

THE EFFECTS OF SEGREGATED EDUCATION ON THE SOCIAL FUNCTIONING OF  
STUDENTS WITH LEARNING DISABILITIES

---

NICOLA POWELL

Degree awarded with distinction on 30 June 1998

A Dissertation Submitted to the Faculty of Education, University  
of the Witwatersrand, Johannesburg, in partial fulfilment of the  
requirements for the Degree of Master of Educational Psychology

JOHANNESBURG, 1998

## DECLARATION

I declare that this dissertation is my own unaided work. It is being submitted for the degree of Master of Educational Psychology in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other University.

*[Handwritten signature]*  
-----

23 day of February 1998.

## ACKNOWLEDGEMENTS

I would like to acknowledge my gratitude to the following:

- \* Professor M. Skuy, who supervised me, for his invaluable guidance and assistance which he granted me during the course of this research.
- \* Crossroads Remedial School for their permission to conduct the research at the school and to Mrs. Hill, the Principal of the School for her support, assistance and understanding.
- \* The children of Crossroads who participated in the study.
- \* Sharon Vaughn, Batya Elbaum and Jeanne Schumm at the University of Miami, USA, for allowing me to replicate and use their study as a comparison.
- \* A special thanks to Batya Elbaum for sending me the social functioning scales and for her assistance with them.
- \* Lesley Rosenthal, Jenny Girson and Judith Ancer for their support and understanding
- \* The financial assistance of the Centre for Science Development (HSRC, South Africa) towards this research is hereby acknowledged. Opinions expressed and conclusions arrived at are those of the author and are not necessarily to be attributed to the Centre for Science Development.
- \* Finally, my deepest appreciation to my parents, who have been a never-ending support, encouragement and love throughout all my years of study.

## ABSTRACT

The purpose of this study was to examine aspects of the social functioning (i.e., peer acceptance, self-concept, loneliness and social alienation) of learning disabled students (n = 58) in the second, third and fourth grades who were in a segregated school. The results were then compared to a study by Vaughn, Elbaum and Schumm (1996) which examined the social functioning of second, third and fourth grade learning disabled (LD; n = 16), low achieving (LA; n = 27), and average/high achieving (A/HA; n = 21) students in an integrated school. The results support a model which views social functioning as a composite of interrelated measures. Further, the social functioning of LD Children in the segregated setting was pervasively better than that of the LD as well as LA and A/HA groups. Children in the segregated setting were more accepted by their peers, had a higher academic and general self-concept, and were less alienated than LD children the inclusion setting to whom they were compared. When the LD children in the segregated setting were compared to the LA sample in the integrated school, the LD sample had more positive peer ratings of liking. Finally, when LD children in the segregated setting were compared to A/HA children in the integrated setting, the LD sample were seen to be more accepted by their peers and had a more positive global self-worth. Discussion focuses on the effects of segregated and integrated education on the social functioning of children with LD.

### Key Words:

learning disabilities

segregated

inclusion

integrated

social functioning

peer relationships

self-concept

loneliness

social alienation

# TABLE OF CONTENTS

1.	BACKGROUND . . . . .	1
1.1.	LEARNING DISABILITIES, SOCIAL FUNCTIONING AND THE SCHOOL SETTING. . . . .	1
1.2.	INCLUSION AND SEGREGATED EDUCATIONAL SETTINGS . . . . .	2
1.3	SOCIAL FUNCTIONING . . . . .	5
1.3.1	Peer Acceptance . . . . .	5
1.3.2	Self-concept . . . . .	8
1.3.3	Loneliness . . . . .	11
1.3.4	Social Alienation . . . . .	12
1.4	GRADE LEVEL AND SOCIAL FUNCTIONING . . . . .	13
1.5	SUMMARY OF THE REVIEW OF LITERATURE. . . . .	14
2.	THE STUDY . . . . .	15
2.1	RATIONALE FOR THE PRESENT STUDY . . . . .	15
2.2	AIMS OF THE STUDY . . . . .	17
2.3	METHOD . . . . .	18
2.3.1.	Subjects . . . . .	18
2.3.2.	Measures . . . . .	20

(a)	Peer Rating and Peer Nominations. . . . .	20
(b)	Self-Concept. . . . .	21
(c)	Loneliness and Social Dissatisfaction Scale .	21
(d)	Social Alienation Scale . . . . .	22
2.3.3.	Procedure . . . . .	22
2.4	RESEARCH DESIGN AND STATISTICAL ANALYSIS . . . . .	24
3.	<b>RESULTS</b> . . . . .	<b>27</b>
3.1.	RELATIONSHIP AMONG SOCIAL FUNCTIONING MEASURES FOR THE LEARNING DISABLED CHILDREN IN A REMEDIAL SCHOOL . . .	27
3.2.	THE DIFFERENCES IN THE SOCIAL FUNCTIONING MEASURES AS A FUNCTION OF GRADE . . . . .	29
3.3.	RESULTS ON SOCIAL FUNCTIONING MEASURES FOR LEARNING DISABLED CHILDREN (SLD) IN A SEGREGATED SETTING COMPARED TO THOSE FOR LEARNING DISABLED CHILDREN (VLD), LOW ACHIEVING (VLA) AND AVERAGE/HIGH ACHIEVING (VA/HA) STUDENTS IN AN INCLUSION SETTING. . . . .	32
3.4	SOCIAL STATUS OF LEARNING DISABLED CHILDREN (SLD) IN A SEGREGATED SETTING COMPARED TO LEARNING DISABLED (VLD), LOW AVERAGE (VLA) AND AVERAGE/HIGH ACHIEVING (VA/HA) STUDENTS IN AN INCLUSION SETTING. . . . .	31
3.5.	RECIPROCAL FRIENDSHIP NOMINATIONS . . . . .	38
4.	<b>DISCUSSION</b> . . . . .	<b>40</b>
4.1.	LEARNING DISABLED CHILDREN AND SOCIAL FUNCTIONING IN AN	

SEGREGATED ENVIRONMENT . . . . .	40
4.1.1 Peer Acceptance, Self Perceptions of Social Alienation and Loneliness . . . . .	40
4.1.2 Self Concept . . . . .	42
4.2. GRADE AND SOCIAL FUNCTIONING . . . . .	43
4.3. THE EFFECTS OF THE ENVIRONMENT ON THE SOCIAL FUNCTIONING OF STUDENTS WITH LEARNING DISABILITIES. . . . .	45
4.3.1 Learning Disabled Children in a Segregated Setting Versus Learning Disabled Children an Inclusion Setting . . . . .	45
4.3.2 Learning Disabled Children in a Segregated Setting Versus Low Average Children in an Inclusion Setting . . . . .	46
4.3.3 Learning Disabled Children in a Segregated Setting Versus Average/High Children in an Inclusion Setting . . . . .	47
4.4. SOCIAL STATUS OF LEARNING DISABLED CHILDREN (SLD) IN A SEGREGATED SETTING COMPARED TO LEARNING DISABLED (VLD), LOW AVERAGE (VLA) AND AVERAGE/HIGH ACHIEVING (VA/HA) STUDENTS IN AN INCLUSION SETTING. . . . .	50
4.5. RECIPROCAL FRIENDSHIPS . . . . .	50
4.6 LIMITATIONS OF THE STUDY . . . . .	52
4.7 CONCLUSION . . . . .	55
LIST OF REFERENCES . . . . .	57

APPENDIX 1: Loneliness and Social dissatisfaction Scale . . . 66

APPENDIX 2 :Social Alienation Scale . . . . . 67

APPENDIX 3 :Tables 8,9,10, 11, 12 and 13. . . . . 69

## LIST OF TABLES

TABLE 1	Correlation Among Peer Rating of Liking (Liked), Social Alienation, Loneliness, Self-Perception of Looks, Friendship, General Self-worth and Academic Self-concept. . . . .	27
TABLE 2	Means, Standard Deviations and the Analysis of Variance for all seven measures with Grade as the Dependent Variable. . . . .	29
TABLE 3	Bonferroni Multiple Comparison t-tests for the Dependent Variable of Peer Rating. . . . .	31
TABLE 4	Bonferroni Multiple Comparison t-tests for the Dependent Variable of Self-Perception of Looks. . . . .	31
TABLE 5	Learning Disabled Children in a Segregated Setting compared to Learning Disabled Children (SLD), Low Average Achieving Children (VLA) and Average/High Achieving Children (VA/H) in an Inclusion Setting. . . . .	33
TABLE 6	The Social Status of Learning Disabled (VLD), Low Average (VLA) and Average/High Achieving (A/HA) student from the Vaughn et al (1996) initial time period ('Fall') to the LD students in the present study . . . . .	37
TABLE 7	Percentages of Reciprocal Friendship Nominations for the Learning Disabled Children(SLD) in a Segregated Setting and the Learning Disabled Children (VLD), Low Average Achieving (VLD) and Average/High Achieving Children (VA/HA) in an Inclusion Setting. . . . .	39

TABLE 8	The means, standard deviations and the difference between the means for the Learning Disabled Children in a Segregated (SLD) Setting, and Learning Disabled (VLD) children, in an Inclusion for the Fall time period. . . . . 69
TABLE 9	The means, standard deviations and the difference between the means for the Learning Disabled Children in a Segregated (SLD) Setting, and Learning Disabled Children (VLD), in an Inclusion for the Spring time period. . . . . 70
TABLE 10	The means, standard deviations and the difference between the means for the Learning Disabled Children in a Segregated (SLD) Setting, and Low Average Achieving Children (VLA) , in an Inclusion for the Fall time period. . . . . 71
TABLE 11	The means, standard deviations and the difference between the means for the Learning Disabled Children in a Segregated (SLD) Setting, and Low Average Achieving Children (VLA) , in an Inclusion for the Spring time period. . . . . 72
TABLE 12	The means, standard deviations and the difference between the means for the Learning Disabled Children in a Segregated (SLD) Setting, and Average/High Achieving Children (VLA) , in an Inclusion for the Fall time period. . . . . 73
TABLE 13	The means, standard deviations and the difference between the means for the Learning Disabled Children in a Segregated (SLD) Setting, and Average/High Achieving Children (VLA) , in an Inclusion for the Spring time period. . . . . 74

## 1. BACKGROUND

### 1.1. LEARNING DISABILITIES, SOCIAL FUNCTIONING AND THE SCHOOL SETTING.

Research in the fields of education and psychology has investigated the effects of learning disabilities and poor academic achievement on children's self-esteem. Results indicate that children with learning disabilities (LD), compared to non-learning disabled children, are not as well accepted by their peers, have a lowered self-concept, are lonelier, and have difficulty making friends (Stone & La Greca, 1990; La Greca & Stone, 1990; Saborine, 1994; Ramsey, 1991; Montgomery, 1994). In addition, LD children often exhibit both academic and socio-emotional problems (Leonardi, 1993), and have poorer self-perceptions in both these areas (Bear & Minke, 1996).

In recent years there has been a move to serve children with learning disabilities (LD) in the general classroom as an alternative to learning disabled schools, self contained classrooms or pull-out programs (Banerji & Dailey 1995; Vaughn & Schumm, 1995). The literature provides contradictory evidence as to how inclusion education affects the social functioning of LD children.

Certain researchers have suggested that social difficulties are encountered by children with learning disabilities (LD) in mainstream academic settings. These children have been found to be less accepted and/or more rejected than their non-disabled peers (Vaughn, Elbaum & Schumm, 1996; Saborine, 1994; Leonardi, 1993). Other researchers argue that LD children/students have positive social and academic outcomes in the mainstream (MacDonald & Cornwall, 1995; Kirstner, Haskett, White & Robbins, 1987).

There are thus discrepancies and conflictual evidence regarding the social functioning of learning disabled children. Studies have tended to focus on how LD children in integrated, regular classroom settings compare to LD children either in self-contained classes in regular schools (Bear, Clever & Proctor, 1991) or where special needs students are removed from the classroom for part of the day (Vaughn, Haager, Hogan & Kouzekanai, 1992; Saborine, 1994; Vaughn & Hogan, 1994). Recent studies have not assessed the effect of different school environments on LD children's self-esteem and social functioning. Thus, whether it is more beneficial for LD children to be in a segregated, separate school or in an integrated school has not been established.

The present research aims to serve as an integratory and comparative study which not only elucidates the influence of the environment and grade level on aspects of the social functioning of students with learning disabilities, but also examines the interrelationships among peer acceptance, self-concept (including academic self-concept, friendship self-concept, physical self-concept, and overall self-worth) and self-perception of social alienation and loneliness.

## 1.2. INCLUSION AND SEGREGATED EDUCATIONAL SETTINGS

One of the most emotionally laden topics in education is *inclusion*. Inclusion is when students with special learning and/or behaviour needs are educated full-time in the general educational setting (Idol, 1997). The primary principle of inclusion is that students with special educational needs attend the general school programme for the entire school day (Idol, 1997). The policy set out for South Africa by the African National Congress is one of inclusion of 'disabled learners' (ANC, 1994).

The arguments for inclusion propose that the general education setting for LD students is more desirable than special education (Vaughn & Schumm, 1995). A common assumption in the literature is that identifying children as LD and isolating them from the mainstream for instructional purposes results in a deterioration of self-concept due to the stigmatizing effects of the label (Morvitz & Motta, 1992).

