outcome of any task is due to their own efforts and ability or to external factors over which they have no control. Again this is an area in which the perceptions of the individual, rather than 'objective' reality, are examined. If external factors, such as luck, the easiness or difficulty of the task, the teacher's kindness or meanness, are perceived by the student as determining the outcome, there is little incentive for the student to exert him/herself in the learning situation since it is not seen that the student's actions will affect the outcome (Bryan & Pearl, 1979; Dweck, 1975; Dweck & Respucci, 1973; Pearl, 1980; Pearl & Bryan, 1980; Weiner, 1972).

Several studies (reported in Pearl, Bryan, & Donahue, 1980) have found that in groups of elementary school children the learning disabled were less likely to attribute their success to their own efforts, but the subjects did not differentiate in their attributions of failure. LD teenagers were less internal in both measures of achievement and generalized locus of control. In summary, the LD students were less internal in their perceptions of control than the normally achieving students.

Chapman and Boersma (1979b) report on several studies that indicate a significantly greater internality of locus of control by successful students as they progress through the grades. On the other hand, LD students remain relatively external in their orientation across all grade levels. Chapman and Boersma also indicated that internal locus of control generally correlates with high achievement scores. In one investigation of

LD and normally achieving children, they found that LD children had a greater tendency to ascribe responsibility for successful school-related outcomes to external sources. Again, there were indications that both groups attributed their failures to themselves. It was not clear whether the LD children believed their failures to be the result of lack of effort or due to poor ability.

In two studies of locus of control carried out by Pearl, Bryan, and Donahue (1980) the underachievers believed their successes to be caused by external factors. These results replicate Chapman's and Boersma's findings with grades three through six and allows these findings to be generalized through to the eighth grade. In their second study they found that the underachievers were less likely than the normal achievers to think their failures occurred because of a lack of effort. It therefore appears that LD children tend to underestimate their influence over both successful and unsuccessful outcomes.

'Learned helplessness' has been used to describe this state in which children view a situation as beyond their control (Dweck, 1975; Dweck & Respucci, 1973). Dweck trained two groups of 'learned helpless' students under two conditions. The first group was taught to take responsibility for failure and to attribute it to insufficient effort. The second group was taught through errorless learning in which failure was eliminated. The academic task was mathematical problem solving. On a posttest the subjects in the first group persisted after failure whereas the subjects in the second group displayed a marked impairment of performance following failure.

If, as these studies suggest, LD children perceive their success as dependent on external factors, they must learn to attribute learning outcomes to their own efforts before any changes in academic behavior can occur. Their attitude of 'learned helplessness', characteristic of many LD students, must be changed. While many past approaches suggested providing the child with more opportunities to experience success as a means of instilling a more positive approach to academic tasks, research has shown this to be ineffective in ameliorating the debilitating effect of a failure on children who underplay the importance of effort. A more successful procedure involved directly inducing the children to change their attributions for failure when they did in fact possess the skills required for success. Thus, by suggesting to the child that failure could be overcome by persisting - and then making sure that success is achieved through further effort - it may be possible to foster more adaptive attributions in children with learning problems (Pearl, 1980).

Another aspect of locus of control was investigated in a study of 50 LD adolescents who were divided into two groups on the basis of their locus - of - control orientation. The subjects were given pretest and posttest lists of 15 spelling words under two conditions of learning: high-structured reinforcement and low-structured reinforcement. Results showed that adolescents with internal locus of control performed significantly better in the low-structure reinforcement condition, while the adolescents with external locus performed better in the high-structure reinforcement condition (Bendall et al, 1980). The construct of

locus of control has great implications for research in programming as well as in the changing of academic attitudes. 19

Intrinsic motivation. The affective variable of motivation is similar to the construct of locus of control in that it can be internalized or externalized by the learner. It differs from locus of control in that it precedes a task. It is also similar to academic self-concept when applied to school tasks in that it is an amalgam of attitudes and feelings a student has acquired while performing earlier learning tasks. Intrinsically motivated behaviors are those in which a person engages in order to feel competent and self-determining.

Gilmor (1978) has reported on several studies that indicated that students with internal locus of control are better self-reinforcers than are students with external locus of control. Thus, the academic performance of those with internal locus of control appears to be characterized by intrinsic motivation in so far as their performance is less dependent on external agents for its progress.

Adelman (1978) feels that the role of intrinsic motivation has heuristic value, but has been ignored because of the dominance in the LD field of behaviorists who disregard thoughts and feelings as determinants of behavior. Torgeson's (1977) description of an active learner is consistent with that of the intrinsically motivated student. His inactive learner can be seen as having metacognitive deficiencies and low motivation for academic tasks, as a result of which the learner's full response capabilities are not used. "As long as a person does not intrinsically value and expect to succeed in a learning activity, learning and performance

will be less than optimal." (Adelman, 1978, p.45)

Teachers' Perceptions and Expectations

The teacher is, without question, the key figure in the classroom. Many studies have focused on the ways in which teachers view their students and accordingly act towards them. Teachers see competency and potentiality varying from student to student and therefore expect different performances in behavior and achievement from these students. Teachers commonly view LD students more negatively than normally achieving students (Boersma, & Chapman, 1979b; Bryan & McGrady, 1972; Garrett & Crump, 1980; Pearl, 1981). Several studies have shown that the teachers' expectations affect the academic performance level of the students (Braun, 1976). The term 'self-fulfilling' prophecy' describes this tendency for a teacher to create a reality commensurate with his/her own expectations. Brophy and Good (reported by Braun, 1976) suggest a possible sequence for occurrence and recurrence of the self-fulfilling prophecy:

1. The teacher forms differential expectations for student performance;
2. He then begins to treat children differently in accordance with his differential expectations;
3. The children respond differentially to the teacher because they are being treated differently by him;
4. In responding to the teacher, each child tends to exhibit behavior which complements and reinforces the teacher's particular expectations for him;
5. As a result, the general academic performance of some children will be enhanced while that of others will be depressed, with changes being in the

direction of teacher expectations;

6. These effects will show up in the achievement tests given at the end of the year, providing support for the 'self-fulfilling prophecy' notion. (p.201)

One of the key variables examined by many researchers is the effect of manipulated labeling on teacher behavior. Jacobs (1978) revealed that teachers rated a child's behaviors differently if they were told the child was learning disabled. The videotape viewed by the teachers was of a normal child.

In a widely publicized study by Rosenthal and Jacobsen (1968), teachers were told that tests had shown that certain children were ready to bloom academically. Consequently those children did make intellectual gains. This finding has been the subject of much controversy. Major criticisms, inadequate data analysis, test administration by teachers, reliance on inappropriate norms, poorly defined sampling procedures, large attrition rate, and misleading graphs and tables have been leveled at this study, but it did lead to a greater interest in this area on the part of both lay and academic people. Many researchers attempted to replicate the Rosenthal study with no definitive results (Braun, 1977). An interesting conclusion reached by Pippert (1969) was that the pupils of teachers who doubted the false information did not improve while the pupils of teachers who believed what they were told did. The personality of the teacher was the key variable and therefore studies involving manipulation of teacher expectations cannot be conclusive. Many teachers take the performance of a child at face value and thus eliminate the ascription effect.

