

Chapter 4

4. Results

4.1. Qualifying Criteria in term of IQ Scores, Scholastic Test Scores and Age

In order to ascertain whether the children qualified as LD children, as defined in the criteria chosen for this research report, the children's IQ scores as well as their scores on the reading and mathematics tests need to be taken into account.

The verbal IQ, non-verbal IQ and total IQ for the five children in this study is listed in Table 1:

Table 1: IQ Scores

Child	Verbal IQ	Non-Verbal IQ	Total IQ
1	105	94	100
2	89	95	91
3	100	122	111
4	107	113	110
5	104	116	110

It is evident that all the children have IQ scores above the cut-off of 85 in the verbal and non-verbal subtests as well as in their total IQ scores.

In addition, the children needed to have obtained a score in mathematics or reading that is below what would be expected for their age, i.e. either 1 year or 1 standard deviation below what is an average score for their age. The children's actual ages were calculated by converting their age in years and months to a decimal number (i.e. the child whose age at the testing date was 10 years and 1 month is converted to $10 + (1/12) = 10.08$). In line with psychometric testing practices, part of a month is not taken into account when calculating the age of a child (Van Eeden, 1997). The reading age score was calculated by averaging the age scores obtained on the Burt Word Reading test (Burt) and the Neale Analysis of Reading Ability test (Neale) for each child. The average Mathematics

Age Score was obtained with the Vassi Mathematics Proficiency test (Vassi) combined with the One-Minute Maths Test.

Table 2: Average Mathematics and Reading Age Scores for Each Child

Child	Child's Age	Average Mathematics Age Score	Average Reading Age Score
1	10.42	8.94	6.46
2	9.25	10.1	7.88
3	9.92	8.81	7.61
4	9.17	8.06	8.06
5	10.08	8.92	5.83

The differences between the children's ages and the mathematics and reading age scores have been calculated in Table 3:

Table 3: Differences between Each Child's Age and her Mathematics Age Score and Reading Age Score

Child	Difference between Mathematics Age Score and Actual Age	Difference between Reading Age Score and Actual Age
1	-1.48	-3.96
2	0.85	-1.38
3	-1.1	-2.31
4	-1.1	-1.11
5	-1.17	-4.25

As is evident in Table 3, all the children's reading and mathematics age scores (with the exception of child 2's mathematics score) was more than 1 year below the children's actual age.

When analysing the mathematics age difference and the reading age difference it becomes evident that the LD children recommended by the school for this research have more significant deficits in their reading abilities. Table 4 lists the mean of the

mathematics age differences and Table 5 lists the mean of the reading age differences of the children in this study. The mean difference for the mathematics difference scores is - 0.80; where the mean difference scores for the reading tests is – 2.60.

Table 4: Mean, Frequency and Variance of Mathematics Difference Scores

Difference between Mathematics Age Score and Actual Age	Frequency	Percent	Cumulative Percent	
-1.48	1	20.0%	20.0%	
-1.17	1	20.0%	40.0%	
-1.1	2	40.0%	80.0%	
0.85	1	20.0%	100.0%	
Total	5	100.0%	100.0%	

Observations Total Mean Variance Standard Deviation
 5 -4.0000 -.8000 .8755 .9357
 Minimum Score 25% Median 75% Maximum Score Mode
 -1.4800 -1.1700 -1.1000 -1.1000 0.8500 -1.1000

Table 5: Mean, Frequency and Variance of Reading Difference Scores

Difference between Reading Age Score and Actual Age	Frequency	Percent	Cumulative Percent	
-4.25	1	20.0%	20.0%	
-3.96	1	20.0%	40.0%	
-2.31	1	20.0%	60.0%	
-1.38	1	20.0%	80.0%	
-1.11	1	20.0%	100.0%	
Total	5	100.0%	100.0%	

Observations Total Mean Variance Standard Deviation
 5 -13.0100 -2.6020 2.0912 1.4461
 Minimum Score 25% Median 75% Maximum Score Mode
 -4.2500 -3.9600 -2.3100 -1.3800 -1.1100 -4.2500

4.2. Gender and Scholastic Test Results

An equal number of boys and girls were recommended by the school for the research assessment (3 boys and 3 girls) however one girl was not assessed in this research study as the parents reported that they were unhappy with the teaching at the school and wanted their child to be assessed by an independent person and away from the school property. This gender ratio is unusual if you consider the research stating that the gender ratio of LD boys to girls is usually 4:1 (Durrant, Cunningham & Voelker, 1990). A possible explanation is that LD has usually been associated with dyslexia (Palikara, 2006), reading, spelling and language processing difficulties (Kavale & Forness, 1995), which seems more prevalent and significant among LD boys. All three of the boys assessed in my research presented with considerable reading difficulties, which could be a reason why LD boys may stand out more in the classroom, and are diagnosed more often.