There is little documented empirical evidence regarding the effects of full inclusion programmes on LD students (Vaughn & Schumm, 1995). The data that does exist seem to be contradictory. The preliminary findings from the Collaborative Education Project (Salisbury, Evans, Polobaro & Veech cited in MacDonald & Cornwall, 1995) suggested positive social and academic outcomes in an inclusion setting for students with and without LD.

Research has indicated that the degree of integration seems to exert an inverse effect on whether LD children develop a positive self-concept (La Greca & Stone, 1990; Montgomery, 1994). Children with LD who are in segregated classrooms tend to have a global self-concept that is comparable to their non-disabled counterparts, while students placed in a regular classroom generally have poorer global self-concepts than their non-disabled peers (Montgomery, 1994).

Vaughn and Haager's (1994) six year longitudinal study examined the social competence of students with LD who spent time in a resource room setting for part of the school day. Their study indicated that at no time did the LD students have a lowered self-perception on any of the self-concept factors, including academic self-concept, in comparison to the average/high achieving sample. They did however demonstrate difficulties with social skills and were considered to be greater behaviour problems.

One of the arguments for segregated education is from the social comparison theory (Festinger cited in Morvitz & Motta, 1992). Placing students in a segregated setting may result in increasing their self-concepts as a function of lowered competition. The children use their surroundings as a reference point to form their own self-worth. Thus the argument is that environments providing acceptance and success raise self-esteem, while environments promoting a sense of failure lower it.

Children with learning disabilities are perceived by teachers in regular schools as less desirable than non-learning disabled children and interaction with LD children is frequently negative (La Greca & Vaughn, 1992). In social interactions, students with learning disabilities are involved in more negative interactions, are ignored more by teachers and peers, and are perceived as less socially skilful than their non-LD counterparts (La Greca & Stone, 1990).

Research indicates that even minimally stigmatizing information about a child (e.g., a one sentence description of a child being a poor student or behaving in a shy manner) can lead other children to develop negative behavioural expectancies (La Greca & Vaughn, 1992; Milich, McAninch & Harris, 1992). This stigmatizing information seems to affect how a child's peers perceive his/her, and results in negative feelings about his/her subsequent social interactions (Milich, McAninch & Harris, 1992). Therefore a child can be stigmatized by removing him/her from the regular classroom for additional support in the form of a resource room, or a pull-out programme or by placing him/her in a school specifically for children with learning disabilities.

In summary, the literature provides contradictory evidence as to how integrated education affects the social functioning of LD children. A comparative study between two types of educational system may provide some answers to this debate.

### 1.3. SOCIAL FUNCTIONING

The development of children's self-esteem and social development is considered important for successful integration and adjustment in school (Kishner, Haskett, White & Robbins, 1987). Self-esteem and social development are considered to consist of a number of interrelated dimensions. Vaughn, Elbaum & Schumm (1996) use the term *social functioning* as an overall term to refer to these interrelated parts. The term includes the degree of peer acceptance, self concept, loneliness and social alienation. Each of these areas and their relation to adjustment, integration and the environment are reviewed in turn.

#### 1.3.1 Peer Acceptance

Establishing successful relationships with peers is one of the most important accomplishments of early and middle childhood (Strain, Guralnick & Walker, 1986). Successful peer relations would seem to contribute significantly to the development of children's social and communicative competencies (Strain et al, 1986).

Peer acceptance is seen to be related to psychological adjustment (La Greca & Vaughn, 1992). Children who are rejected by peers report high levels of depression, loneliness and social anxiety (Snodgrass cited in Hojat & Crandall, 1989; La Greca & Vaughn, 1992). They also report high levels of social avoidance and peer related distress (La Greca & Vaughn, 1992). In addition, according to Parker and Asher (1987) children and adolescents who experience interpersonal difficulties are at risk for later psychological maladjustment.

Results indicate that as early as kindergarten, youngsters who were later identified as LD were frequently rejected by their classmates (Vaughn, Hogan, Kousekanai & Shapiro, 1990).

Longitudinal research indicates that low levels of peer acceptance during the fifth and sixth grades predict adolescent dysfunction, and such children showed a higher rate of dropping out prior to completing high school (Parker and Asher, 1987).

Thus, given the importance of peer relations for emotional adjustment and academic success, the high frequency of peer relationship problems among students with learning disabilities is cause for concern (Strain, Guralnick & Walker, 1986).

Due to the nature of their difficulties, LD children are faced with a number of obstacles when trying to develop peer relations. In fact, the research results have consistently linked social skills deficits and peer rejection to LD children. It has been suggested that such difficulties should be considered criteria for defining learning disabilities (Interagency Committee on Learning Disabilities, 1987).

LD children are seen to be more at risk for developing social problems. Vaughn and Hogan (1994) argue the peer acceptance of LD students is related to three primary factors. Firstly, it may be related their disability (e.g. a LD child with an expressive language difficulty may struggle to develop appropriate conversation with friends); secondly, their perceptions of others and behaviour of others towards them is often negative (e.g. teachers often perceive them as difficult children as a result of their academic problems); and lastly, the environment seems to influence peer acceptance (e.g., whether they are removed from the classroom for part of the day or are included for the whole day) (Vaughn & Hogan, 1994).

Learning disabled children are often isolated and rejected in the mainstream classroom (Ramsey, 1991). Thus, placing LD children in inclusion school setting may have unforeseen consequences. Studies indicate that when these children are placed in the

mainstream, they experience difficulties in establishing relationships with peers (Ramsey, 1991; McIntosh, Vaughn, Schumm, Haager & Lee, 1994; Stone & La Greca, 1990). La Greca & Stone (1990) found that students with learning disabilities were less well accepted by peers and had a lowered self acceptance than were low and average achieving students. The LD children spent at least half of their school day in a supplementary resource instruction class and the rest of the day in a regular class. Over a four year period, Vaughn et al's (1993) study indicated the peer acceptance ratings of students with LD were significantly lower than those of the average/high average students, and no difference existed between students with LD and low achieving students on peer ratings. As noted by La Greca and Stone (1990) LD students' lowered peer acceptance may be related to their leaving the classroom for academic support. Consequently it would seem plausible that when LD children are placed in a segregated environment where they remain in one classroom, their peer relations should improve.

On the other hand, it is argued that segregated education isolates children from those with whom they will eventually have to compete (Gottlieb & Leyser in Asher & Gottman, 1981). An inclusion model gives LD students the opportunity to participate in a stigma-free environment that will allow for both academic and social-emotional growth (Banerji & Dailey, 1995). Vaughn et al's (1992) results supports these findings as the peer relations and self-concept of LD, Low Average and Average/High Average students over four-to-five years indicated the peer acceptance of LD students overall did not differ significantly from other achievement groups. These results differ from their 1996 study, the difference between the studies indicates the self-perception of LD students remains within the average range over the first five years of schooling (Vaughn et al, 1992). Finally, social functioning of LD children in the mainstream seems to be enhanced by sufficient academic support (Mortvitz & Motta, 1992) and by

the employment of teacher intervention or social intervention programmes (La Greca & Stone, 1990). From the above discussion, it can be seen that the research findings as to the LD students and peer acceptance is equivocal.

### 1.3.2 Self-concept

Various terms in the literature have been used to describe self-concept, such as a sense of self, self-esteem, self-competence and self-worth (Harter, 1985). For the purposes of this research, the term self-concept and self-esteem are used largely interchangeably to denote the evaluative perception of self in terms of effect and cognition regarding one's abilities. The term self-concept in this study focused, namely, on the four dimensions used in the Renick and Harter Scale (1984): Looks, Friends, Global Self-Worth, and Academics.

Self-concept is seen as a multifaceted construct. It is conceived of as a hierarchical concept, with the general or global self-concept at the apex and situational self-concept at the base. In particular, general self-concept can thus be interpreted as distinct from, but correlated with academic self-concept. Harter (1985) proposes that one's global sense of self worth is separate from and more than the sum of evaluative judgements from specific domains.

Theories seem to agree that self-concept is formed mainly through the interaction with significant others (Strain, Guralnick & Walker, 1986). The initial role of the parent is considered fundamental to the formation of a positive self-concept. As children enter school, the major roles played by parents are complemented and possibly even superseded by teachers and classmates (Leonardi, 1993). It is argued that the school environment plays a central role in the formation of self-concept and self-worth (Ramsey, 1991). Furthermore, it is contended that

during middle childhood the most instrumental and enduring self-perceptions are shaped and that these perceptions are dependent on one's experience during this time (Leonardi, 1993).

According to Stipek (1984, cited in Scott et al, 1996) children enter school expecting to be successful and feeling good about themselves and are not very concerned about achievement outcomes. However, over time, they learn to care about their academic achievement and may come to have negative beliefs about their experience of success. These changes are attributed to how children process information about their performance and how they come to accept external evaluation for achievement.

Students who do well at school tend to rate themselves higher on tests of self-esteem than those who do not perform well (Covington, 1992). Children with learning difficulties face persistent failure, and it places their self-concept at particular risk (Covington, 1992, Kershner, 1990). Research has shown that self-concept is a problem for students with learning disabilities as it relates to their perception of their school-related functioning (Sarbornie, 1994). The assumption is that children with LD (versus non-LD peers) experience underachievement in school situations and hence their academic self-concept is lower than their general self-esteem (Sarbornie, 1994). McMilan, Singh & Simonetta (1995) argue that the more success a student has in activities, the stronger his/her self-esteem. Significant success in schoolwork enhances self-esteem, the child develops a sense of self-efficacy and their perception is they are capable learners (McMilan, Singh & Simonetta, 1995).

Leonardi's (1993) research indicated that negative self-perception in the academic sphere appears to generalise to the overall evaluation of the self. The study revealed that LD children have a lowered academic self-concept compared to their

non-LD peers. A negative self-concept is seen to perpetuate failure; children who have experienced failure tend to invest less amount of effort in future tasks (Leonardi, 1993). Wiggins et al (1994) confirmed the importance of academic school success to self-esteem. Furthermore, research suggest that a positive self-worth is a significant factor in how an individual will approach and react to achievement demands (Leonardi, 1993).

Contrary to Leonardi's findings Kloomok and Cosden (1994) results revealed that children with learning disabilities tended to have a positive global self-concept, but a negative academic self-concept. Researchers have proposed a number of theoretical explanations why many children with LD maintain positive self perceptions and feelings of positive self worth when they are confronted with academic and behavioural difficulties. The following explanations are commonly given: positive self worth is maintained (a) when there is support from others such as teachers, parents, friends and peers; (b) when there is a perceived competence in other areas; (c) when academic success is discounted or not seen as important; and (d) when children with LD overestimate their academic ability (Bear & Minke, 1996).

In addition to the effects of having a learning disability, research findings consistently seem to indicate that environment and special educational services may influence LD students' self-concept. Studies have shown, for example, that class placement may result in students having a lowered self-concept. The Bear, Clever & Proctor (1991) study revealed that students with mild learning disabilities in integrated classes had a lower self-concept than students with more severe learning disabilities in self-contained classes. It has been hypothesized that children's comparison group influences their self-concept. Students may see the placement as being less competitive whereby they can feel successful and are able to develop a more positive self-concept.

Morvitz and Motta's (1992) study revealed the self-esteem of LD students in the resource room and the compensatory class (where children have frequent contact with regular education students) was significantly lower than LD students in a regular classroom with no additional support. Their research indicates children requiring remedial support tend to have lower self-esteem than those of regular classes that do not require help. However, their results do indicate a possible exception which is when a child is in a self-contained setting where the additional assistance is less obvious because everyone else in the class requires help.

As has been noted a number of studies have raised the question whether children with LD have a more negative self-concept than non-learning disabled children. To date, results have been contradictory, some studies have found the self-concept of children with LD to be more negative (Saborine, 1994; Bear, Clever & Proctor, 1991) and others report no difference between groups (Kirstner, Haskett, White & Robbins, 1987). Other findings indicate a difference in global self-concept and academic self-concept of learning disabled children (Kloomok & Cosden, 1994). Thus, the question of the generality of LD children's negative or positive self-concept remains unanswered.

### 1.3.3 Loneliness

Loneliness has been defined as the psychological state resulting from a discrepancy between ideal and perceived personal relationships (Peplau & Perlman, 1982). Previous research has supported four assumptions regarding loneliness (Jones & Moore, 1987).

Firstly, lonely people appear to be low in self-esteem. They tend to doubt their capacity to manage social encounters. They also score high on a cluster of personality traits, all of which imply anxious, reticent, and ineffective interpersonal behaviours.

Secondly, lonely people seem to be more vulnerable to disruptive emotional and cognitive states; for example, depression, anxiety and hostility. Thirdly, in laboratory interactions, lonely people appear to exhibit ineffective behaviour and finally these tendencies are intensified by internal and stable attributions for social failure and passivity.

Evidence for these four factors has been found across a groups and cultural groups. Furthermore, loneliness has also been associated with diminished self-report disclosure, inexpressiveness and unassertiveness, poor communication, apprehension and shyness and interpersonal hostility (Spitzberg & Hunt, 1987).