The teachers' judgements of a child's behavior are often the primary screening device in kindergarten and first grade. Becker

and Snider (1979) report that teachers at this level accurately identify the educationally high-risk children in their classes. Several studies describe these children as being immature, withdrawn, dependent, random in activity, and easily distracted (Hampe, 1975; Becker & Snider, 1979; Torgesen, 1977). The actual labelling may also be a reflection of the conceptual framework and training of the labeller (Bryan & Bryan, 1977). The self-fulfilling prophecy begins with the first label and often starts on its course soon after a child has entered school.

An innovative experiment of externally-imposed discrimination was recounted by Braun, (1976). A third grade teacher told the class that for one day the brown-eyed children would be superior to the blue-eyed. The new roles were learned instantly - even to the improved academic performance of the 'more intelligent' brown-eyed children. In later discussions in this and replicated studies the children said that they believed in their superiority or inferiority at first because the teacher said it was so and then later because they saw it was so. And they did actually see it. The 'inferior' children did inferior work, had to be corrected, and became sulky and inattentive. Once the cycle is put into motion it is perpetuated. When the learner thinks of himself/herself as inferior, his/her actions will tend to be inferior and teachers and peers receive confirmation of this inferiority.

It is difficult to determine the relative significance of each input variable and the interaction among them. Braun, (1976) reports that previous performance is the most significant variable; race and socio-economic status have a 'leaning backwards' effect; teachers are more influenced by negative reports than by neutral

or positive ones; attractive children are rated more positively; a sex bias very definitely favors girls; children who followed a bright sibling performed better when taught by the same teacher as compared to controls who were taught by a different teacher, and the child who followed a low performing sibling performed at a lower level than the control subjects. Although these findings are interesting, it must be remembered that a very wide variability of teachers' perceptions was also found for each source of input.

The teacher acts on the perceived expectations in various ways, ranging from a practice as obvious as ability grouping for reading to the use of subtle body language and tone of voice. Several studies report that teachers interact less often and more negatively with low expectation students and pay less attention to their responses (Boersma & Chapman, 1979b). Braun (1976) reports that 11 out of 12 studies supported the notion that teachers encourage greater responsiveness in students of whom they expect more. The amount of praise and support given by teachers is well documented. Not only did teachers expect a higher performance from certain children, they praised the performance when it occurred. When low achieving children from whom less was expected performed well, the teachers were less prone to praise even though such success seldom occurred (Braun, 1976; Peck, 1981).

This evidence suggests that praise and support in the earlier school years, when the academic self-image is unformed and the teacher's credibility rating is high, is crucial. An older student with a confirmed negative self-concept views praise in a

much more critical fashion and, unless used judiciously, it can have the opposite of the intended effect.

Exactly how the dynamics of teacher personality operate to affect differential performance is yet another area for further research. LD students present themselves to teachers in an unfavourable light - both academically and socially - and thus the low expectations of the teacher appear realistic. The students 'get the message' and the cycle continues.

Parental Perceptions and Expectations

Many factors preclude detailed and lengthy objective observations of family dynamics and interactions in the home. Lacking the necessary time, money and cooperation, most studies are based on the results of questionnaires. An obvious need exists for ecological assessment of LD children in their homes as well as in the schools. Senf states, "The obvious and inevitable fact that parents of the LD child are intimately involved with the child's disability stands in marked contrast to the paucity of studies in this area." (reported in Freund, Bradley, & Caldwell, 1977, p.42) It is important to remember that what is observed or reported in the home can be a reaction to the child's behavior as well as a determinant. The majority of the studies focus on the homes of preschool and elementary school children. Assessing the family problems of adolescents, let alone LD adolescents, is a monumental task. Because the young LD child often becomes the LD adolescent the general conclusions of the LD home and family research are of most concern here. Before discussing the parents' views of the LD children, it will be useful to consider various investigators' perceptions of the LD parents.

Several studies indicate that the homes of LD children are

less well organized than those of normally achieving children (Freund, Bradley & Caldwell, 1977). Disorganization is also a characteristic of the LD child's academic behavior. The parents are described as less emotionally stable, generally ineffective as problem solvers, and as having a tendency to distort and conceal information. Gerber (1976) found that LD parents were in greatest conflict over values and acceptance/rejection of the child in areas most directly related to learning. She further reported a tendency of one parent to ally himself or herself with the child while the other parent rejected the child. Abrams and Kaslow (1977) reported monetary and emotional stresses as more common among these parents. They described a painful cycle in which parents' feelings of guilt and resentment lead to overprotection and overpermissiveness. This inconsistency can also lead to the development of tyrannical behavior in the child as described by Anderson (1980).

Homes of language-delayed children having normal intelligence have been compared with homes of normal children and Down's Syndrome children. The results indicated a substantially lower responsiveness and involvement on the part of the LD mothers (Freund et al, 1977). Related to this is the finding of Chapman and Boersma (1979b) that mothers of LD children have fewer positive and more negative interactions with their children. A different parent questionnaire indicated that LD mothers were consistently more authoritarian, exercised more control in child rearing, and displayed significantly fewer democratic attitudes (Humphries & Bauman, 1980). These mothers were also depicted as less hostile and rejecting. Perhaps they had allied themselves with the children and were actively attempting to understand and support them. Other research

studies indicated that LD children tended to come from larger families, that those in larger families had better social skills, and that the child's ordinal position in the family was not significant (Freund et al, 1977; Gerber, 1976).

Although LD children and their parents form as heterogeneous a group as human diversity permits, certain consistencies are noted in the parents' perceptions of their children. The parents, like the teachers, see the LD child as immature, impulsive and disorganized. Mothers have significantly lower academic achievement expectations for their children (Bryan, Pearl, Zimmerman & Matthews, in press; Chapman & Boersma, 1979b; Freund et al, 1977; Pearl, 1981). This is a further illustration of the tendency for the prophecies made by significant adults to become fulfilled.

A comparison of behavior ratings by teachers and parents is not conclusive. Rie, Rie and Henderson (1978) report that teachers and parents were in agreement on ratings of girls but that teachers rated boys significantly lower than did the parents. Weiderholt (1978), in reporting on a study by Brown and Hammill, states that parents and teachers rated LD and emotionally disturbed students as behaviorally identical.

Strag (1972), in a well documented study, compared parents' perceptions of LD children, severely mentally retarded (SMR) children and normal children. The LD differed from the normal children in having lower self-concepts, a tendency to be rigid, general negativism, poor physical coordination and greater fatigability. The same children differed from the SMR in exhibiting more jealousy and clinginess and less stubbornness and receptivity to affection.

All of the studies reported on intact family units. Different family structures could produce even greater stress. It appears that not only the LD child but also his/her family needs help. Groups such as the Association for Children with Learning Disabilities (ACLD), can lessen the sense of aloneness with one's burden. As a result of an ACLD sponsored questionnaire, parents of diagnosed LD children say that they want communication with professionals in language they can understand. They want to know about their child's social problems at school as well as how to help with the learning problems (Dembiński & Mauser, 1977).