For the female subjects in this study, the mean mathematics difference score was -0.125 and the mean reading difference score was -1.245. This indicates that the female children displayed more difficulty with reading than with mathematics.

For the male subjects in this study, the mean mathematics difference score was -1.25 and the mean reading difference score was -3.5067. This indicates that the male children displayed more difficulty with reading than with mathematics as well; however the male children obtained much lower scores on reading when compared with the females and the mathematics scores of both genders. (The data regarding gender differences and academic scores are presented in Tables 6 to 9).

Table 6: Mean, Frequency and Variance of Mathematics Difference Scores for Female Subjects

Difference between Mathematics Age Score and Actual Age for Females	Frequency	Percent	Cumulative Percent	
-1.48	0	0.0%	0.0%	
-1.17	0	0.0%	0.0%	
-1.1	1	50.0%	50.0%	
0.85	1	50.0%	100.0%	
Total	2	100.0%	100.0%	

Observations Total Mean Variance Standard Deviation
 2 -.2500 -.1250 1.9013 1.3789
 Minimum Score 25% Median 75% Maximum Score Mode
 -1.1000 -1.1000 -0.1250 0.8500 0.8500 -1.1000

Table 7: Mean, Frequency and Variance of Mathematics Difference Scores for Male Subjects

Difference between Mathematics Age Score and Actual Age for Males	Frequency	Percent	Cumulative Percent	
-1.48	1	33.3%	33.3%	
-1.17	1	33.3%	66.7%	
-1.1	1	33.3%	100.0%	
0.85	0	0.0%	100.0%	
Total	3	100.0%	100.0%	

Observations Total Mean Variance Standard Deviation
 3 -3.7500 -1.2500 .0409 .2022
 Minimum Score 25% Median 75% Maximum Score Mode
 -1.4800 -1.4800 -1.1700 -1.1000 -1.1000 -1.4800

Table 8: Mean, Frequency and Variance of Reading Difference Scores for Female Subjects

Difference between Reading Age Score and Actual Age for Females	Frequency	Percent	Cumulative Percent	
-4.25	0	0.0%	0.0%	
-3.96	0	0.0%	0.0%	
-2.31	0	0.0%	0.0%	
-1.38	1	50.0%	50.0%	
-1.11	1	50.0%	100.0%	
Total	2	100.0%	100.0%	

Observations Total Mean Variance Standard Deviation
 2 -2.4900 -1.2450 .0364 .1909
 Minimum Score 25% Median 75% Maximum Score Mode
 -1.3800 -1.3800 -1.2450 -1.1100 -1.1100 -1.3800

Table 9: Mean, Frequency and Variance of Reading Difference Scores for Male Subjects

Difference between Reading Age Score and Actual Age for Males	Frequency	Percent	Cumulative Percent	
-4.25	1	33.3%	33.3%	
-3.96	1	33.3%	66.7%	
-2.31	1	33.3%	100.0%	
-1.38	0	0.0%	100.0%	
-1.11	0	0.0%	100.0%	
Total	3	100.0%	100.0%	

Observations Total Mean Variance Standard Deviation
 3 -10.5200 -3.5067 1.0950 1.0464
 Minimum Score 25% Median 75% Maximum Score Mode
 -4.2500 -4.2500 -3.9600 -2.3100 -2.3100 -4.2500