The research on middle school children with LD and loneliness is limited (Saborine, 1994) and the findings are contradictory. Research indicates that many LD children experience social integration difficulties (Saborine, 1994). Saborine's (1994) comparative research on LD and non-LD students in a general educational setting indicated that, overall, LD students are more lonely, were victimized more frequently, and participate in fewer activities than their non-LD peers. Vaughn et al's (1996) results revealed the opposite. The LD students in their study were not significantly lonelier than the average/high achievement group or the low achievement group. The question of generality of LD childrens' self-perception of loneliness is unclear. How LD childrens' loneliness is effected by different school environment has not been addressed and may result in more conclusive results.

#### 1.3.4 Social Alienation

"Social alienation represents the extent to which youngsters feel that they are part of a community (i.e., the school) or have positive affiliations with people in that community" ( Vaughn, Elbaum & Schumm, 1996, p.600). Research has shown that special-

needs children are often quite isolated and rejected in their mainstream classroom (Coleman, McHam & Minnett, 1992; Montgomery, 1994; Ramsey, 1991). Children who are socially alienated from their teachers and peers are at greater risk for leaving school early or before completion than those who are not (Finn, 1989 cited in Vaughn et al, 1996). As a result, the question of whether the mainstream is an appropriate placement for these children has been raised. The social isolation that these children may experience may be more limiting than the supportive environment of segregated education (Montgomery, 1994, Ramsey, 1991).

#### 1.4. GRADE LEVEL AND SOCIAL FUNCTIONING

Research indicates that social functioning is effected by age or grade level. La Greca and Stone's (1990) research differed significantly from Bursuck's (1989) results. With older students (grade 4,5,6), lower self-perceptions of social acceptance and self-worth were reported for both low achievers and students with LD (La Greca & Stone, 1990); however, with second, third, and fourth graders, lower self-perceptions were not found for students with LD (Bursuck, 1989). It would seem LD self-perception might decline with age or with grade. These results suggest grade level needs to be considered as a variable when interpreting the social functioning of LD children.

#### 1.4 SUMMARY OF THE REVIEW OF LITERATURE

In summary, the research regarding the social functioning of LD children is neither precise nor clear. The research findings regarding how learning disabled children compare with their peers on the four aspects of social functioning (peer acceptance, self-concept, loneliness and social alienation) is inconclusive. There is evidence that LD students are accepted by their non-LD peers (Vaughn et al, 1996), they have positive self-concepts (Kloomok & Cosden, 1994), and are not more lonely than their non-learning disabled peers (Vaughn et al, 1996). However, other findings revealed that LD children have lower levels of peer acceptance (Parker & Asher, 1987), higher levels of social avoidance and peer distress (La Greca & Vaughn, 1992), lower self-concepts and social integration difficulties (Saborine, 1994). In addition they are more isolated and rejected than their peers (Montgomery, 1994). The differences in these findings seems to be related to a number of variables: the age group of the sample, the length of the study, the level of integration in the school, the sample size, the school environment and the teacher pupil ratio.

A number of these studies argue that the type of environment LD children are placed in significantly influences their social functioning; that is whether they are placed in a segregated school, segregated classroom, a regular classroom or a resource room for part of the day. Researchers argue that LD children in segregated classroom setting have a better self-concept than LD students in a regular classroom (Morvitz and Motta', 1992 ; Coleman, McHam & Minnett, 1992). However, few studies have used environment as a variable to determine the specific effect the type of school setting has on the social functioning of LD students. The findings are conflicting and variable in nature, leaving unanswered questions about the effects of placing these children in integrated or in segregated educational settings.

## 2. THE STUDY

### 2.1 RATIONALE FOR THE PRESENT STUDY

In recent years there has been a move to serve children with learning disabilities in the general classroom as an alternative to providing services in learning disabled schools, self contained classrooms or pull-out programmes (Banerji & Dailey, 1995; Vaughn & Schumm, 1995). As a result contemporary studies have tended to focus on learning disabled children in an integrated setting and few studies have focused on the self-esteem and social functioning of learning disabled children in Special (Remedial) schools.

The literature provides contradictory evidence as to how inclusive education affects the self-esteem and social functioning of LD children. Certain studies suggest that social difficulties are encountered by children with learning disabilities (LD) in mainstream academic settings. These children have been found to be less accepted and/or more rejected than their non-disabled (NLD) peers (Vaughn, Elbaum & Schumm, 1996; Saborine, 1994; Leonardi, 1993).

Other studies have found that LD children have similar social and academic outcomes in the mainstream as compared to their non-learning disabled peers (MacDonald & Cornalwall, 1995).

The purpose of the present research is not to argue against inclusion but to reassess whether a segregated setting necessarily negatively effects the social functioning of learning disabled children. Secondly, the study examines the interrelationship between various aspects of social functioning of learning disabled children in a segregated setting. The intention is to provide a more holistic conceptualisation of the

complex interplay between the various social functioning variables and learning disabled children. Finally, grade level is considered as a variable as it would seem LD children's self-perception declines with age or with grade.

The study is also particularly relevant to South Africa as education is moving towards an educational policy of inclusion. It is hoped that the research will contribute to the debate regarding the desirability of continuing to promote segregated settings for LD children.

## 2.2 AIMS OF THE STUDY

The general aims of this study are (a) to examine the general and academic self-concept, social acceptance and loneliness of learning disabled children in a Remedial (segregated) School, (b) to assess whether grade level effects the social functioning of learning disabled children, and (c) to compare their social functioning in these areas to that of learning disabled, low achieving and average/high achieving children in an Inclusion School.

Specifically the aims are:

1. To examine relationship among each of the following: general self-concept, academic self concept and peer relationships. The latter was defined in terms of social acceptance, loneliness and social alienation.
2. To assess the peer relationships of learning disabled children. Peer relations was defined in terms of social acceptance, loneliness and social alienation.
3. To assess the effect of grade on general self-concept, academic self concept and peer relationships.
4. To compare the social functioning (self-concept, academic self-concept and peer relationships) of learning disabled children in a Remedial School, and learning disabled children, low achieving children and average/high achieving children in an Inclusion School.
5. To compare the social status of learning disabled children in a Remedial School to the social status of learning disabled children, low achieving children and average/high achieving children in an Inclusion School.

## 2.3 METHOD

### 2.3.1. Subjects

The study was conducted at Crossroads school, a private Remedial school located in Johannesburg, South Africa. Crossroads is a primary school (grade 0 to grade 7) which caters for children with learning difficulties.

The sample comprised 58 students which constitutes 36.7% of the population (213 students) of the school. Participants in the study were 58 students in the second grade (11 boys, 2 girls), third-grade (21 boys) and fourth grade (19 boys, 5 girls). The mean age for the second grade was 7 years, 11 months (SD = 8 months), for the third grade it was 8 years, 11 months (SD = 1 year, 4 months) and for the fourth grade was 10 years, 1 months (SD = 1 year, 9 months). The ethnic distribution of the sample was 88% White, 9% Black and 3% Indian. The children were from predominantly middle-class socioeconomic backgrounds.

Students in the study were all diagnosed as Learning Disabled which is the criterion for entering into the school. The diagnosis was based on a multidimensional team assessment which include intellectual, remedial, speech and hearing and an occupational therapy assessments. Broadly, the criterion for entering into the school is a child with an IQ that falls within the low average range and above (80 upwards) who is not functioning adequately in a mainstream school. The mean Full Scale IQ score from either the Wechsler Intelligence Scale for Children - Revised or from the Third Edition (WISCR-R, 1991, WISC-III, 1992) for the sample was 97, and the range was 81 to 127. The tests used are not standardised on South African children as a result there tends to be a broader range of acceptance for LD children.

Subjects in this study were compared to those in the study conducted by Vaughn, Elbaum and Schumm (1996). Their study was conducted in an urban school located within a large school district in the southeastern United States. The subjects for their study were recruited from three inclusive classes, and included 64 students in the second-grade (12 boys, 9 girls), third-grade (11 boys, 8 girls) and fourth-grade (13 boys, 12 girls) inclusive classrooms. The ethnic distribution of the sample was 91% Hispanic, 5% White non-Hispanic, 3% black and 1% other. Students were assessed for reading comprehension on the Stanford Achievement tests.

Students in their sample were classified into one of three groups: (a) students with Learning Disabilities (n=16); Low Average students (n=27), defined as those whose percentile score on the SAT reading comprehension subtest was 40 or below; and (c) Average/High Average students (n=21) defined as those whose percentile score on the SAT reading comprehension subtest was above 40.

The students with LD (13 boys, 3 girls), 3 in the second grade, 6 in the third grade, and 7 in the fourth grade, had been identified by the local school district on the basis of guidelines that specified the following criteria: a significant discrepancy between IQ and achievement (1 to 1½ standard deviation, depending on age); and evidence that the learning difficulty was not due to other conditions, such as physical or sensory handicaps (Vaughn, Elbaum and Schumm, 1996). The mean Full Scale IQ score from the Wechsler Intelligence Scale for Children - Revised (WISC-R; Wechsler, 1991) for the students with LD was 101 (SD = 22).

### 2.3.2. Measures

#### (a) Peer Rating and Peer Nominations.

Two types of sociometric measures were employed: namely, the Peer Rating Scale and the Peer Nomination Scale.

On the *Peer Rating Scale*, children in a class were asked to rate how much they liked each of their classmates on a 4-point scale from 1 (*not at all*) to 4 (*very much*). The scale is used to determine the friendship status of each child. Correlations indicate reliability/stability coefficients of .80 and .86 (Wasik, 1987), an internal consistency of .70 and concurrent validity across sex and grade levels of .54 (Pekarik, Prinz, Liebert, Weintraub, & Neale, 1976; Wasik, 1987). A test-retest reliability coefficient ranging from .81 to .95 for third through sixth graders (Wasik, 1987) has also been reported.

Positive *Peer Nominations* were obtained by asking students to name the three students in their class that they liked the best; negative peer nominations were obtained by asking students to name the three students they liked the least. Positive and negative peer nominations are considered to measure two different aspects of status. Positive nominations are seen to represent popularity, while negative nominations are said to represent rejection (Asher & Hymel, 1981).

The positive and negative nominations are also used to compute social impact and preference scores to classify children as popular, average, controversial, neglected, or rejected (Coie, Dodge, & Coppotelli, 1982). Students were classified as popular/average, neglected/rejected and controversial/unclassified according to the Coie et al's (1982) method. The six categories which are usually separate, are combined as in the Vaughn et al (1996) study. The rationale for

this was that many of the behavioural characteristics overlap the social status classification categories and due to the small sample used these categories were combined. Test-retest reliability (Wasik, 1987) and criterion-related validity (Vosk, Forehand, Parker, & Rickard, 1982) have been shown to be satisfactory, .

Peer nominations were also used to assess reciprocal friendships (Howes, 1988). Previous research indicates that even one reciprocal friendship can act as a protective factor against negative outcomes associated with peer rejection (Howes, 1988). A reciprocal friendship is said to occur when two students have named each other as one of their three most-liked classmates. Hence, the number of possible reciprocal nominations ranged from 0 to 3.

#### **(b) Self-Concept.**

An adaptation of three measures from The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children was used in the research (Harter, 1985; Harter & Pike, 1984; Renick & Harter, 1989). The format was taken from the Harter and Pike scale and focused on four dimensions: Looks, Friends, Global Self-Worth, and Academics. The student views two pictures, listens to a descriptor for the target child in each picture, and is required to make a choice of "Who is the most like you?" All items were scored on a 4-point scale, with 4 representing the most positive self-rating.

#### **(c) Loneliness and Social Dissatisfaction Scale**

This scale provided a measure of students' feelings of loneliness and dissatisfaction with their peer relationships at school. The scale was developed by Asher and his colleagues (Asher, Hymel,

& Renshaw, 1984; Asher & Wheeler, 1985; Cassidy & Asher, 1992; Williams & Asher, 1992). The version used here consisted of 10 primary items and three filler items, with responses on a 3 point scale (*yes; sometimes; no*). The range of possible scores is therefore 10 through 30. The measure is scored so that the higher the score, the lower the student's perception of loneliness at school. Thus, higher scores indicate a more positive social outcome. Cronbach's alpha, calculated for the 16-item version of the scale, was found to be .90 (Asher et al, 1990), indicating excellent internal consistency.

#### (d) Social Alienation Scale

The Social Alienation Scale (Seidel & Vaughn, 1991) measures students' social alienation from their teachers. It includes 23 items that students rate on a scale from 1 (*very true*) to 4 (*never true*). The measure is scored so that the lower the score, the higher the student's perception of alienation at school. Thus a higher score indicates a more positive social outcome. The internal consistency of the instrument as measured by Cronbach's alpha was .90.

### 2.3.3. Procedure

The measures were administered to the students at the Remedial School at the beginning of the school year, after students were given enough time to get to know each other (two months). All the measures were administered to each student individually by the same person.

The subjects were told that they were participating in research aimed at understanding how people feel about the school, themselves and their friends. They were assured of confidentiality. It was explained to each subject that there were no "correct" answers, but that they were simply required to

answer as truthfully as possible.

The tester ensured that each subject understood what was required of him/her in responding to the measures. Although individual queries were answered, care was taken not to influence subjects' responses.

In the study by Vaughn et al (1996) the same set of measures was administered. These were conducted for students at the Inclusion school at the beginning of the school year (after students had sufficient time to get to know each other), and then again at the end of the year. All social measures were group administered, with the exception of the self-concept measure, which was individually administered.