More research and longitudinal studies are needed on this regressive pattern of cause and effect surrounding the LD child in the family. Informal reports suggest that learning problems run in families but this has not been empirically established. The preponderance of LD males warrants further study. Many reports involve only males while others have a ratio of four males to one female. The use of masculine pronouns when speaking of the LD child is more realistic than sexist. The characteristic LD child is white, male, eight to nine years old, and has an IQ in the low nineties (Hampe, 1975). Abrams and Kaslow (1977) call for a systems view of family dynamics, with parents and siblings working together to improve family relations.

Before proceeding to the research questions a cautionary note appears to be in order. It is important to appreciate that there are a variety of meanings attached by researchers to terms such as academic self-concept, academic expectations, locus of control and intrinsic/extrinsic motivation. In this study the academic self-concept is operationally defined by the Student's

Perception of Ability Scale and the academic expectation by the Projected Academic Performance Scale. The other constructs are not central to this study and therefore operational definitions were not felt to be necessary.

Research Questions

It is clear from the preceding review of research done in this area that there are a number of significant lacunae. The present study attempts to fill one of these by trying to determine if problems in the affective realm contribute to the learning difficulties of LD adolescents. Lack of empirical data has hitherto hindered our understanding of the extent to which affective and social variables prorate the LD adolescent's poor scholastic performance. Specifically the study proposes to answer the following questions.

1. Is there a difference between the academic self-concepts of LD and normally achieving adolescents?
2. Is there a difference between the expectations for future academic success of LD and normally achieving adolescents?
3. Is there a difference between the teachers' perceptions of the behaviors of LD and normally achieving adolescents?
4. Is there a difference between the teachers' expectations for future academic success of LD and normally achieving adolescents?
5. Is there a difference between the stress levels of parents of LD and normally achieving adolescents?
6. Is there a difference between the parents' expectations for future academic success of LD and normally achieving adolescents?

METHODOLOGY

Research Design

This study incorporated a causal-comparative design (Borg & Gall, 1979) between two groups, learning disabled and normally achieving adolescents. These comparisons involved the students' academic self-concepts and their expectations for future academic achievement. Their teachers' predictions for the students' academic success and their perceptions of the students' behaviors were similarly compared. The parents of the two groups of students were compared on their stress levels and on their predictions for their children's academic futures. The limitation of this design is that if differences are found no causal inference can be drawn concerning the reasons why the differences exist.

Procedures

After the proposal for this study was approved by the Simon Fraser University Ethics Committee, the Vancouver School Board was approached and subsequently agreed to this research being conducted in city schools. In November, 1980, letters detailing the project and its rationale were sent by the researcher to 12 secondary school principals. Phone calls during the following week resulted in ten meetings with various members of teaching staffs for further discussions. Nine of the principals delegated the decision of whether or not to participate in this research to the counsellors and/or Skills Development Centre teachers who would be expected to select suitable subjects and complete the teachers' questionnaires. One principal assigned a vice-principal to co-ordinate and assist in all phases of the project, and as a result of this assistance 49 of the 82 subjects are from this school. In total, teachers from eight schools agreed to take part

but two later withdrew due to conflicting Vancouver School Board survey questionnaires.

During the spring of 1981 an assistant researcher, familiar with Vancouver schools, met with the potential subjects and explained the purpose and requirements of the project to them, stressing that scores would be reported in group form only and that all data on any individual would be held in confidence. After this introduction, students took explanatory letters and consent forms home with instructions to return them as soon as possible. Follow-up phone calls to parents not responding were made after two weeks. If they refused to participate in the study, no further contact was made. If they agreed, duplicate consent forms were personally delivered to them where necessary.

After all consent forms were accounted for, the research assistant administered the students' questionnaires to groups ranging in size from one to twenty, depending on the size of the sample in that school. She provided help with decoding and vocabulary difficulties when necessary, as far as directions for standardization permitted. She also gave the parents' surveys to the students with a further letter of explanation and gratitude. Again, the parents who did not return the completed instruments within two weeks were contacted by phone, and if they had misplaced the forms the researcher delivered duplicates to them. Only two of eighty-two parents refused to complete the questionnaires. Several teachers objected to completing the Devereux Adolescent Behavior Rating Scale because they felt they did not know the students well enough. They therefore omitted certain items, and these scores were prorated as suggested by the authors (p.7). The data collection was completed by the end of June, 1981.

Scoring, done by the researcher, was checked in two ways. Firstly, all outliers were rescored. Secondly, results for every tenth subject were rescored across all six instruments. No errors were found in the course of rescoring.

Subjects

Eighty-two students between the ages of 13 and 17 participated in this study. (See Table 1). They came from grades eight and ten in six Vancouver schools located in socioeconomic areas ranging from lower to upper middle class. The LD group consisted of 11 males and 8 females in grade eight and 11 males and 9 females in grade ten. The normally achieving group contained 16 males and 7 females in grade eight and 12 males and 8 females in grade ten. The mean age of the students was 15.

Forty-nine students were from Eric Hamber Secondary, which is situated in the middle of several socioeconomic groups. Its student population of 1600 reflects, to a large extent, the population of all Vancouver schools. Ethnic groups represented include Chinese, Italian, Jewish, and East Indian. These ethnic groups, with the exception of the Jewish, are similarly represented in the other five participating schools. Two schools, Gladstone and David Thompson, are on the east side of Vancouver while the remaining three Prince of Wales, Kitsilano and Point Grey, are on the west side. Since secondary students are now permitted to choose the school they prefer to attend, the location of the school is not as definitive of the socioeconomic status of the students as in the past.

Many students came from homes in which English is a second language, but their parents had no difficulty in responding to the initial letters and in completing the questionnaires. None of the

students' I.Q. scores were released by school authorities but they were reported by the teachers to be within the average range. None of the students had major physical or emotional problems. The subjects were selected by the counsellors, skills development centre teachers and/or English teachers. Within each school consensus regarding the status of students was attained by the three groups. Although more than two hundred consent forms with explanatory letters were sent home with students, the rate of affirmative returns was very low with the exception of the school in which the administration actively supported the study.

Students were classified as learning disabled on the basis of a discrepancy model: their academic grades, particularly in reading, were two or more years below grade level, with no intellectual, emotional or physical problems to account for the discrepancy. The normally achieving group consisted of students with scholastic records indicating average to high average performance on report cards.

Dependent Measures

Six dependent measures were used across two groups of subjects (LD and normally achieving), their teachers and parents. The students' self expectations for future academic achievement were estimated by the Projected Academic Performance Scale (Chapman & Boersma, 1978) while modified versions, ascertaining their expectations for students and sons and daughters, were completed by teachers and parents. The students' academic self-concepts were assessed with the Student's Perception of Ability Scale (Boersma & Chapman, 1977). Teachers described and evaluated student behaviors by completing the Devereux Adolescent Behavior Rating Scale (Spivak, Haimes & Spott, 1967) while parents revealed personal and familial stress levels by answering the

State-Trait Anxiety Inventory (Spielberger, Gorsuch & Lushene, (1968).

Projected Academic Performance Scale

The Projected Academic Performance Scale (PAPS) was developed by Chapman and Boersma (1978) to tap short and long term expectations in six academic areas and across three different groups of people, students, teachers and parents. The student form contains 42 four response multi-choice items which contribute to six subscales, each containing seven items. The seven items deal with predicted performance in that subject area. A sample question is "How well do you think you will like reading next year?": (a) a lot, (b) a little, (c) not at all, (d) hate it. The six subscales are spelling, reading, language arts, math, social studies and science. This instrument, originally intended for elementary students, was adapted for older students in this province by substituting English for language arts. Full scale scores range from 42 (low expectations) to 168 (high expectations).