4.3. Piers-Harris Children's Self-concept Scale (PHCSCS-2)

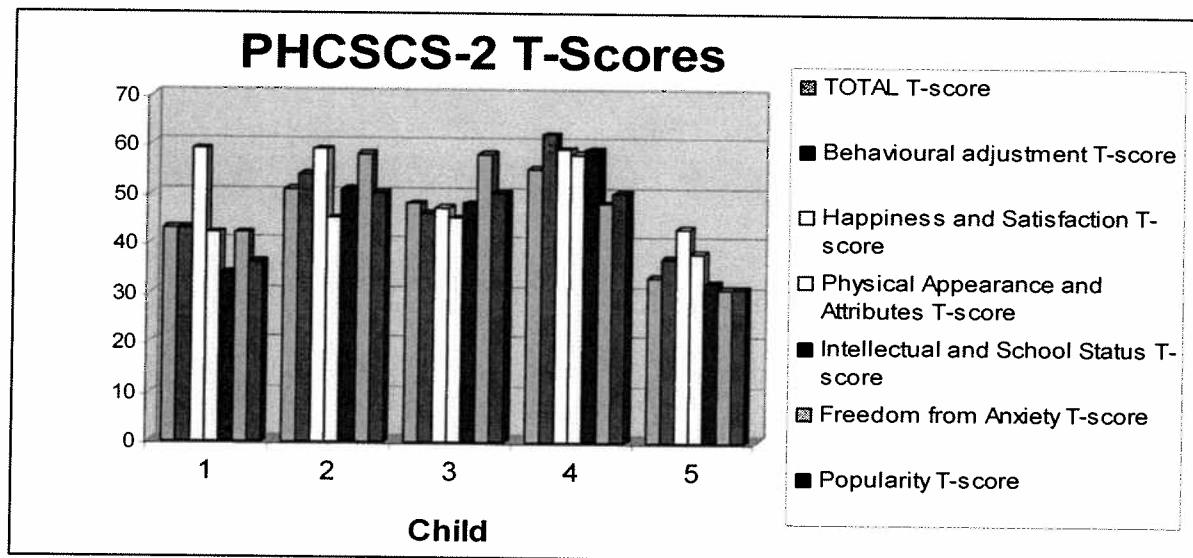
In an overview of studies using the PHCSCS-2, Elbaum (2003) reported that LD children appeared to have a general self-concept, as tested on the PHCSCS-2, that was "remarkably similar" to the normative sample of students without LD (p. 104). Elbaum (2003) adds that the studies included in this meta-analysis generally have small sample groups and are not randomly selected, and so have limited generalisability. The tendency to report only the general self-concept scores (or Total T-score) has also limited the usefulness of the studies because students may have a normal general self-concept, but still display difficulties in other areas of the self-concept (Elbaum, 2003).

The PHCSCS-2 Total T-scores as well as the individual domain self-concept scores for the children participating in this study are detailed in Table 10 and Figure 1.

Table 10: PHCSCS-2 Scores for each child

Child	Total T-score	Behavioural adjustment T-score	Happiness and Satisfaction T-score	Physical Appearance and Attributes T-score	Intellectual and School Status T-score	Freedom from Anxiety T-score	Popularity T-score
1	43	43	59	42	34	42	36
2	51	54	59	45	51	58	50
3	48	46	47	45	48	58	50
4	55	62	59	58	59	48	50
5	33	37	43	38	32	31	31

Figure 1: PHCSCS-2 Scores for each child



When interpreting T-scores obtained on the PHCSCS-2, the following descriptive groupings are suggested by Piers and Herzberg (2005, p. 17):

<u>T-Score Range</u>	<u>Interpretative Label</u>
< 29T	Very Low
30T – 39T	Low
40T – 44T	Low Average
45T – 55T	Average
56T – 59T	High Average
60T – 69T	High
> 70T	Very High

When applying this interpretative labelling system to the total T-scores obtained by the participants, it is evident that one child falls into the low range; one child falls in the low average range and three children fall in the average range of T-Scores when compared to the PHCSCS-2 normative group of children.

The means of the T-scores obtained by the subjects in the different domains suggests that the children in this study generally have total T-scores that fall within the average

range; however there is variation between the difference domains of the self-concept, as measured by the PHCSCS-2. The children generally reported high average self-concept in the Happiness and Satisfaction domain and the Physical Appearance and Attributes domain; average self-concept in the Behaviour Adjustment domain and Freedom from Anxiety domain; and low average self-concept in the Intellectual and School status domain and the Popularity domain. Tables 11 to 18 lists the frequency, mean, standard deviation, mode and other descriptive statistics for each of the PHCSCS-2 domains as well as the total T-scores of the subjects.