## 2.4 RESEARCH DESIGN AND STATISTICAL ANALYSIS

The study utilized correlation and analysis of variance procedures for the research. This research design determines relationships among variables, but does not necessarily provide evidence as to direction of causation.

In accordance with the stated aims of the study, the following statistical analyses were performed.

1. Pearson Product Moment Correlation Coefficients (SAS, Version 6, Edition 6) were computed to determine the interrelationship amongst the social functioning variables. The following variables were intercorrelated:- Peer rating of Liking, Self-Concept (which is defined in terms of self rating of Looks, Friends, Global Self-Worth and Academic perception), Loneliness and Social Alienation.
2. A series of One-Way Analyses of Variance with Grade as an independent variable and the seven social functioning measures (peer rating of liking, loneliness, social alienation, self-perception of looks, peer relationships in terms of friendship, general self-worth and academic self-concept) as dependent variables, were computed to assess whether grade effects existed for the variables. Bonferroni Multiple Comparison t-tests were employed to determine which grades were affected by the variables.
3. Multiple t-test Comparisons were computed to determine whether there was a significant difference between the means obtained by subjects in the study by Vaughn et al. (1996), and this study.

The Vaughn et al (1996) study collected its measures at the beginning of the year (but after the students had

sufficient time to get to know each other), and then again at the end of the year. The present study collected measures only at the beginning of the school year. The means obtained for subjects in this study were compared to the Vaughn et al study(1996) at the beginning of the year ('fall'), as this was the same time period as the present. Although, the data were collected once for the present study, the results were also compared to the Vaughn et al (1996) results obtained at the end of the year ('Spring').

The Vaughn et al (1996) study showed a general increase in the results over time, the comparison was therefore done to determine if any significant changes may have resulted if time was included as a variable. The LD students in the present study were compared to the three classifications (students with learning disabilities, low achieving students and average/high achieving students) in the Vaughn et al study.

The sample from the present study was matched only in terms of learning disabled children and grade level with the Vaughn et al (1996) study. Thus, there are many limitations to the statistical analysis.

4. Students were classified as popular/average, neglected/rejected and controversial/unclassified according to the Coie et al's (1982) method. The six categories which are usually separate, are combined as in the Vaughn et al (1996) study. The rationale for this was that many of the behavioural characteristics overlap the social status classification categories and due to the small sample used these categories were combined.

The social status was analysed comparing the percentages obtained for the three classification in the Vaughn et al

(1996) and the present study.

5. Reciprocal friendships were calculated by examining whether in the three positive peer nominations, two students nominated each other as one of their three most-liked classmates (i.e. child A nominates child B, and child B nominates child A). From this a percentage was calculated to compare to the Vaughn et al (1996) study.

### 3. RESULTS

#### 3.1. RELATIONSHIP AMONG SOCIAL FUNCTIONING MEASURES FOR THE LEARNING DISABLED CHILDREN IN A REMEDIAL SCHOOL

Table 1 shows the correlations among the scores obtained by the Remedial School subjects on the seven social functioning measures:- peer rating of liking, social alienation, loneliness, and self-perception of looks, friendship, general self-worth and academic self- concept.

**TABLE 1**

Correlations Among Peer Rating of Liking (Liked), Social Alienation (SocAlien), Loneliness, Self-Perception of Looks, Friendship, Global Self-worth and Academic Self-concept.

	Liked	SocAlien	Lonely	Looks	Friends	General S-worth	Academic S-concept
Liked	1.00000 0.0						
SocAlien	0.37116 0.0041**	0.0000 0.0					
Lonely	0.05002 0.7092	0.62862 0.0001***	0.00000 0.0				
Looks	0.36746 0.0045**	0.38301 0.0030**	0.35549 0.0062**	1.00000 0.0			
Friends	0.16274 0.2222	0.38192 0.0001***	0.53780 0.0001***	0.46745 0.0002***	1.00000 0.0		
Global S-worth	0.20950 0.1145	0.35150 0.0068**	0.30137 0.0215*	0.38929 0.0018**	0.40060 0.0018**	1.00000 0.0	
Academic S-concept	0.16514 0.2154	0.32626 0.0124**	0.08716 0.5153	0.35087 0.0069**	0.38851 0.0026**	0.35435 0.0064**	1.00000 0.0

\* p < .05

\*\* p < .01

\*\*\* p < .001

N=58

As Table 1 indicates all six of the measures were found to be significantly correlated with social alienation<sup>1</sup>. Loneliness ( $r = 0.63$ ;  $p < 0.001$ ) and friendship ( $r = 0.68$ ;  $p < 0.001$ ) are highly correlated with high and low social alienation respectively. Self-perception of looks ( $r = 0.38$ ;  $p < 0.01$ ), peer rating of liking ( $r = 0.36$ ;  $p < 0.05$ ), academic self-concept ( $r = 0.33$ ;  $p < 0.05$ ) and global self-worth ( $r = 0.35$ ;  $p < 0.01$ ) reflect significant and moderate correlations with low social alienation.

There is a highly significant correlation between friendship and low levels of loneliness<sup>2</sup> ( $r = 0.53$ ;  $p < 0.001$ ) and self-perception of looks ( $r = 0.46$ ;  $p < 0.001$ ).

The relationship between general self-worth, on the one hand, and self-perception of looks ( $r = 0.39$ ;  $p < 0.01$ ), and friendships ( $r = 0.40$ ;  $p < 0.01$ ) on the other, reflects a significant, moderate correlation. A moderate, significant correlation exists between global self-worth and loneliness ( $r = 0.30$ ;  $p < 0.05$ ).

Significant, moderate correlations exist between academic self-concept, on the one hand, and self-perception of looks ( $r = 0.35$ ;  $p < 0.01$ ), relationships in terms of friendship ( $r = 0.39$ ,  $p < 0.01$ ) and global self-worth ( $r = 0.35$ ,  $p < 0.01$ ), on the other.

---

<sup>1</sup> The social alienation measure is scored such that the lower the score, the higher the student's perception of alienation in school (i.e., higher scores indicate a more positive social outcome (Vaughn et al, 1996).

<sup>2</sup> The loneliness measure was scored such that the higher the score, the lower the student's perception of loneliness at school (i.e., higher scores indicate a more positive social outcome (Vaughn et al, 1996).

### 3.2. THE DIFFERENCES IN THE SOCIAL FUNCTIONING MEASURES AS A FUNCTION OF GRADE

Table 2 shows the means and standard deviation for each grade level for the scores obtained by the Remedial school subjects for the seven measures:- peer rating of liking, social alienation, loneliness and self- concept (Self-perception of looks, friendship, general self-worth and academic self- concept). A univariate one-way analysis of variance was carried out to determine whether grade effects existed for each of the variables.

Table 2

Means, Standard Deviations and the Analysis of Variance for all Seven measures with Grade Level as the Dependent Variable.

MEASURE	GRADE 2		GRADE 3		GRADE 4		F	p+Value
	X	SD	X	SD	X	SD		
Liked	35.8	5.8	30.1	3.7	29.5	7.2	5.48	0.01*
SocAlien	74.2	11.3	73.6	12.3	74.8	10.9	0.06	0.92
Lonely	26.8	2.4	25.7	4.1	27.2	3.3	1.01	0.37
Looks	23.2	1.1	21.7	3.4	20.5	3.4	3.3	0.05**
Friends	20.2	4.4	18.5	5.1	19.4	4.5	0.58	0.56
General S-worth	23.0	1.8	22.0	2.7	21.5	3.6	1.13	0.33
Academic S-concept	18.2	2.8	16.0	4.0	16.9	3.7	1.86	0.17

\*  $p < .05$

\*\*  $p < .01$

Preliminary analyses were carried out to determine whether grade effects existed for the variables. This involved conducting a series of univariate one-way analyses of variance, with grade as the independent variable in each case. Table 2 indicates that a significant difference was found only for two measures. First, there was a significant difference among grade levels for Peer Rating of Liking (Liked),  $F(2,5) = 5,48$ ,  $p < 0,01$ . Secondly, there was a significant difference among grade levels for Self-Perception of Looks (Looks),  $F(2,5) = 3,30$ ,  $p < 0,05$ .

Since there was a significant difference among grade and Peer Rating of Liking and among grade and Self-Perception of Looks, further analyses were computed in order to assess which grades were effected. Table 3 and 4 show the Bonferroni Multiple Comparison t-tests for the "liked" and the "looks" variables.

TABLE 3

Bonferroni Multiple Comparison t-tests for the Dependent Variable of Peer Rating of Liking (Liked).

Grade Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
2 - 3	0.647	5.722	10.797*
2 - 4	1.359	6.311	11.263*
3 - 4	-3.708	0.589	4.886

Significance at the .05 level are indicated by \*

Table 3 (p.30) indicates the Bonferroni Multiple Comparison t-tests for the Peer Rating of Liking variable. Results indicated that grade 2 and 3, and grade 2 and 4 show significant difference at the 0.05 level. This difference is seen in the decrease in mean scores across the grades, specifically there was a difference between grades 2 and 3 ( the mean 35.77 compared to 30.05 mean) and grade 2 and 4 (the mean 30.05 compared to 29.46).

But not for grade 3 and 4, the significant difference was between 2 on the one hand, and 3 and 4 on the other. This indicates the higher the grade the less the children's perception of being accepted or liked by their peers.

Table 4 (p.31 ) shows the Bonferroni Multiple Comparison t-tests for the Self-Perception of Looks variable.

TABLE 4

Bonferroni Multiple Comparison t-tests for the Dependent Variable of Self-Perception of Looks (Looks).

Grade Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
2 - 3	-1.1413	1.4872	4.1157
2 - 4	0.0889	2.6538	5.2188*
3 - 4	-1.0589	1.1667	3.3922

Significant at the .05 level are indicated by \*

Findings indicated that grade 2 and 4 show significant difference at the 0.05 level. The tendency for self-perception of looks across the grades can be seen to decrease but it was only significant between grade 2 and 4. This difference is seen in the decrease in the mean scores across the grades. The means in grade 2 was 21.67 and in grade 4 it was 20.50. The findings indicate children in grade 2 were more accepting of their physical appearance than children in grade 4.

### 3.3 RESULTS ON SOCIAL FUNCTIONING MEASURES FOR LEARNING DISABLED CHILDREN (SLD) IN A SEGREGATED SETTING COMPARED TO THOSE FOR LEARNING DISABLED CHILDREN (VLD), LOW ACHIEVING (VLA) AND AVERAGE/HIGH ACHIEVING (VA/HA) STUDENTS IN AN INCLUSION SETTING.

Multiple t-test Comparisons were computed to determine whether a significant difference exists between the results of the Vaughn et al study (1996) and this study. The results of the LD group in the present study were compared to the three classifications of students (students with learning disabilities, low achieving students and average/high achieving students) in the Vaughn et al (1996) study. Their study collected data twice during the school year; 'fall' which was the near the beginning of the school year and 'spring' which was towards the end of the school year. The present study collected data only at the beginning of the school year and these results were compared to the two time periods in the Vaughn et al (1996) study. Thus, the results of the statistical analysis should be viewed with caution as the samples were only matched in terms of learning disabled children and grade level. As a result the statistical analysis is limited as there are too many uncontrolled variables which might account for the differences.

Tables 8 - 13 (Appendix 3 p.69-74) shows the means, standard deviations from the present study and the Vaughn et al (1996) study. Table 5 shows the difference in means between the present study and the Vaughn et al (1996) study for both time periods (fall and spring) and the three students types.

**TABLE 5**

Learning Disabled Children in a Segregated Setting (SLD) compared to Learning Disabled Children (VLD), Low Average Achieving (VLA) and Average/High Achieving Children (VA/HA) in an Inclusion Setting.

MEASURE	SLD compared to VLD				SLD compared to VLA				SLD compared to VA/HA			
	Fall		Spring		Fall		Spring		Fall		Spring	
	MD	P VALUE	MD	P VALUE	MD	P VALUE	MD	P VALUE	MD	P VALUE	MD	P VALUE
LIKED	28.5	0.00*	6.3	0.00*	28.1	0.00*	28.5	0.00*	27.7	0.00*	28.2	0.00*
SOCALIEN	3.4	0.01*	11.3	0.01*	-1.7	0.14	1.1	0.23	-7.4	0.00*	-1.7	0.14
LONELY	3.5	0.00*	3.5	0.00*	3.1	0.00*	3.0	0.00*	0.7	0.12	3.1	0.00*
LOOKS	1.4	0.00*	3.1	0.34	1.6	0.00*	0.9	0.04	2.3	0.00*	1.6	0.00*
FRIENDS	1.6	0.00*	4.7	0.15	0.3	0.35	-1.0	0.06	-0.4	0.27	0.3	0.35
GLOBAL S-WORTH	1.7	0.00*	2.9	0.04	1.0	0.02	1.2	0.01*	1.4	0.01*	1.0	0.03*
ACADEMIC S-CONCEPT	1.2	0.00*	3.7	0.00*	0.2	0.4	-0.6	0.16	-2.4	0.00*	-2.6	0.00*

SLD = segregated learning disabled sample

VLD = Vaughn et al (1996) learning disabled sample

VLA = Vaughn et al (1996) low average sample

VA/HA = Vaughn et al (1996) high/average achieving sample

MD = mean difference between the means

p VALUE = is the probability value which if less than 0.025 indicates significant difference between the means at 5% level

\* indicates a significant difference

Table 5 contains the results of the difference in the means obtained in this study (LD students in a segregated setting) and the (a) Learning Disabled students, (b) Low Average students and (c) Average/High achieving students in Vaughn et al (1996) study.