Studies by the authors report that the PAPS is sensitive to differences in the achievement expectations of LD and normally achieving students in grades three and six. This is an indicator of the external validity of the PAPS. A further index of validity is shown in the relationship of PAPS scores and report card grades. These scores ranged from .24 to .45. The explanation for the lower correlation is that many children in grade three have only a vague conception of what is meant by future. Test-retest stability coefficient over a four to six week period was .80 and internal consistency data provided by Cronbach's alpha was .90.

The teacher's form of the scale (PAPS-T) consists of two expectation questions for each subject area. The questions are "How good do you think each child will be next year?" and "Do you

think he/she will be good at _____ when he/she is older?"

Teachers mark the number of the most appropriate multi-choice answer under each subject heading. The authors have found a high correlation between teachers' expectations and grade-point average ($r = .75$).

The parents' version (PAPS-P) contains twelve items dealing with the same six subjects. For each subject area parents indicate their expectations by selecting one of four possible weighted levels of achievement in terms of two future time dimensions which are expressed by "next year" and "when he/she is older". The authors note a moderate relationship between mothers' expectations and grade-point average ($r = .55$).

Student's Perception of Ability Scale

The Student's Perception of Ability Scale (SPAS), developed by Boersma and Chapman (1977), contains seventy forced-choice "Yes-No" items relating to feelings and attitudes about school performance in five basic academic areas (reading, spelling, language arts, arithmetic and penmanship) and also to school in general. The items contribute to six subscales which include Perception of General Ability, Perception of Arithmetic Ability, General School Satisfaction, Perception of Reading and Spelling Ability, Perception of Penmanship and Neatness (each of which contains 12 items) and Confidence in Academic Ability (10 items). Approximately half of the items are worded positively and half negatively in order to control for response acquiescence. The full scale scores derived from the SPAS may range from a low of 0 to a high of 70.

The authors report that discriminant validity is indicated by the low correlation coefficients, from .03 to .08, with the Piers-Harris Children's Self-Concept Scale (Boersma & Chapman,

1978). These data indicate that the two scales are measuring two distinct domains. The authors further report that the SPAS shows a moderate and relatively consistent relationship with school achievement as assessed by report card grades and standardized achievement tests. Achievement scores in the reading, spelling, and language arts areas had coefficients in the .3 and .5 range. Test-retest reliability over a four to six week period was .83 for the Full Scale score whereas subscale values ranged from .71 to .82.

Devereux Adolescent Behavior Rating Scale

The Devereux Adolescent Behavior (DAB) Rating Scale (Spivak, Haimes & Spotts, 1967) was designed to facilitate the communication and description of overt behavior symptoms of disturbed adolescents in a variety of settings. In addition to its usefulness in the clinical situation it can be used in research when behavior criteria are required. The Scale provides a profile of fifteen behavior dimensions and measures behavior which, in part or total, have led parents or other adults to assert that the youngster is having a "problem".

The questionnaire consists of 84 questions most commonly beginning with "How often does he ...?" Ratings are based for each item on a Likert Scale that begins with five points and increases to eight on the 58th question. Four or more items, randomly interspersed throughout the questionnaire, group together to give a score for each of twelve behavior factors and three behavior clusters.

Normative data are based on samples of 834 institutionalized adolescents, covering a full spectrum of mental and emotional disturbances, and 397 normal teen-agers. Assessment of reliability

was made both in terms of test-retest as well as rater-agreement. The median reliability correlation on the former, over a seven to ten day period, was .82 while the rater-agreement reliability coefficient was only .42. The authors felt that this was possibly due to the different circumstances under which the ratings were done by houseparents and recreative supervisors. No validity data are given in the manual.

Analyses have included comparison of factor and cluster scores of the various clinical groups with the scores of normal teen-agers, and comparison of mothers' and fathers' ratings in the normal live-at-home group.

While the behavior factors and clusters are similar in that each consists of interrelated items which tap a common behavior dimension, the clusters remain more tentative or experimental. The authors state that the criteria employed to define a factor were not as firmly met in the case of the cluster.

State-Trait Anxiety Inventory

The State-Trait Anxiety Inventory (STAI), developed by Spielberger, Gorsuch and Lushene (1968), is comprised of separate self-report scales for measuring two distinct anxiety concepts: state anxiety (A-State) and trait anxiety (A-Trait). Anxiety is defined as a complex emotional syndrome which consists of unpleasant cognitive and affective states, and physiological arousal (Spielberger, 1972). The authors make a conceptual distinction between anxiety as a transitory emotional state (A-State) and as a relatively stable personality trait (A-Trait). The validity of the STAI rests upon the assumption that the examinee has a clear understanding of the state instructions which require him to report how he feels "at this moment", and the trait instructions which

ask him to report how he "generally feels".

The questionnaire consists of twenty items on the A-Scale and twenty on the A-Trait. Subjects respond by rating themselves on a four point scale. Some of the items are worded in such a manner that a rating of (4) indicates a high level of anxiety, while other items are worded so that a high score indicates low anxiety. The range of possible scores on each subscale is from 20 to 80.

The authors report that test-retest reliability correlations for the A-Trait scale were reasonably high, ranging from .73 to .86, while those for the A-State scale were relatively low, ranging from .16 to .54. This was anticipated because a valid measure of A-State should reflect the influence of unique situational factors existing at the time of testing. The subjects had been exposed to the following experimental conditions: a relaxation period, a difficult I.Q. test, and a film depicting gory accidents. Measures of internal consistency were felt to be more meaningful measures of reliability. Data provided by Cronbach's alpha ranged from .83 to .92 for A-State scores. The concurrent validity of the STAI A-Trait scale is indicated by correlations of .75 for females and .76 for males on the Institute for Personality and Ability Testing Anxiety Scale, .80 for females and .79 for males on the Taylor Manifest Anxiety Scale, and .52 for females and .58 for males on the Zuckerman Affect Adjective Checklist.

CHAPTER FOUR

RESULTS

Statistical analysis of the data comparing the LD and normally achieving groups was made by two-tailed t tests as no directionality is implied in the research questions. Either the pooled or separate variance estimates were used depending on the distribution of scores. The level of significance was set at one percent. Grade and sex variables were compared by the same method. Appropriate one-way analyses of variance were used to compare the variables of age, school, and parent response.

The results support all predictions made with the exception of the one concerning parental stress. The self-concepts of the students and their teachers' perceptions of them show that LD and normally achieving teenagers differ on all but two of the academic and behavioral dimensions tapped. Students, teachers, and parents share similar expectations for future academic achievement. Namely, they all view the LD group's future more negatively and the normally achieving group's positively.

It is important to state the potential for Type I error owing to the number of t tests performed. However, the consistently high level of significance attained by the analyses of the data would suggest that similar results would be obtained if multivariate procedures were used.