- (a) Learning disabled children in a Segregated Setting (SLD) compared to Learning Disabled Children (VLD) in an Inclusion Setting.

Table 5 (p.33) indicates the SLD students were significantly different from the VLD for all seven variables in the initial time period (Fall). In all cases the results of the SLD were better (more positive) than the VLD results (see Appendix p. for the mean obtained for the present study and those obtained in the Vaughn et al study). These results suggest the LD children in the segregated setting have a more positive social adjustment than the LD children in the inclusion school.

Certain of the variables, namely peer rating of Liking ( $p < 0,00$ ), social alienation ( $p < 0,01$ ), loneliness ( $p < 0,00$ ) and academic self-concept ( $p < 0,00$ ) all remained significant mean differences in the 'spring'.

These results indicate that even though there was an improvement in the Vaughn et al's LD students for the peer rating of liking, self-perception of looks, friends and global self-worth measured, the present study's LD student results still showed a more positive overall social functioning.

- (b) Learning disabled children in a Segregated Setting (SLD) compared to Low Average Children (VLA) in an Inclusion Setting.

The means of LD students in a segregated setting and the LA students in Vaughn et al (1996) study indicate in the 'fall' significant mean differences for peer rating of

liking ( $p < 0,00$ ), loneliness ( $p < 0,00$ ) and self-perception of looks ( $p < 0,00$ ). Thus, LD students in the present study (SLD) see themselves as being more liked by their peers, are less lonelier and they perceive themselves as having a more positive physical appearance. The results in the 'spring' include significant mean differences for peer rating of liking ( $p < 0,00$ ) and loneliness ( $p < 0,00$ ). The results differ in that they also include global self-worth ( $p < 0,01$ ) which was not indicated in the 'fall'. These results suggest a decrease in the self-worth of the vLA students over time.

(c) Learning disabled children in a Segregated Setting (SLD) compared to Average/High Achieving Children (VA/HA) in an Inclusion Setting.

The means for LD students in the present study and VA/HA students for the Vaughn et al (1996) study reveal the LD students in the segregated setting to have significant mean differences for five of the seven variables in the 'fall' and four in the 'spring'. In the 'fall' peer rating of liked ( $p < 0,00$ ), self-perception of looks ( $p < 0,00$ ), and self-worth ( $p < 0,01$ ) were significantly more positive for the LD students in the segregated setting compared to the V/AHA student.

Social alienation ( $p < 0,00$ ) and academic self-worth ( $p < 0,00$ ) were significantly less positive in the LD students in the present study.

These results suggest that although the LD students in the segregated setting perceived themselves as being liked, as having more friends and as having a more positive overall self-worth, they feel more socially alienated and have a lower academic self-concept than the VA/HA sample.

The results in the 'spring' do not include social alienation as significant but the other four are still significant. These findings can be explained by the decrease in the social alienation measure for the VA/HA sample. Overall the LD sample social functioning can be seen to be more positive than the VA/HA sample.

Results of the repeated measures of the differences in the means showed significant effects for the influence of setting on social functioning. Although the groups differ significantly, LD students in the present study's setting were consistently better liked than either LD, LA or A/HA students in the Vaughn et al (1996) study. The Vaughn et al study indicated that both LA and LD students experience less positive social adjustment than A/HA students. However, the present results reveal that in some of the areas LD students in a segregated setting have a more positive social adjustment than the three classifications of students in the Vaughn et al study. In addition, the present study's overall self-worth for the LD students in a segregated setting was higher than that of the LA and A/HA students. The only area where the LD students of the present study compared negatively to the Vaughn et al (1996) study was their academic self-worth was less positive than the A/HA. al (1996). Finally, no significant mean difference was found for friendship between this study and the three types of students in the Vaughn et al study.

3.4 SOCIAL STATUS OF LEARNING DISABLED CHILDREN (SLD) IN A SEGREGATED SETTING COMPARED TO LEARNING DISABLED (VLD), LOW AVERAGE (VLA) AND AVERAGE/HIGH ACHIEVING (VA/HA) STUDENTS IN AN INCLUSION SETTING.

Table 6 shows the social status of the LD sample of the present study compared to the three types of students in the Vaughn et al (1996) study. The results are represented in numbers as well as percentages. The initial time period in the Vaughn et al study is used to compare results.

TABLE 6

The Social Status of Learning Disabled (VLD), Low Average (VLA) and Average/High Achieving (A/HA) student from the Vaughn et al (1996) study for their initial time period ('Fall') compared to the Learning Disabled (SLD) students in the present study.

	VLD	VLA	VA/HA	SLD
Popular/Average	1 (6%)	4 (15%)	12 (57%)	0
Rejected/Neglected	8 (50%)	7 (26%)	3 (14%)	0
Controversial/Unclassified	7 (44%)	16 (59%)	6 (29%)	58 (100%)
Total	16	27	21	58

Table 6 shows a considerable difference between the social classification in the present study and that from the Vaughn et al (1996) study. Social impact scores are calculated by summing positive and negative nominations and social preference scores are calculated by subtracting positive nominations from negative (Strain et al, 1986). From these two dimensions there are six different types of social status, however, for this study three have been combined into Popular/Average children, Rejected/Neglected and Controversial/unclassified.

Only the results of the 'fall' time period from the Vaughn et al (1996) study is compared to the present study as there is only one time period for the present study. For the present study (SLD) all the classification are in the controversial/unclassified category. The social status classifications by group for the Vaughn et al (1996) study were in all three groups. Table 6 shows many more VA/HA than VLA or VLD students (segregated and inclusion) were in the popular/average range. The VLD and VLA students had approximately equal numbers in the neglected/rejected category, the VA/HA had even fewer number and the present study did not have any.

Overall, the social status of the present study's sample revealed that the children exhibited a high measure of social impact (the sum of positive and negative nominations) and a high frequency of both positive and negative nominations. The present sample therefore are seen to be liked by some children and disliked by others, thus being neither popular or rejected in terms of social status.

### 3.5. RECIPROCAL FRIENDSHIP NOMINATIONS

Table 7 shows the percentages of the reciprocal friendship nominations for this study and the Vaughn et al (1996) study in the 'fall' and the 'spring'. The 'spring' results are included as the results for the Vaughn et al (1996) study increased overtime. The results of the present study were compared to both the 'fall' and the 'spring' results to assess the influence of time.

TABLE 7

Percentages of Reciprocal Friendship Nominations for the Learning Disabled Children (SLD) in a Segregated Setting and the Learning Disabled Children (VLD), Low Average Achieving (VLA) and Average/High Achieving Children (VA/HA) in an Inclusion Setting.

STUDENT TYPE	PERCENTAGE OF STUDENTS WITH A RECIPROCAL NOMINATION (FALL)	PERCENTAGE OF STUDENTS WITH A RECIPROCAL NOMINATION (SPRING)
SLD	86 %	NOT MEASURED FOR THE PRESENT STUDY
VLD	26 %	53%
VLA	71 %	58%
VA/HA	63 %	72%

Only 8 students in the present study did not have a reciprocal friend. Thus 86,2 % of the sample had a reciprocal friendship nomination. The present study's results show a higher percentage of reciprocal friendship nominations for the LD students in the present study compared to the three other classification. The LD students in the present study reveal a 60 % difference in the 'fall' and a 33% differences in the 'spring' to the LD children in the Vaughn et al study. A 23% difference between the LD students in the present study and the AHA in the Vaughn et al study was found in the 'fall' in favour of the LD students. The LD students in the present study had a 15% higher reciprocal friendship nominations than the LA students.

## 4. DISCUSSION

The general aim of the study was to simultaneously examine self-concept, academic self-worth, social acceptance and loneliness of children in a Remedial (segregated) School. Further, the results on these variables were compared with those of the study in the United States of America by Vaughn et al (1996) on Learning Disabled (LD), Low Average (LA) and High/Average Achieving(A/HA) children in an Inclusion School.

In the relevant sections below, the following is discussed: Firstly, the relationship among the social functioning variables of the LD children in the segregated setting; secondly the effects of grade on social functioning variables; finally, the findings in the present study to those from the Vaughn et al (1996) study's LD, LA and A/HA students in an Inclusion setting in the U.S.A.

### 4.1. LEARNING DISABLED CHILDREN AND SOCIAL FUNCTIONING IN AN SEGREGATED ENVIRONMENT

The study examined three main aspects of the student's social functioning. Namely, (a) peer acceptance, (including peer rating of liking, social status and reciprocal friendship nominations); (b) self perceptions of social alienation and loneliness; and (c) self-concept, including factors that assessed academic performance, friendship, physical appearance, and overall self-worth. Each of these areas is examined in turn in terms of the correlation analysis between the social functioning variables.

#### 4.1.1 Peer Acceptance, Self Perceptions of Social Alienation and Loneliness

A significant positive relationship was found between social alienation and self-perception of looks, and social alienation

and peer rating of liking. The results suggest that children who experience social alienation are at greater risk of having fewer friends and having a low perception of their own physical looks. Thus children who have many friends, tend not to feel socially alienated whilst children with few friends are at risk of feeling socially estranged. Children who are socially alienated have a tendency towards a lower perception of their physical appearance.

The results support previous research findings that children who are less accepted by their peers report higher levels of social avoidance (La Greca & Vaughn, 1992). Researchers on peer relationships have indicated that peer acceptance yields a number of benefits (Asher & Parker, 1989). Friendships help children develop and maintain an image of themselves as being attractive, competent and worthwhile (Asher & Parker, 1989). The results of the study indicate that children who experience themselves as being accepted by their peers are likely to feel more confident and positive about their physical appearance, as they feel accepted.

The correlation analysis yielded significant positive correlations among social alienation and the six other measures of social functioning. The strongest correlations were between social alienation and loneliness, and social alienation and friendship. The results support the literature which indicates that low peer acceptance and loneliness are related (Parkhurst & Asher, 1992), and students who feel lonely tend not to feel they are part of a school or do not have a positive alliance with the children in the school (Vaughn et al, 1996). A child who feels socially alienated is more likely to have a low self-worth, as the child does not perceive themselves as having friends which will in turn result in a low self worth, lack of self-acceptance and a low self-value. Conversely a child who does not feel socially alienated is likely to feel accepted by their peers, have a positive self-worth and perceive themselves as being liked

by their peers.

Jones & Moore (1989) have commented that lonely persons appear to be low in self-esteem. In particular they lack confidence in their capacity to have successful social interactions. These findings are consistent with the present study as the results revealed a relationship between both friendship and self-worth, and social alienation.

In addition, the results yielded a strong relationship between social alienation and academic performance. In this regard it would seem that children with a low academic self-concept would lack confidence in their own ability. This may result in feelings of not being competent or able to foster friendship resulting in feelings of social alienation.

#### 4.1.2 Self Concept

In examining the relationships among the four self-concept measures; academic self-concept, friendships, physical appearance (self-perception of looks) and overall self-worth, it was found that there were significant correlations among all four measures. The findings of this study are in line with the model which sees these variables as interrelated aspects of self-concept (Vaughn & Hogan, 1994).

Academic self-concept and general self-worth are seen to be related. therefore children who have a low perception of their academic performance tend to have a lowered self-worth and vice-versa. The results support findings which suggest that children with learning disabilities tend to generalize from specific areas of academic difficulties to more general dimensions of self-concept (Heyman, 1990; Mortvitz & Motta, 1992; Wiggins, Schatz & West, 1994).

The results of the present study add verification to the relationship between friendship and general self-worth (self-esteem). The interrelationship between the two measures indicates that lack of peer relations may result in a diminished self-worth or a lowered self-worth may result in a child not having the confidence to foster friendships, as friendship is seen to provide individuals with acceptance, worth and acknowledgment (Grunebaum & Solomon).

Finally, academic self-concept and friendship were shown to be related. It would seem that children who have a lowered academic self-concept are more likely to have difficulties in making friends. This may be the result of a lack of confidence in their abilities which then overlaps into their ability to make friends.

The results of the relationship among the four self-concept variables have shown that these measures cannot be seen in isolation but are different interrelated parts of self-concept.

#### 4.2. GRADE AND SOCIAL FUNCTIONING

The findings of the present study indicate that there were only significant difference for grade levels and peer rating of liking (between grades 2 and 3, and grades 2 and 4) and, grade level and self-perception of looks (between grades 2 and 4). The results for peer rating of liking showed a decrease in the scores across the grade levels. The findings revealed the higher the grade, the less children's perception of being accepted or liked by the majority of their peers. These results are consistent with the literature which shows that fewer close friends are selected by younger children than by the older children (Epstein, 1986). As children develop they move from self-interested choices and limited commitment to many friends, to a more selective and deeper commitment to fewer friends (Epstein, 1986). The present results support the developmental theory that as children's

grades increase (older children) their selection of how many friends they like overall decreases. The difference among grade-level groups in peer acceptance is consistent with the Vaughn et al (1996) study.

The differences for grade and peer rating of liking indicate no significant difference between grades 3 and 4. It seems there is a significant shift in peer relations from grade 2 to grade 3, but no change in grades 3 and 4. These results are explained in terms of a developmental pattern, i.e that for grade 3 there has been a shift to choosing ones peers selectively as opposed to having many friends.

Differences in self-perception of looks and grade were found only between grades 2 and 4. Thus, children in grade 2 were more accepting of their physical appearance than children in grade 4. These results are again explained developmentally. As children get older their awareness of themselves increases and hence they may become more critical of themselves and less accepting of themselves (Ramsey, 1991):

The findings of the Vaughn et al (1996) study showed significant difference for social alienation and peer acceptance, and grade. The results of the present research indicated no difference for social alienation. These results are possibly influenced by the segregated setting which has smaller classes and more teacher-pupil interaction which enhances the students' feelings of acceptance.

Overall, the findings are not a strong indicator that grade significantly effects social functioning. These findings are consistent with the Vaughn et al study (1996).

#### 4.3. THE EFFECTS OF THE ENVIRONMENT ON THE SOCIAL FUNCTIONING OF STUDENTS WITH LEARNING DISABILITIES.

The initial time period ('fall') of the Vaughn et al (1996) study corresponded to the present study's results. Although a second time period was not administered for this study, the Vaughn et al (1996) results for their second time period ('spring') were compared to the present study to assess whether the measures that increased overtime were still significant. The Learning Disabled (LD), Low Average (LA) and Average/High Achieving (A/HA) students in the Vaughn et al study will be compared to the present study in turn. As mentioned previously, the results of the differences between the two studies should be viewed with caution as there are many uncontrolled variables which may have accounted for, or contributed to, the demonstrated differences found. The findings should be viewed as an indication of possible differences and further research would be required to further substantiate these findings.

##### 4.3.1 Learning Disabled Children in a Segregated Setting Versus Learning Disabled Children an Inclusion Setting

For all the measures LD students in the segregated setting showed significant mean differences to the LD students in the Vaughn et al (1996) study in the 'fall'. LD children in the segregated setting perceived themselves as being more liked by their peers, less lonely, experienced less social alienation, and had a more positive self-perception of looks, friendship, general self-worth and academic self-concept.

The results suggest that LD children in a segregated setting appear not to experience as much failure and perceive themselves as being more adequate, since they compare themselves to peers who are more like themselves in abilities and overall social

functioning. If these children were to compare themselves to children in an inclusion setting their performance may be seen as failure, as the school provides an environment that enhances success in terms of social functioning. The findings lend support for the research results that the frustration of repeated school failure leads to emotional, social and behavioural problems in children (Morvitz & Motta, 1992). LD children in a mainstream setting tend to experience themselves as being less adequate than their peers and as a result develop a lower self-esteem (Kistner et al, 1987).

The results of the second time period for the Vaughn et al (1996) study indicated more positive self-perception of looks, friendship and self-worth than the beginning of the school year. When the results of the present study were compared to these findings, they are still significantly more positive. The findings suggest an environment where children are functioning at a similar academic level enables them to develop friendships more readily and for them to perceive their global self-worth more positively. Thus, the results clearly indicate in all areas of social functioning learning disabled children in a segregated setting have more positive social functioning .

#### 4.3.2 Learning Disabled Children in a Segregated Setting Versus Low Average Children in an Inclusion Setting

Three significant mean differences were found between the present study of LD children and the Low Average (LA) children in the Vaughn et al (1996) study for the same time period ('fall'). Peer rating of liking, loneliness and self-perception of looks were more positively rated in this study. These results are somewhat different to the Vaughn et al study which indicated LA students have a similar social functioning to LD students in an inclusion setting.

It is interesting to note that the LD students in this study and the Vaughn et al LD and LA students on the Harter's measure (1984) (Looks, Friends, Global Self-worth and Academics self-worth) only differed significantly on the self-perception of looks measure. It would seem the environment does not cause any significant differences in these areas for both LA and LD students.

Even though peer rating of liking and loneliness increased in the second time period for the Vaughn et al (1996) study they still remained significantly different. Thus, these two variables seem to be influenced by environment, and a segregated setting seems to provide setting more conducive to developing friendships and feeling accepted.

#### 4.3.3 Learning Disabled Children in a Segregated Setting Versus Average/High Children in an Inclusion Setting

A number of interesting and significant differences emerged between the present study's LD children's results and that of the A/HA children in the Vaughn et al (1996) study. When the LD students in the latter study were compared to their A/HA students, they were seen to be better liked than LD students. In addition, the LD students in this study exhibited a more positive global self-worth and self-perception of looks. However, the A/HA students displayed a higher academic self-concept and were seen to be less socially alienated than the LD children for this study. These findings are consistent with the Vaughn et al comparison of LD and A/HA students.

The peer acceptance of students with LD and LA in the inclusion setting in the Vaughn et al (1996) study were lower than the A/HA students. The results of the LD students in the segregated setting revealed their peer acceptance was higher than all three classifications in the Vaughn et al study. These findings are in

contrast to previous research which showed LD students to be significantly less well liked than their A/HA peers in an inclusion setting (La Greca & Stone, 1990; Vaughn et al, 1992; Vaughn et al, 1993). These results are possibly influenced by smaller classes and more interaction from the teachers to encourage better peer relations and to help overcome social difficulties.

It is argued that many factors influence the social norms in a classroom. Children tend to select friends on the basis of proximity and similarity (Ramsey, 1991). Thus, one of the proposed explanations is that children in a segregated environment, with peers who are similar to themselves are more likely to accept each other, than in a setting where they are perceived as different to the majority. The LD children in a segregated setting are more likely to feel socially competent, thus are more able to initiate and sustain friendships.

Another explanation is that children in a segregated setting are less stigmatized by their peers and their teachers (La Greca & Vaughn, 1992). Some disabilities cause children to act in unpredictable or less socially acceptable ways and as a result they become stigmatized and less trusted by their peers (Ramsey, 1991). Thus, their peers are more likely to isolate them in a mainstream setting than a segregated setting where the children are perceived to be alike.

Finally, high peer acceptance in a segregated setting can be explained by the teachers providing a model for interaction. Previous research suggests that when teachers demonstrate their enjoyment of interacting with LD children the children were more socially integrated into the classroom (Ramsey, 1991). The segregated sample's teachers are specially trained to work with LD children and therefore are more likely to understand their difficulties with socialization. As a result they would model

positive interaction between peers more readily, thus leading to more positive and more acceptance between the childrens' peers.

The Vaughn et al (1996) study revealed that their LD students exhibited self-concepts that were on a level with the two other groups (LA and A/HA) for the measures of physical appearance, friendship and overall self-worth. The results of the present study revealed significant differences in the LD self-worth compared to that of the AHA. Childrens' self-worth would seem to improve in a segregated setting compared to AHA students in an inclusion setting. The results support Kirstner et al's (1987) study which showed that LD children who compared themselves to their peers in a regular class their self-concept measures were lower. However they were more positive when compared to peers with similar difficulties. These results must be viewed with caution as the LD children in the present study may hold an unrealistic view of themselves and overestimate their abilities which may result in difficulties when these children are mainstreamed. These views may result from the LD children in the segregated setting being more accepted than in the mainstream as well as being encouraged to believe in their abilities and their self-concept being enhanced by a greater than normal acceptability and encouragement.

Overall, the Vaughn et al (1996) study revealed that both LD and LA students experienced somewhat less positive social adjustment than AHA students. The present study's findings are in contrast with this in that results suggest that generally the social functioning of LD children in a segregated setting was not only higher than that of the LD and LA children but in a number of areas significantly higher than the AHA students.

#### 4.4. SOCIAL STATUS OF LEARNING DISABLED CHILDREN (SLD) IN A SEGREGATED SETTING COMPARED TO LEARNING DISABLED (VLD), LOW AVERAGE (VLA) AND AVERAGE/HIGH ACHIEVING (VA/HA) STUDENTS IN AN INCLUSION SETTING.

All the students in the present study were classified in the controversial/unclassified category, indicating that although LD students did not seem to experience rejection/neglected neither were they popular/average. Children in the controversial category are children who exhibited a high measure of social impact (the sum of positive and negative nominations) and a high frequency of both positive and negative nominations (Ramsey, 1991). Compared to the Vaughn et al (1996) study it would seem that unlike the three classifications of students in their study, the present study yielded neither positive or negative social status. The results reveal that the present study's LD children are well liked by some children and disliked by others. This in combination with the high scores on the peer rating of liking measure for the present study suggest these children do not feel socially rejected or isolated. These results support the segregated environment for enhancing friendships.

#### 4.5. RECIPROCAL FRIENDSHIPS

The data on the reciprocal friendship nominations yielded a significantly higher percentage of reciprocal friendship nominations for the present research compared to the Vaughn et al (1996) study in the 'fall' and the 'spring'. The segregated environment seems to enhance the development of reciprocal friendship. These results are important in terms of the literature as even one reciprocal friend seems to serve as a protective factor against the negative outcomes associated with peer rejection (Howes, 1988).

These result should be viewed with some caution as they may be

the result of the smaller classes which limits the number of friends from whom to choose and as a result increase the likelihood of a reciprocal friendship. These results are in line with the high positive peer rating measures for the LD students in a segregated environment and would suggest that the segregated setting is more conducive to enhancing peer relationships.

#### 4.6 LIMITATIONS OF THE STUDY

A number of limitations are inherent in the present study:

The study has been compared to an inclusion sample from the United States of America (Vaughn et al, 1996). The reason for this is that inclusion has not been fully implemented in South Africa. As a result the variables such as culture, ethnicity and socio-economic differences were not taken into account in the research. However, in light of the significant findings future research with similar South African samples would be desirable.

The small sample size of students in this study is a clear limitation that requires the study's replication and extension. Furthermore, the sample is limiting as it does not include sizeable sample from the various South African population groups. Indeed, the sample was largely limited to white children, and included few children from the dominant African group. In addition the socio-economic groups for the samples was not matched.

The sample from the present study was matched only in terms of learning disabled children and grade level with the Vaughn et al (1996) study. As a result there are many uncontrolled variables which could be operating in these two widely different social contexts and learning environments which might account for, or contribute to, the differences found. Further research would be required to further substantiate the differences suggested by the results.

The measures used are comprehensive and appropriate. However, the measures have not been fully validated for a South African context. For more reliable research measures in South Africa, this would be necessary.

The social functioning scales in general are often cited as a limitation (Shavelson, Hubner & Standton, 1976), as children tend to respond in the direction of socially desirable responses. Furthermore, the methodology used for the scales was to obtain a sum total for the measures. Such analysis provides global measures of social status relative to other classmates, but does not give specific information about the nature of children's social functioning. For a more in-depth interpretation of the information, teachers would need to be interviewed as to their perception of their students' social functioning. This would assess whether the childrens' perception of their social functioning was reliable.

A limitation of the Peer Rating of Liking scale is that research has shown that there may be a tendency to rate classmates in the middle of the scale (McConnell & Odom, 1986). To overcome this the teachers' perceptions of peer relationships would help to obtain an accurate evaluation of peer relationships. In addition, the rating scale used with young children, or children of low cognitive abilities, may have a tendency to yield ratings of classmates in a standard way, i.e. giving everyone the same rating (McConnell & Odom, 1986).

The Self-Concept scale which obtains four different measures, allows for a comprehensive understanding of the interplay between the various self-concept variables. However, a shortcoming of the measurement is that it does not take into account the relative perception of academic self-concept, and the actual ability of the child. Further research is required to determine this difference and the effect it may have on overall social functioning.

All the measures used in the study have the limitations regular to the use of closed response questioners in general as a method of assessment, including the inhibition of richness of responses,

respondent biases and deliberate inaccuracies in supplying information.

The results of this study thus need to be interpreted within the limitations of the particular measuring instruments employed. Furthermore, if a larger more culturally diverse population were studied, further comparisons, such as those in terms of gender, socio-economic background and culture, might be relevant and practical.

#### 4.7 CONCLUSION

The present study did not aim simply to add yet another study to the multitude of existing complementary or contradictory findings characterising learning disabled children's social functioning. Rather, the intention of the study was to gain an understanding of the interrelatedness of the multi-dimensional variable of social functioning, as well as to gain an understanding of effects of environment on social functioning.

The results of this study add to the growing literature on the importance of a child's social functioning, specifically for learning disabled children. The correlation analysis yielded significant correlations between social alienation and the six social functioning measures, as well as significant correlation between the four self-concept measures, academic self-concept, friendship, physical appearance and overall self-worth. These results support a model which sees social functioning as being composed of different interrelated measures (Vaughn et al, 1996). The findings also show social alienation as a central component of childrens' social functioning. However, further research is required to support this.

Social functioning of LD children is affected significantly by the type of environment these children are placed in. Generally, LD children in this study were found to be better accepted by their peers, have a higher academic self-concept and global self-concept and are less alienated than American LD children in a inclusion setting. In addition, they were better accepted by their peers and have more positive global self-worth than A/HA children in an inclusion school.