Projected Academic Performance Scale (PAPS)

Differences between the LD and normally achieving groups in all three versions of the PAPS - students', teachers', and parents' - were statistically significant at the one percent level of confidence. Examination of the mean scores in Tables

2 and 3 reveals that the normally achieving students consistently received higher ratings in every content area. LD students viewed future success as highly unlikely in all subject areas, but differed most significantly from the normally achieving students in Social Studies, $t(80) = 3.87$, $p < .001$ and Mathematics, $t(80) = 4.27$, $p < .001$. The LD students had lower mean scores in Reading and Mathematics than in the other subject areas. Normally achieving students also expected less future improvement in Reading than in other subject areas. The Spelling subtest had fewer questions so results cannot be directly compared to other scores.

The mean scores of teachers' and parents' versions of the PAPS (see Table 3) also cannot be directly compared as the number of items differed. The scores do not indicate that teachers view adolescents more negatively than do parents. Both teachers

$t(68.99) = 13.58$, $p < .001$, and parents, $t(78) = 7.23$, $p < .001$ take a pessimistic view of the possibility of future academic success for the LD adolescents as compared to their normally achieving peers.

Student's Perception of Ability Scale (SPAS)

The Full Scale scores on the SPAS show that LD students have much lower academic self-concepts than do normally achieving students, $t(80) = 6.09$, $p < .01$. The subscale scores reflect similarly negative views on the part of the LD students, with all scores but one significantly different at the one percent level of confidence (see Table 4). The exception to the significant scores is that on Penmanship/Neatness, $t(80) = 1.77$, $p > .05$. This finding replicates previous findings for younger groups (Boersma

& Chapman, 1979). The mean scores for the subscale of School Satisfaction of both LD and normally achieving students (4.84 and 6.32 respectively) are below the normative mean of 7.99 supplied by Boersma and Chapman (1979) on the basis of their numerous studies of students in grades three to six.

Devereux Adolescent Behavior Rating Scale (DAB)

The statistical analysis of the DAB data indicates that teachers view the behavior of LD and normally achieving students as significantly different at the one percent level of confidence on all factors excepting heterosexual interest, $t(59.86) = 2.37$, $p > .01$ (see Table 5).

LD adolescents had a significantly greater variance of scores on 11 of the 15 ratings. Scores in individual protocols revealed that teachers perceived 27 of the 39 LD students as exhibiting some form of aberrant behavior. Six of these, four males and two females, were rated as abnormal in five or more areas.

State-Trait Anxiety Inventory (STAI)

There are no significant differences between the scores of the parents of the LD adolescents and the parents of the normally achieving adolescents on the A-State scale: $t(77) = .23$, $p > .05$ and the A-Trait scale: $t(77) = .10$, $p > .05$. Score distributions are similar in the two groups of parents with the parent of a normally achieving student recording the highest level of stress (67) on the A-Trait scale.

Post Hoc Analyses

Further analyses were carried out on the independent variables of sex, grade, age, school, and parent response. These additional analyses were conducted to investigate the possibility

that these separate variables provided alternate explanations of the observed differences. On the variable of sex, tested by two-tail probability, there were no significant differences on all tests. Other variables were tested by one-way analyses of variance. No significant differences were noted on the variables of age and grade and no differences were obtained by looking at whether the mother or the father answered the questionnaires. Thus it appears that the differences discovered are not related to the variables of sex, grade, age and parent response.

Regarding the result of the analysis on the school variable, the statistical probabilities were not valid due to the distribution of subjects within the schools. Only one subject came from a particular school while 49 came from another. That these two groups should show any statistically significant difference is irrelevant given the distribution of subjects in the schools. Even so the scores showed little difference due to the variable of school attended.

Research Questions

In light of the findings the following statements can be made regarding the six questions posed at the end of chapter two.

1. The academic self-concepts of LD adolescents are lower than those of normally achieving students.
2. Normally achieving adolescents view their prospects for academic success more positively than do LD students who see future success as highly unlikely in all subject areas.
3. Teachers view the behavior of LD and normally achieving students as significantly different on all factors except heterosexual interest.

4. Teachers view LD students' prospects for academic success more negatively than the prospects of normally achieving students.

5. There is no difference in levels of stress between the parents of LD students and the parents of normally achieving students.

6. The parents of LD adolescents view their children's prospects for academic success more pessimistically than do parents of normally achieving students.

CHAPTER FIVE

DISCUSSION

This study had two major purposes as well as a secondary purpose. The first was to determine how LD adolescents and normally achieving adolescents perceive themselves as learners and view their academic futures. The second was to determine whether teachers' perceptions of LD adolescents and their prospects for academic achievement differ from their perceptions of normally achieving students and their prospects for academic achievement. A secondary investigation involved an attempt to determine whether there was a difference in stress levels of LD parents and normally achieving students.

The results of the study clearly indicate that most LD adolescents have very low academic self-concepts, both in the present and in terms of the future, in comparison with their normally achieving peers. The results also clearly indicate that teachers view LD students and their prospects for academic success far more negatively than they do with normally achieving students. The results on the investigation of parental stress revealed no significant differences in levels of stress among the parents of LD students and those of normally achieving students. However, it was found that the parents of LD adolescents have low expectations of their children's academic futures.

Boersma and Chapman (1979a) reporting on four studies based on the Student's Perception of Ability Scale, found that grade six LD children view themselves more negatively than did grade three LD children. The findings in this present research indicated that LD adolescents had substantially more negative self-perceptions than normally achieving adolescents. Relating

the present findings to the previous findings of Boersma and Chapman (1979a, 1979b) one sees a suggestive pattern of LD students becoming more entrenched in negative academic self-perception. Although the pattern of results is provocative, long-term studies on the academic self-perceptions in the same group(s) of LD students, tracing them from elementary to secondary schools appears necessary for substantiating the claim of some form of cumulative entrenchment of negative academic self-perceptions in LD students.

Several educational and psychological researchers (Bloom, 1976; Rosenberg & Gaier, 1977; Strang, 1957) have argued that people have an innate need to maintain a consistent self-concept. If people view themselves in a particular way they will do whatever is necessary to maintain the outward appearance of their inner reality. A student's self-concept is therefore an important factor in achievement motivation and one which is well established fairly early in life and resistant to change (Dunn, Pearl, & Bryan, 1981; Hamachek, 1973; Peck, 1981; Weiner, 1972). Kagan and Moss (1968) report that the critical period for the development of self-concept is in the first five school grades. This conclusion is borne out by the more recent studies of Boersma and Chapman (1979a, 1979b, 1979c).

The only facet of academic self-concept which did not show a significant difference between the LD and normally achieving groups was Penmanship/Neatness. The reasons for this appear to be twofold. Firstly, this factor is not directly related to academic success. Secondly, the wording of the questionnaire was not suitable for secondary school students in that the questions dealing with penmanship were expressed in terms of

printing rather than writing. Students were asked to respond to such statements as "I like doing printing", "I am good at printing", and "My printing is perfect". It is unlikely that the LD adolescents would view their printing ability any more negatively than the normally achieving students.

A similar problem revealed itself in the PAPS scores discussed below. Normally achieving adolescents were found to have lower expectations for future improvement in reading than normally achieving students in grades three and six. Possibly the older students view themselves as accomplished readers and therefore do not anticipate any notable improvement. Furthermore, there is no subject entitled 'Reading' in secondary schools.