These findings have a number of implications for the education of learning disabled children in South Africa. The study has highlighted an important aspects which need to be considered when

integrating these children into an inclusion setting. It has emphasised the complexity of the interaction of multiple factors in the social functioning of learning disabled children. Although their social functioning can be seen to be more positive in a segregated setting, their overall functioning is still lower than average students. Thus, measures need to be taken to help develop peer acceptance, self-concept and to avoid social alienation and loneliness in a mainstream environment.

Specificity is important to provide the direction for the designing of intervention programmes aimed at addressing social functioning difficulties with learning disabled children, such as enhancing peer relations. Research should continue to guide intervention programmes in the direction of addressing the difficulties these children may experience in a mainstream setting.

While the present study has aimed at a more holistic and broader focus in the study of social functioning by examining the process of the interrelationship among social functioning measures, assessing the effect of grade, and the relative effects of segregated education and inclusive education, there are various variables that could be included in a multidimensional model of social functioning. Future research could include such factors as type of classroom, teacher's acceptance of the child, teachers interaction with the children and family variables in a broadly based, integrative model.

## LIST OF REFERENCES

Asher, S.R., & Hymel, S. (1981). Children's social competence in peer relations: Sociometric and behavioural assessment. In J. Winr & M. Smye (Eds), Social competence. New York: Guilford, 125-127

Asher, S.R., Hymel, S., & Renshaw, P.D. (1984). Loneliness in children. Child Development, 55, 1456-1464.

Asher, S. R. & Parker, J.G. (1989). Peer Relationship Problems. In Shneider, B.H; Attili, G; Nadel, J & Weidberg, R.P (1989) Social Competence in Developmental Perspectives. Netherlands: Kluwer Academic Publishers.

Asher, S.R., Parkhurst, J.T., Hymel, S., & Williams, G.A. (1990). Peer rejection and loneliness in childhood. In S.R. Asher & J.D. Coie (Eds), Peer rejection in childhood. New York: Cambridge University Press, 253-273.

Asher, S.R., & Wheeler, V.A. (1985). Children's loneliness: A comparison of rejected peer status. Journal of Counselling and Clinical Psychology 53, 500-505.

Allen (1981). Children's social competence in peer relations: Sociometric and behavioural assessment. In J. Winr & M. Smye (Eds), Social competence. New York: Guilford, 125-127.

African National Congress: A Policy Framework for Education Training (1994)

Banerji, M. & Dailey, R.A. (1995). A Study of the Effects of an inclusion Model on students with Specific Learning Disabilities. Journal of Learning Disabilities, 28 (8), October, 511-522.

Bear, G.G., Clever, A., & Proctor, W.A. (1991). Self-perceptions of nonhandicapped children and children with learning disabilities in integrated classes. Journal of Special Education, 24, 410-426.

Bear, G.G. & Minke, K.M. (1996) Positive Bias in maintenance of Self-worth among Children with LD. Learning Disability Quarterly, 19, Winter, 23-32.

Bryne, B.M. (1984). Self concept/academic achievement relations: An investigation of dimensionality, stability and causality. Canadian journal of Behavioural Science, 18 (2), 173-186.

Bursuck, W. (1989). A comparison of students with learning disabilities to low achieving and higher achieving students on three dimensions of social competence. Journal of Learning Disabilities, 22, 188-194.

Cassidy, J., & Asher, S.R. (1992). Loneliness and peer relations in young children. Child Development, 63, 350-365.

Coie, J., Dodge, K. & Coppotelli, H. (1982). Dimensions and type of social status: A cross-age perspective. Developmental Psychology, 18, 557-570.

Coleman, J.M, McHam, L.A. & Minnett, A.M. (1992). Similarities in the Social Competencies of Learning Disabled and Low Achieving Elementary School Children. Journal of Learning Disabilities, 25 (10), December, 671-677.

Convington, M.V. (1992). Making the Grade. New York: Cambridge university Press.

Damon, W. (1991). Putting substance into Self-esteem: A Focus on Academic and Moral Values. Educational Horizons, Fall, 12-18.

Epstein, J.L. (1986) Friendship Selection: Developmental and Environmental Influences. In Mueller, E.C, & Cooper, C.R. (1986) (Eds) Process and Outcome in Peer Relationships, New York: Academic Press.

Fuchs, D., Fuchs, L.S., & Fernstrom, F. (1993). A conservative approach to special education: Mainstreaming through transenviromental programing and curriculum-based measurement. American Educational Research Journal, 30, 149-177.

Gronnick, W.S., & ryam, R.M. (1990). Self-perception, motivation, and adjustment in children with learning disabilities: A multiple group comparison study. Journal of Learning Disabilities, 23, 177-184.

Harter, S (1985). Manuel for Self-Perception Profile for Children. Denver: University of Denver.

Harter, S., & Pike, R. (1984). The pictorial scale of perceived competence and social acceptance for young children. Child Development, 55, 1969-1982.

Heyman, W. B. (1990) The perception of a Learning Disability and It's Relationship to Academic Self-Concept and Self-Esteem. Journal of Learning Disabilities. 23, October 472-475.

Howes, C. (1988). Peer interactions of young children. Monographs of the Society for Research in Child Development, 53, 1-94.

Idol, L. (1997) Key questions Related to Building Collaborative and Inclusive Schools. Journal of Learning Disabilities. 30(4), July/August, 384-394.

Integratory Committee on Learning disabilities. (1987) Learning disabilities: A report to Congress. Washington, DC: Author.

Jones, W.H., & Moore, T.L. (1987) Loneliness and Social Support. In Hojat, M., & Mohammadreza, H., (Eds) (1989) Loneliness: Theory, Research and Applications New York : Sage Publications.

Kershner, J.R. (1990) Self-concept and IQ as Predictors of Remedial Success in Children with Learning Disabilities. Journal of Learning Disabilities. 23(6), June/July, 368-374.

Kistner, J., Haskett, M., White, K. & Robbins, F. (1987). Perceived Competence and Self-Worth of LD and Normally Achieving Students. Learning Disability Quarterly. 10, Winter, 37-44.

Kloomok, S. & Cosden, M. (1994). Self-concept in Children with Learning Disabilities: The Relationship Between Global Self-concept, Academic "Discounting", Nonacademic Self-concept and Perceived Social Support. Learning Disability Quarterly. 17, Spring, 140-153.

La Greca, A.M & Vaughn, S. (1990). LD status and achievement: Confounding variables in the study of children's social status, self-esteem, and behavioural functioning. Journal of Learning Disabilities, 22, 483-490.

La Greca, A.M & Vaughn, S. (1992) Social functioning of Individuals with Learning Disabilities. School Psychology Review. 21 (3), 340-347.

Leondari, A (1993) Comparability of Self-concept among Normal Achievers, Low Achievers and Children with Learning Difficulties. Educational Studies. 19(3), 357-371.

MacDonald, G.W. & Cornwall, A. (1995). The Relationship Between Phonological Awareness and Reading and Spelling Achievement Eleven Years Later. Journal of Learning Disabilities, 28 (8), October, 523-527.

McIntosh, R., Vaughn, S., Schumm, J.S., Haager, D. & Lee, O. (1993) Observations of Students with Learning Disabilities in General Education Classrooms. Exceptional Children. 60 (3), 249-261.

McConnell, S.R., & Odom, S.L (1986) Sociometrics. In Strain, P.S; Guralnick, M. J & Walker, H.M (1986) Children's Social Behaviour: Development, Assessment, and Modification. New York: Academic Press Inc.

McMillan, J.H., Singh, J. & Simonetta, L.G. (1995). Self-Orientated Self -Esteem Self-Destructs. The Education Digest, March, 9-11.

McMillan, J.H., Singh, J. & Simonetta, L.G. (1994). The Tyranny of Self-Oriented Self-Esteem. Educational Horizons, Spring, 141-145.

Milich, R., McAninch, C.B., & Harris, M.J. (1992) Effects of Stigmatizing information on children's Peer Relations: Believing is Seeing. School Psychology Review, 21, 2, 400-409.

Montgomery, M.S. (1994). Self-Concept and Children with Learning Disabilities: Observer-Child Concordance Across Six Context-Dependent Domains. Journal of Learning Disabilities. 27 (4), April, 254-262.

Mortvitz, E. & Motta, R.W. (1992) Predictors of Self-Esteem: The Roles of Parents-child Perceptions, Achievement, and Class Placement. Journal of Learning Disabilities. 25( 1), January, 72-80.

Mueller, E.C & Cooper, C.R. (1986) Process and Outcome in Peer Relationships. New York: Academic Press.

Parker, J.G. & Asher, S.R (1987). Peer relations and later personal adjustment: Are low-accepted children at risk? Psychological Bulletin, 102, 357-389.

Parkhurst, J.T, & Asher, S.R. (1992). Peer rejection in middle school: Subgroup differences in behaviour, loneliness and interpersonal concerns. Developmental psychology, 28, 231-241.

Pekarik, E.G., Prinz, R.J., Liebert, D.E., Weintraub, S., & Neale, J.M. (1976). The pupil evaluation inventory: A sociometric technique for assessing children's social behaviour. Journal of Abnormal Child Psychology, 4, 83-97.

Peplau, L.A, & Perlman, D. (1982). Loneliness : A source book of current theory, research and therapy. New York : Wiley Interscience.

Ramsey, P.G. (1991). Making Friends in School: Promoting Peer Relationships in Early childhood, New York: Teachers College Press.

Renick, M., & Harter, S. (1989). Impact of social comparisons on the developing self-perceptions of learning disabled students. Journal of Educational Psychological. 81, 631-638.

Sarbornie, E.J. (1994). Social-Affective Characteristics in Early Adolescents Identified as Learning Disabled and Nondisabled. Learning Disability Quarterly, 17, Fall, 268-279.

Scott, C.G., Murray, G.C., Mertens, C. & Dustin, E.R (1996) Student Self Esteem and the School System: Perceptions and Implications. The Journal of Educational Research, 89 (5), May/June.

Seidel, J., & Vaughn, S. (1991). Social alienation and the learning disabled school dropout. Learning Disabilities Research & Practice, 6, 152-157.

Shavelson, R.J., Hubner, J.J, & Stanton, G.C. (1976). Self-concept: Validation of construct interpretations. Review of Educational Research, 46, 307-441.

Shneider, B.H; Attili, G; Nadel, J & Weiddberg, R.P (1989) Social Competence in Developmental Perspectives. Netherlands: Kluwer Academic Publishers.

Spitzberg, B.H., & Hurt, H.T., (1987) The Relationship of Interpersonal Competence and Skills to reported Loneliness Across Time. In Hojat, M., & Mohammadreza, H., (Eds) (1989) Loneliness: Theory, Research and Applications New York : Sage Publications.

Stone, W.L., & La Greca, A.M. (1990). The social status of children with learning disabilities. Journal of Learning Disabilities, 23, 32-37.

Strain, P.S; Guralnick, M. J & Walker, H.M (1986) Children's Social Behaviour: Development, Assessment, and Modification. New York: Academic Press Inc.

Vaughn, S., Elbaum, B.E & Schumm, J.S. (1996). The Effects of Inclusion on the Social Functioning of Students with Learning Disabilities. Journal of Learning Disabilities. 29 (6), November, 598-608.

Vaughn, S. & Haager, D. (1994). Social Competence as a Multifaceted Construct: How Do Students with Learning disabilities Fare? Learning Disability Quarterly. 17, Fall, 253-266.

Vaughn, S., Haager, D., Hogan, A., & Kouzekanai, K. (1992). Self-concept and peer acceptance in students with learning disabilities: A four-to-five year prospective study. Journal of Educational psychology, 84, 43-50.

Vaughn, S. & Hogan, A. (1994). The Social Competence of Students with Learning Disabilities Over Time: A Within-Individual Examination. Journal of Learning Disabilities. 27 (5), May, 292-303.

Vaughn, S., Hogan, A., Kouzekanai, K. & Shapiro, S. (1990). Peer acceptance, self-perceptions, and social skills of LD students prior to identification. Journal of Educational Psychology, 82(2), 101-106.

Vaughn, S., McIntosh, R., Schumm, J.S., Haager, D., & Callwood, D. (1993). Social status, peer acceptance, and reciprocal friendship revisited. Learning disabilities Research & Practice, 8(2), 82-88.

Vaughn, S. & Schumm, J.S (1995) Responsible Inclusion for Students with Learning Disabilities. Journal of Learning Disabilities. 28, (5), May, 264 - 270.

Vaughn, S., Zaragoza, N., Hogan, A. & Walker, J. (1993). A Four-Year Longitudinal Investigation of the Social Skills and Behaviour Problems of Students with Learning Disabilities. Journal of Learning Disabilities, 26(6), June/July, 404-412.

Vosk, B., Forehand, R., Parker, J.B., & Rickard, K. (1982). A multi method comparison of popular and unpopular children. Developmental Psychology, 18, 571-575.

Wasik, B.H. (1987). Sociometric measured and peer descriptors of kindergarten children: A study of reliability and validity. Journal of Clinical Child Psychology, 16, 218-224.

Wechsler, D. (1991). Wechsler intelligence scale for children - Revised. San Antonio, TX: Psychological Corp.

Wechsler, D. (1992). Wechsler intelligence scale for children - Third Edition. San Antonio, TX: PSYCHOLOGICAL Corp.

Wiggins, J.D.; Schaltz, E.L. & West, R. W. (1994). The Relationship to Grades, Achievement Scores, and Other Factors Critical to School Success. The School Counsellor, March, 41, 239-244.

Williams, G.A., & Asher, S.R. (1992). Assessment of loneliness at school among children with mild mental retardation. American Journal on Mental Retardation, 96, 373-385.

## APPENDIX 1

## Loneliness and Social dissatisfaction Scale

## MY FEELINGS ABOUT SCHOOL

NAME \_\_\_\_\_ TEACHER \_\_\_\_\_

DATE \_\_\_\_\_

	YES	SOMETIMES	NO
a. Do you walk to school?	_____	_____	_____
b. Do you go to the movies on the weekend?	_____	_____	_____
<hr/>			
1. Do you like to read?	_____	_____	_____
2. Are the kids at school friendly to you?	_____	_____	_____
3. Is this school a lonely place for you?	_____	_____	_____
4. Are the kids at school who care about you?	_____	_____	_____
5. Are there kids at school who understand how you feel?	_____	_____	_____
6. Do you like playing basketball?	_____	_____	_____
7. Do you feel alone at school?	_____	_____	_____
8. Are the kids at school mean to you?	_____	_____	_____
9. Do you get along with the other kids at school?	_____	_____	_____
10. Do you feel left out of things at school?	_____	_____	_____
11. Do you like to paint and draw?	_____	_____	_____
12. Are you lonely at school?	_____	_____	_____
13. Do the other kids at school want to be with you?	_____	_____	_____

Williams, G.A., & Asher, S.R. (1992). Assessment of loneliness at school with mild mental retardation. American Journal of Mental Retardation, 96, 373-385.

## APPENDIX 2

## Social Alienation Scale

NAME \_\_\_\_\_

Grade level \_\_\_\_\_ Please circle one : Male Female

Directions: Circle the number that best represents how true the statement is concerning how you feel about your teachers.

SCORING 4 ---- very true  
 3 ---- true  
 2 ---- seldom true  
 1 ---- never true

- |   |   |   |   |   |
|---|---|---|---|---|
| 1. I like my classmates.                                      | 1 | 2 | 3 | 4 |
| 2. My classmates like me.                                     | 1 | 2 | 3 | 4 |
| 3. I am lonely most of the time.                              | 1 | 2 | 3 | 4 |
| 4. I look forward to seeing my friends at school.             | 1 | 2 | 3 | 4 |
| 5. My best friends are in school.                             | 1 | 2 | 3 | 4 |
| 6. I get into lots of fights in school.                       | 1 | 2 | 3 | 4 |
| 7. My classmates think I am an important member of the class. | 1 | 2 | 3 | 4 |
| 8. I can trust my friends at school.                          | 1 | 2 | 3 | 4 |
| 9. I am different from my classmates.                         | 1 | 2 | 3 | 4 |
| 10. It is easy for me to make friends in school.              | 1 | 2 | 3 | 4 |
| 11. I am as popular as other students in class.               | 1 | 2 | 3 | 4 |
| 12. It is hard to get other kids to like me.                  | 1 | 2 | 3 | 4 |
| 13. I can always find a friend when I need one.               | 1 | 2 | 3 | 4 |
| 14. My classmates like my sense of humour.                    | 1 | 2 | 3 | 4 |

SCORING 4 ---- very true  
 3 ---- true  
 2 ---- seldom true  
 1 ---- never true

15. I feel left out of the fun things in school.	1	2	3	4
16. I can always depend on my friends for help.	1	2	3	4
17. It is easy for me to talk to my classmates.	1	2	3	4
18. Nobody in my class really knows how I feel about things.	1	2	3	4
19. I would be missed by my classmates if I did not come to school.	1	2	3	4
20. My classmates often ask my opinion about things.	1	2	3	4
21. Kids at school have it in for me.	1	2	3	4
22. If I moved away I would miss my classmates.	1	2	3	4
23. My classmates always ask me to come to their parties.	1	2	3	4

Seidel, J.F., & Vaughn, S. (1991). Social Alienation and the Learning Disabled School Dropout. Learning Disabilities Research and Practice, 6, 152-157.

This document has been supported by the United States Department of Education, Grant Award HO23E90014, Research on the General Education Teacher Planning and Adaptation for Students with Handicaps, to the School of Education, University of Miami. Reproduction or use of this document is given by Sharon Vaughn or Jeanne Schumm, Investigators, P.O. Box 248065, Coral Gables, Florida, 33124.

## APPENDIX 3

TABLE 8

The means, standard deviations and the difference between the means for the Learning Disabled Children in a Segregated (SLD) Setting, and Learning Disabled (VLD) children, in an Inclusion for the Fall time period.

MEASURE	VLD MEAN	VLD STD	SLD MEAN	SLD STD	MEAN-DIF	P-VALUE
ACADEMIC	15.3	3.0	16.4483	3.6763	1.1483	0.021396 Sig.
FRIENDS	17.7	4.5	19.2586	4.6587	1.5586	0.014243 Sig.
LIKED	2.5	0.3	31.0862	6.2640	28.4862	0.000000 Sig.
LONELY	24.1	3.1	26.5517	3.4852	2.4517	0.000008 Sig.
LOOKS	20.1	3.4	21.5172	3.1358	1.4172	0.033715 Sig.
SO-ALIEN	70.8	8.4	74.2414	11.3173	3.4414	0.012359 Sig.
S-WORTH	20.3	3.6	21.9828	2.9824	1.6828	0.000678 Sig.

VLD = Vaugh et al (1996) Learning Disabled sample

SLD = Segregated Learning Disabled sample

STD = Standard Deviation

MEAN DIF = The difference between the two means

P-VALUE = The probability value which if less than 0.025 indicated significant difference between the means at 5% level

SIG = means significant difference

NOT SIG = means that the difference is not significant

TABLE 9

The means, standard deviations and the difference between the means for the Learning Disabled Children in a Segregated (SLD) Setting, and Learning Disabled Children (VLD), in an Inclusion for the Spring time period.

MEASURE	VLD MEAN	VLD STD	SLD MEAN	SLD STD	MEAN-DIF	P-VALUE
ACADEMIC	14.7	3.9	16.4483	3.6763	1.7483	0.00178 Sig.
FRIENDS	18.5	5.0	19.2586	4.6587	0.7586	0.14544 notsig.
LIKED	2.3	0.4	31.0862	6.2640	28.7862	0.00000 Sig.
LONELY	24.2	2.9	26.5517	3.4852	2.3517	0.00001 Sig.
LOOKS	21.3	3.5	21.5172	3.1358	0.2172	0.33952 notsig.
SO-ALIEN	70.2	13.8	74.2414	11.3173	4.0414	0.00572 Sig.
S-WORTH	21.1	3.5	21.9828	2.9824	0.8828	0.04288 not sig.

VLD = Vaugh et al (1996) Learning Disabled sample

SLD = Segregated Learning Disabled sample

STD = Standard Deviation

MEAN DIF = The difference between the two means

P-VALUE = The probability value which if less than 0.025 indicated significant difference between the means at 5% level

SIG = means significant difference

NOT SIG = means that the difference is not significant

TABLE 10

The means, standard deviations and the difference between the means for the Learning Disabled Children in a Segregated (SLD) Setting, and Low Average Achieving Children (VLA) , in an Inclusion for the Fall time period.

MEASURE	VLD MEAN	VLD STD	SLD MEAN	SLD STD	MEAN-DIF	P-VALUE	REMARKS
ACADEMIC	16.3	3.4	16.4483	3.6763	0.1483	0.39813	not sig.
FRIENDS	19.0	3.9	19.2586	4.6587	0.2586	0.35384	not sig.
LIKED	2.9	0.3	31.0862	6.2640	28.1862	0.00000	Sig.
LONELY	23.5	4.7	26.5517	3.4852	3.0517	0.00000	Sig.
LOOKS	19.9	4.4	21.5172	3.1358	1.6172	0.00205	Sig.
SO-ALIEN	75.9	9.5	74.2414	11.3173	-1.6586	0.13956	not sig.
S-WORTH	21.0	3.5	21.9828	2.9824	0.9828	0.02807	not sig.

VLA = Vaugh et al (1996) Low Average Achieving sample

SLD = Segregated Learning Disabled sample

STD = Standard Deviation

MEAN DIF = The difference between the two means

P- VALUE = The probability value which if less than 0.025 indicated significant difference between the means at 5% level

SIG = means significant difference

NOT SIG = means that the difference is not significant

TABLE 11

The means, standard deviations and the difference between the means for the Learning Disabled Children in a Segregated (SLD) Setting, and Low Average Achieving Children (VLA) , in an Inclusion for the Spring time period.

MEASURE	VLD MEAN	VLD STD	SLD MEAN	SLD STD	MEAN-DIF	P-VALUE	REMARKS
ACADEMIC	17.0	3.0	16.4483	3.6763	-0.5517	0.16360	not sig.
FRIENDS	20.3	3.6	19.2586	4.6587	-1.0414	0.06428	not sig.
LIKED	2.6	0.4	31.0872	6.2640	28.4862	0.00000	Sig.
LONELY	23.6	4.1	26.5517	3.4852	2.9517	0.00000	Sig.
LOOKS	20.6	3.2	21.5172	3.1358	0.9172	0.03836	not sig.
SO-ALIEN	73.1	10.0	74.2414	11.3173	1.1414	0.22874	not sig.
S-WORTH	20.8	3.7	21.9828	2.9824	1.1828	0.01186	Sig.

VLA = Vaugh et al (1996) Low Average Achieving sample

SLD = Segregated Learning Disabled sample

STD = Standard Deviation

MEAN DIF = The difference between the two means

P- VALUE = The probability value which if less than 0.025 indicated significant difference between the means at 5% level

SIG = means significant difference

NOT SIG = means that the difference is not significant

TABLE 12

The means, standard deviations and the difference between the means for the Learning Disabled Children in a Segregated (SLD) Setting, and Average/High Achieving Children(VLA) , in an Inclusion for the Fall time period.

MEASURE	VLD MEAN	VLD STD	SLD MEAN	SLD STD	MEAN-DIF	P-VALUE	REMARKS
ACADEMIC	18.8	1.8	16.4483	3.6763	-2.3517	0.00001	Sig.
FRIENDS	19.7	4.6	19.2586	4.6587	-0.4414	0.26634	not sig.
LIKED	3.3	0.3	31.0862	6.2640	27.7862	0.00000	Sig.
LONELY	25.9	3.6	26.5517	3.4852	0.6517	0.12351	not sig.
LOOKS	19.2	3.8	21.5172	3.1358	2.3172	0.00001	Sig.
SO-ALIEN	81.7	8.1	74.2414	11.3173	-7.4586	0.00000	Sig.
S-WORTH	20.6	4.2	21.9828	2.9824	1.3828	0.00531	Sig.

VLA = Vaugh et al (1996) Average/ High Achieving sample

SLD = Segregated Learning Disabled sample

STD = Standard Deviation

MEAN DIF = The difference between the two means

P- VALUE = The probability value which if less than 0.025 indicated significant difference between the means at 5% level

SIG = means significant difference

NOT SIG = means that the difference is not significant

TABLE 13

The means, standard deviations and the difference between the means for the Learning Disabled Children in a Segregated (SLD) Setting, and Average/High Achieving Children(VLA) , in an Inclusion for the Spring time period.

MEASURE	VLD MEAN	VLD STD	SLD MEAN	SLD STD	MEAN-DIF	P-VALUE	REMARKS
ACADEMIC	19.0	1.6	16.4483	3.6763	-2.5517	0.00000	Sig.
FRIENDS	20.3	3.8	19.2586	4.6587	-1.0414	0.06539	not sig.
LIKED	3.2	0.4	31.0862	6.2640	27.8862	0.00000	Sig.
LONELY	24.5	3.6	26.5517	3.4852	2.0517	0.00019	Sig.
LOOKS	19.1	4.4	21.5172	3.1358	2.4172	0.00001	Sig.
SO-ALIEN	76.2	13.2	74.2414	11.3173	-1.9586	0.10686	not sig.
S-WORTH	21.8	2.5	21.9828	2.9824	0.1828	0.35039	not sig.

VLA = Vaugh et al (1996) Average/ High Achieving sample

SLD = Segregated Learning Disabled sample

STD = Standard Deviation

MEAN DIF = The difference between the two means

P- VALUE = The probability value which if less than 0.025 indicated significant difference between the means at 5% level

SIG = means significant difference

NOT SIG = means that the difference is not significant

**Author** Powell N

**Name of thesis** The Effects of Segregated Education on the Social Functioning of Students Med WITS UNIV 1998

***PUBLISHER:***

University of the Witwatersrand, Johannesburg

©2013

***LEGAL NOTICES:***

**Copyright Notice:** All materials on the University of the Witwatersrand, Johannesburg Library website are protected by South African copyright law and may not be distributed, transmitted, displayed, or otherwise published in any format, without the prior written permission of the copyright owner.

**Disclaimer and Terms of Use:** Provided that you maintain all copyright and other notices contained therein, you may download material (one machine readable copy and one print copy per page) for your personal and/or educational non-commercial use only.

The University of the Witwatersrand, Johannesburg, is not responsible for any errors or omissions and excludes any and all liability for any errors in or omissions from the information on the Library website.