It should be noted that while the LD students generally expressed self-concepts more negative than those of the normally achieving students, there is nevertheless a certain heterogeneity of view within the LD group. This is indicated by the wide range of scores. No LD students assigned the same rating to all six subjects. Few trends could be discerned other than the tendency of LD females to rate themselves lower than males on the arithmetic subscale.

Given the lower academic self-concepts of the LD adolescents it is not surprising that these students have a pessimistic view of their prospects for academic improvement in the future. All of their scores were significantly lower than those of the normally achieving students. This finding replicates several studies. (Boersma & Chapman, 1979b; Chapman, Boersma & Maguire, 1979; Dunn et al, 1981) in which LD students viewed their academic futures negatively. These studies, conducted with younger children, did not report significant differences in all subject areas. Boersma

and Chapman (1979b), for example, found no difference in science expectations in a study of children in grades three and six. The adolescent students in the present study, however, scored substantially lower on all six subscales compared to the scores of elementary school LD children. It would appear that the older students, having experienced more failure, no longer expect success in any of the school subject areas. Boersma and Chapman (1979b) reported that grade six LD students had more pessimistic expectations for future academic performance than grade three LD students, and the data presented here confirms the assumption that LD students have negative self-concepts when entering the secondary stage of their schooling. This finding suggests another fertile area for future research.

It would seem to be a logical assumption that once continued academic failure has convinced students that they are academically inept, they perform at a level commensurate with that belief and over time come to expect a lack of scholastic success. The momentum of such a self-fulfilling prophecy is such that it is difficult to reverse. The more pronounced negative self-concepts and expectations of the secondary school LD students attest to the remedial problems presented by older students.

It was found that the LD adolescents' negative view of themselves and their expectations was shared by their teachers and parents, and this was to be expected given that the students' views must to some extent reflect and interact with those of teachers and parents. As the questionnaires were rated on total scores only, it is not possible to ascertain if the subject areas were differentiated by the adults. It must therefore be borne in mind

that there may be some bias to the teachers' scores. A teacher in a secondary school, unlike a homeroom teacher in an elementary setting, cannot possibly have first-hand knowledge of a student's performance in six subject areas. It is possible that the subject area teachers were consulted, but it is more reasonable to assume that previous report card grades served as the basis of the teachers' predictions.

Parental perceptions may have been influenced by a number of factors, including past report card marks, impressions gained in parent-teacher interviews, and the direct remarks of the students. The study revealed that parents tend either to view their children's academic prospects in the same way as the teachers or to regard the future more positively. Only seven of 82 students were rated as much more likely to succeed by their teachers than by their parents. Perhaps this finding is not surprising, given that parents tend to harbour the greatest hopes for their children and may thus be less 'realistic' than teachers. At the same time, many adolescents try to assert their independence by resisting the efforts of parents to maintain close contacts with the school and so to keep in touch with the students' progress. Of those parents who take the more negative view, it is possible that some have abandoned the effort to impress upon their children the necessity of improving their grades, particularly if this has been a struggle for years.

The low ratings for academic expectations given to LD students by the teachers are matched by similarly negative views in the behavioral rating scale. The teachers report that LD adolescents manifest a range of maladaptive behaviors. Of fifteen behav-

ioral dimensions, only one - Heterosexual Interest - did not differentiate significantly between LD and normally achieving students. The heterosexual interest factor appears to bear little relationship to academic performance. The wide divergence of the scores in this particular area indicates the heterogeneous nature of the teachers' ratings. Nine students were viewed as having an abnormally high interest in the opposite sex, while seventeen were considered to have an abnormally low interest. Seven of the nine in the first group were classified as LD, and of these four were female. Of the low interest group, the largest category consisted of nine normally achieving males.

Overall, teachers rated 12 LD students as behaving within acceptable limits. A further 16 LD students were perceived as behaving in an aberrant manner on one or two dimensions, the dimensions in question varying from student to student. The remaining 11 LD students exhibited abnormal behavior on three to nine dimensions. The teachers tended to categorize these abnormally rated students in one of three subgroups: hyperactive and expansive (show-off), physically inferior and timid, or unethical and defiant (see Figures 1 and 2). Clearly all three subgroups noted by teachers have social implications. It would be valuable to investigate these implications further by eliciting behavioral ratings of LD adolescents from peers, parents, and other teachers, and using other scales. Intervention in the social domain cannot be made with confidence unless it is known whether the view of the student's teacher is shared more generally. The present findings, however, clearly confirm the prediction that teachers would have more negative perceptions of LD students than of normally achieving students.

It should be noted that some teacher and/or instrument bias is obvious on this behavioral rating scale (see Figure 2). The scale is so constructed that, in general, a higher score indicates a higher degree of aberrance. Teachers tended to rate normally achieving students as low as possible on the Likert Scale, with the result that at least one-third of these students were rated as abnormally low in their need for approval, their heterosexual interest, and their energy and talkativeness. This implies that teachers in these cases perceived the students as abnormally inhibited, and it is highly doubtful if this was in fact the case. Buros (1972) makes a valid criticism of the Devereux Scale in this regard, noting that "because of the nature of the items, it does not appear that the scale will prove useful for making fine discriminations among normal children. The scale seems most suited for very disturbed adolescents." (p.134)

Considering the perceptions of teachers evident in the subgroupings mentioned above, it might be expected that parents of LD adolescents would display higher levels of stress than those of normally achieving students. In this study, however, the stress levels of both groups of parents proved to be nearly identical. Upon reflection this finding does not seem so surprising, given the number of variables that influence anxiety and stress states. Financial circumstances, health, and employment or the lack of it are only a few of the factors that may come into play. Certainly the questionnaires provided no evidence that the learning difficulties of adolescents increased stress among parents.

The significance of the present study lies in providing the much needed empirical base to the common assumption that LD adolescents hold negative academic self-concepts and pessimistic expect-

tations of academic success. The findings presented here constitute an extension of the data on the academic self-concepts and expectations of elementary LD and normally achieving children reported by Boersma and Chapman (1979b). By extending this research into the adolescent years, this study suggests that negative self-concepts may become entrenched over time, and also presents an integrated picture of how teachers and parents view the prospects for teenaged LD students achieving academic success.

The academic problems of the LD adolescent cannot be remedied in isolation. The self-view of the students must be improved both socially and academically before any real changes in academic performance can occur. By the adolescent stage self-concept is extremely resistant to change and any intervention procedures must deal with both the affective and cognitive domains in order to be effective. The LD adolescent who expects only more failure presents a real educational challenge. Possible solutions to the problem lie in three areas: preventive measures, alternative secondary school programs, and further research.

Since it appears that continued academic failure produces negative academic self-concepts by the third grade, it is of the utmost importance that high-risk children be identified early and provided with programs in which they will learn successfully. Teachers of grades one and two should be furnished with all the assistance necessary to accomplish this, whether in the form of further training or classroom aides. Early assessment and assistance will enable far more children to regard schooling as a positive experience. Strag (1972) reports that 82% of children

with reading problems were remediated in grades one and two. 46% in grade three and only 10 to 15% in grades five to seven. Furthermore, individualized classrooms in which children are taught at appropriate levels and the only competition is in improving a past performance should enable more pupils to view themselves as active and successful learners. The child enters school with no expectations of academic failure, and it must be emphasized that it is in this area that teachers in particular need to be well informed.

With regard to secondary school programs, it has been reported that elementary school LD programs have been implemented in secondary schools without consideration of the specific needs of the older student (Kokoszka and Drye, 1981). Clearly this is an area that requires greater reflection. Indeed, Kendall (1981) notes that LD students in vocational classes had higher ratings of social maturity and better career attitudes than either mainstream students or those in Skills Development Centres. Haisley, Tell, and Andrews (1981) report that the use of peer tutors has also been notably effective. Any course or program intended to improve the scholastic skills of LD teenagers must include components designed to enhance the students' views of themselves as learners. By this age the self-concept is reportedly extremely resistant to change and any intervention procedure must address both the affective and cognitive domains in order to be effective. Guidance counsellors must be particularly aware of this need and be able to suggest suitable courses or alternative programs that best meet individual needs.

The model of research in this area of affective variables

has been inherited by educators from psychologists and is based upon the study of isolated variables in rigorously controlled laboratory conditions (Carver, 1978). What is required is ecological assessment in both the home and the school. Homogeneous groups, rather than the entire LD population would be the focus. Both longitudinal and programmatic research are needed to provide answers to some of the many questions remaining. At present, for example, it has not been determined to what extent low achievement is a function of skill deficits as opposed to expectancy variables. Moreover, research can help to establish which types of programs should be offered to which students. A wide range of suitable curricula should be available in the secondary schools, and the efficacy of various instructional approaches and their relationships to affective variables needs to be examined. The teachers of LD students must be selected with care, and while schools are improving in their efforts to identify and provide for LD students there remains much to be done.

Table 1
Distribution of Students

Group	School	Grade				Total
		8		10		
		Males	Females	Males	Females	
Learning Disabled	Eric Hamber	5	6	3	6	20
	Kitsilano	2	1	2	0	5
	Gladstone	0	1	3	1	5
	Point Grey	1	0	0	0	1
	Thompson	3	0	1	1	5
	Prince of Wales	0	0	2	1	3
	Total	11	8	11	9	39
Normally Achieving	Eric Hamber	13	5	7	4	29
	Kitsilano	3	2	1	2	8
	Gladstone	0	0	1	2	3
	Point Grey	0	0	0	0	0
	Thompson	0	0	1	0	1
	Prince of Wales	0	0	2	0	2
	Total	16	7	12	8	43

Table 2

Mean Scores on the Projected Academic Performance Scale
of Learning Disabled and Normally Achieving Students

Content Area	Students				
	Normally Achieving		Learning Disabled		t
	\bar{x}	S.D.	\bar{x}	S.D.	
Science	21.09	4.85	17.71	3.85	3.47*
Social Studies	21.37	4.34	18.00	3.45	3.87**
Mathematics	21.79	5.61	16.77	4.97	4.27**
English	21.74	4.04	18.56	4.21	3.49*
Reading	19.44	3.78	16.72	4.24	3.07*
Spelling	14.80	3.99	12.67	3.05	2.69*

* $p < .01$

** $p < .001$

Table 3

Mean Scores on the Teachers' and Parents' Versions
of the Projected Academic Performance Scale

	Students				
	Normally Achieving		Learning Disabled		<u>t</u>
	\bar{x}	S.D.	\bar{x}	S.D.	
Teachers	32.35	6.70	16.05	3.93	13.26*
Parents	37.95	7.17	27.11	6.14	7.23*

* $p < .001$

Table 4

Mean Scores on the Student's Perception of Ability Scale
of Learning Disabled and Normally Achieving Students

Subscores	Students				t
	Normally Achieving		Learning Disabled		
	\bar{x}	S.D.	\bar{x}	S.D.	
General Ability	10.14	2.05	7.56	3.40	4.10*
Arithmetic	10.02	2.42	6.67	3.69	4.82*
School Satisfaction	6.33	2.55	4.85	2.40	2.70*
Reading/Spelling	9.67	2.70	5.87	3.85	5.22*
Penmanship/Neatness	8.49	3.00	7.28	3.16	1.77
Confidence	4.86	2.52	3.20	1.69	3.46*
Full Scale	49.56	9.50	35.46	11.45	6.09*

* $p < .01$

Table 5

Mean Scores on the Devereux Adolescent Behavior Rating Scale Assigned
by Teachers of Learning Disabled and Normally Achieving Students

Behavior Factors	Normal Range	Students				t
		Learning Disabled		Normally Achieving		
		\bar{x}	S.D.	\bar{x}	S.D.	
Unethical Behavior	4 to 8	7.05	3.58	4.47	1.14	4.32*
Defiant Resistive	4 to 14	9.16	4.00	5.56	2.42	4.86*
Domineering-Sadistic	4 to 10	7.33	4.13	5.07	1.86	3.15*
Heterosexual Interest	9 to 18	12.85	6.66	9.96	3.88	2.37
Hyperactive-Expansive	11 to 20	14.18	6.37	10.60	4.48	2.96*
Poor Emotional Control	5 to 15	10.67	3.90	7.21	2.24	4.86*
Need Approval, Dependency	7 to 12	10.23	3.07	7.70	3.12	3.70*
Emotional Distance	4 to 12	8.51	4.56	6.09	3.15	2.82*
Physical Inferiority, Timidity	5 to 13	10.85	6.08	6.93	2.39	3.77*
Schizoid Withdrawal	4 to 10	7.95	2.95	5.35	2.85	4.06*
Bizarre Speech, Cognition	7 to 10	8.46	2.44	7.21	.64	3.11*
Bizarre Action	5 to 10	5.62	2.62	5.12	.39	3.54*

Table 5 (continued)

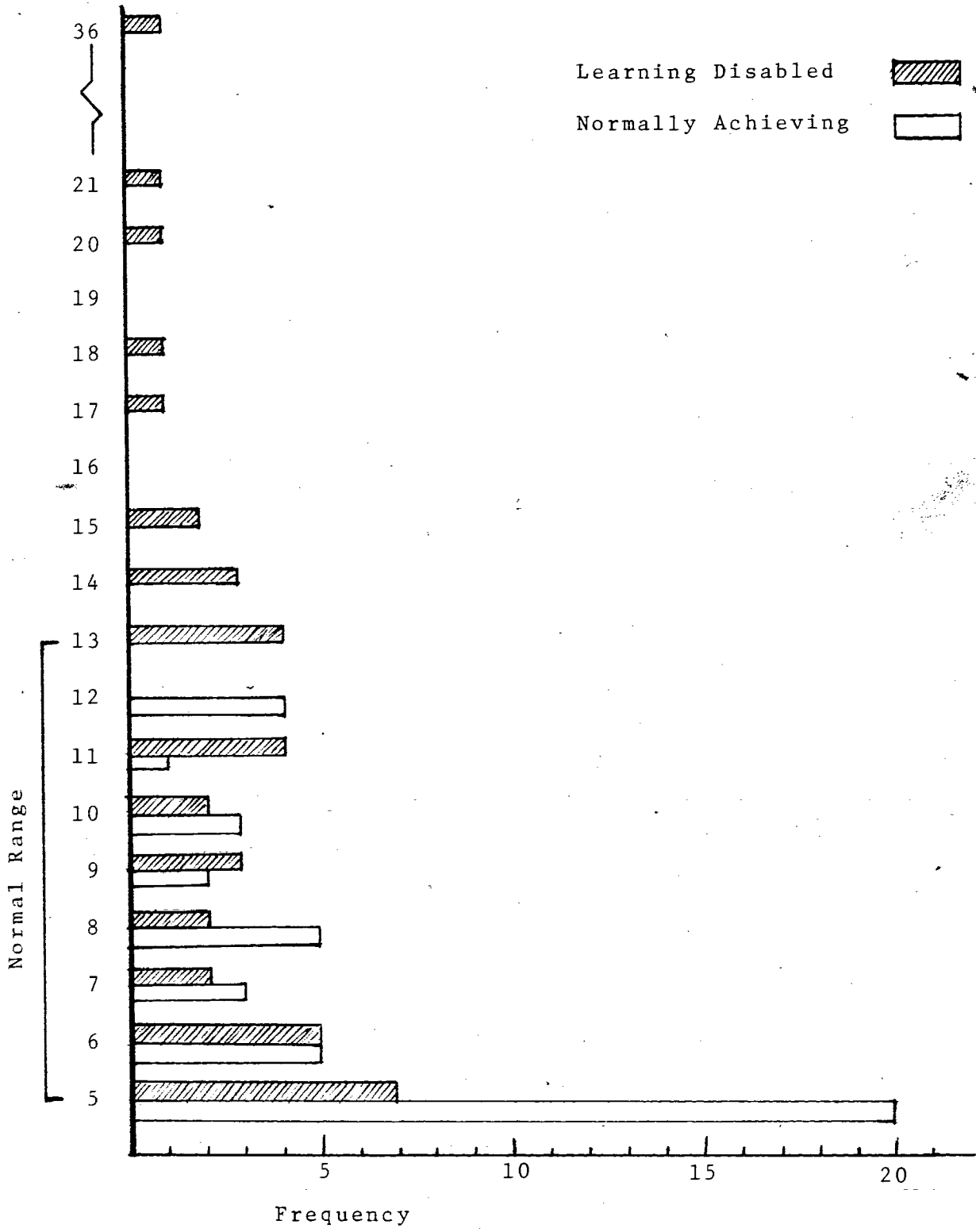
Behavior Clusters	6 to 20	13.46	6.10	8.58	3.68	4.33*
Inability to Delay						
Paranoid Thinking	4 to 9	6.26	2.10	4.74	1.42	3.79*
Anxious Self-Blame	5 to 12	8.00	2.52	6.09	1.99	3.82*

* $P < .01$

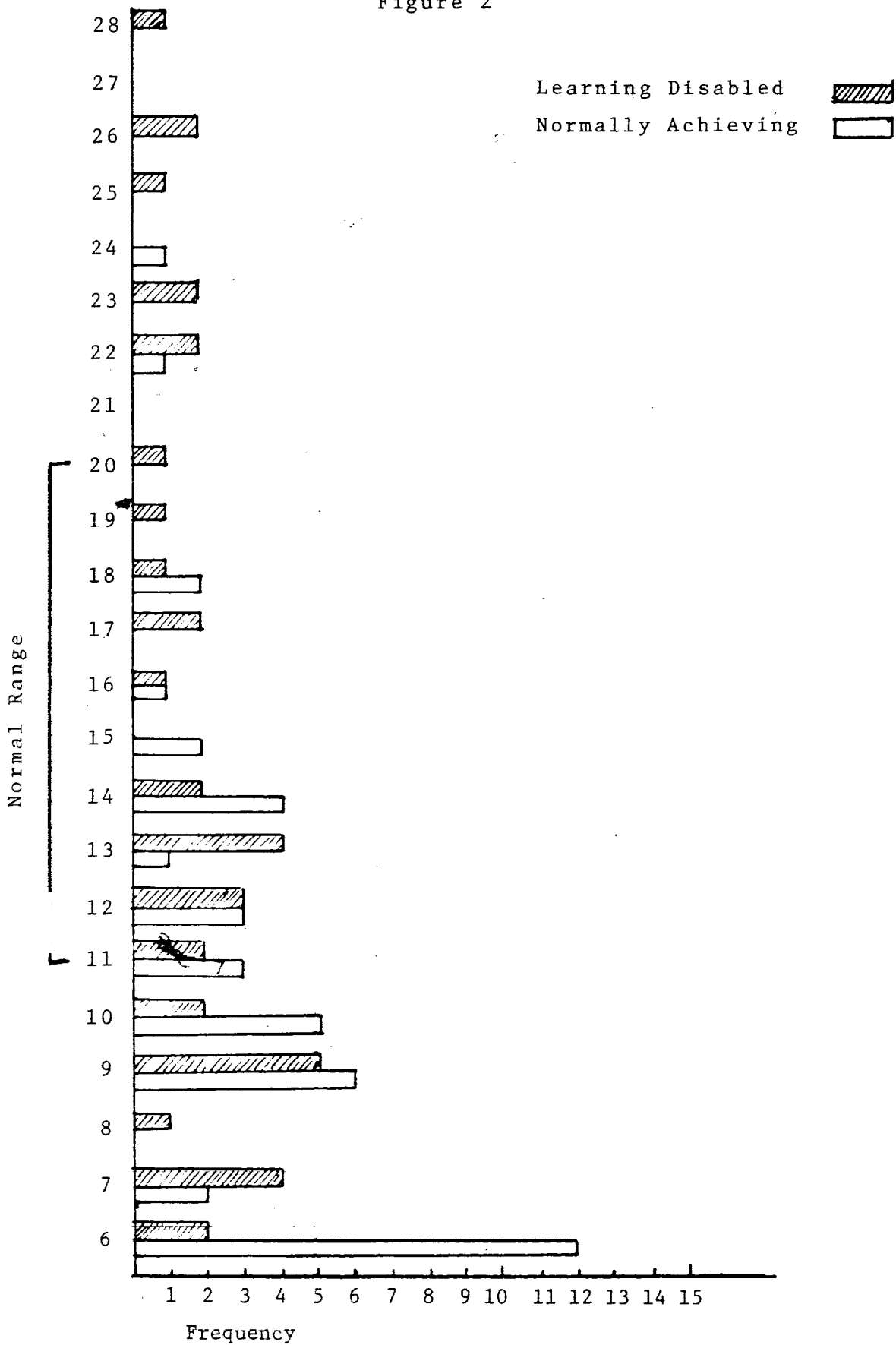
Mean Scores of Parents of Learning Disabled and Normally
Achieving Students on the State-Trait Anxiety Inventory

Subscores	Parents				<u>t</u>
	Learning Disabled		Normally Achieving		
	\bar{x}	S.D.	\bar{x}	S.D.	
A-State	36.08	9.51	35.54	11.01	.23*
A-Trait	36.76	8.54	36.55	9.95	.10*

* $p > .05$



Distribution of Scores on the Physical Inferiority/
Timidity Factor on the Devereux Adolescent Behavior
Rating Scale



Distribution of Scores on the Hyperactive-Expansive

Factor on the Devereux Adolescent Behavior Rating Scale

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