Table 11: Mean, Frequency and Variance of PHCSCS-2 Total T-Scores

Total T-score	Frequency	Percent	Cumulative Percent	
33	1	20.0%	20.0%	
43	1	20.0%	40.0%	
48	1	20.0%	60.0%	
51	1	20.0%	80.0%	
55	1	20.0%	100.0%	
Total	5	100.0%	100.0%	

Observations	Total	Mean	Variance	Standard Deviation
5	231.0000	46.2000	76.7000	8.7579
Minimum Score	25%	Median	75%	Maximum Score
33.0000	43.0000	48.0000	51.0000	56.0000
				33.0000

Table 12: Mean, Frequency and Variance of PHCSCS-2 Behavioural Adjustment T-Scores

Behavioural Adjustment T-score	Frequency	Percent	Cumulative Percent	
37	1	20.0%	20.0%	
43	1	20.0%	40.0%	
46	1	20.0%	60.0%	
54	1	20.0%	80.0%	
62	1	20.0%	100.0%	
Total	5	100.0%	100.0%	

Observations Total Mean Variance Standard Deviation
 5 242.0000 48.4000 95.3000 9.7622
 Minimum Score 25% Median 75% Maximum Score Mode
 37.0000 43.0000 46.0000 54.0000 62.0000 37.0000

Table 13: Mean, Frequency and Variance of PHCSCS-2 Happiness and Satisfaction T-Scores

Happiness and Satisfaction T-score	Frequency	Percent	Cumulative Percent	
43	1	20.0%	20.0%	
47	1	20.0%	40.0%	
59	3	60.0%	100.0%	
Total	5	100.0%	100.0%	

Observations Total Mean Variance Standard Deviation
 5 267.0000 53.4000 60.8000 7.7974
 Minimum Score 25% Median 75% Maximum Score Mode
 43.0000 47.0000 59.0000 59.0000 59.0000 59.0000

Table 14: Mean, Frequency and Variance of PHCSCS-2 Physical Appearance and Attributes T-Scores

Physical Appearance and Attributes T-score	Frequency	Percent	Cumulative Percent	
38	1	20.0%	20.0%	
42	1	20.0%	40.0%	
45	2	40.0%	80.0%	
58	1	20.0%	100.0%	
Total	5	100.0%	100.0%	

Observations	Total	Mean	Variance	Standard Deviation	
5	228.0000	45.6000	56.3000	7.5033	
Minimum Score	25%	Median	75%	Maximum Score	Mode
38.0000	42.0000	45.0000	45.0000	58.0000	45.0000

Table 15: Mean, Frequency and Variance of PHCSCS-2 Intellectual and School Status T-Scores

Intellectual and School Status T-score	Frequency	Percent	Cumulative Percent	
32	1	20.0%	20.0%	
34	1	20.0%	40.0%	
48	1	20.0%	60.0%	
51	1	20.0%	80.0%	
59	1	20.0%	100.0%	
Total	5	100.0%	100.0%	

Observations	Total	Mean	Variance	Standard Deviation	
5	224.0000	44.8000	132.7000	11.5195	
Minimum Score	25%	Median	75%	Maximum Score	Mode
32.0000	34.0000	48.0000	51.0000	59.0000	32.0000

Table 16: Mean, Frequency and Variance of PHCSCS-2 Freedom from Anxiety T-Scores

Freedom from Anxiety T-score	Frequency	Percent	Cumulative Percent	
31	1	20.0%	20.0%	
42	1	20.0%	40.0%	
48	1	20.0%	60.0%	
58	2	40.0%	100.0%	
Total	5	100.0%	100.0%	

Observations Total Mean Variance Standard Deviation
 5 237.0000 47.4000 130.8000 11.4368
 Minimum Score 25% Median 75% Maximum Score Mode
 31.0000 42.0000 48.0000 58.0000 58.0000 58.0000

Table 17: Mean, Frequency and Variance of PHCSCS-2 Popularity T-Scores

Popularity T-score	Frequency	Percent	Cumulative Percent	
31	1	20.0%	20.0%	
36	1	20.0%	40.0%	
50	3	60.0%	100.0%	
Total	5	100.0%	100.0%	

Observations Total Mean Variance Standard Deviation
 5 217.0000 43.4000 84.8000 9.2087
 Minimum Score 25% Median 75% Maximum Score Mode
 31.0000 36.0000 50.0000 50.0000 50.0000 50.0000

Table 18: Summary Table of Mean T-Scores for HSCSCS-2 domains

Total T-score	46.2
Behavioural Adjustment	48.4
Happiness and Satisfaction	60.8
Physical Appearance and Attributes	56.3
Intellectual and School Status	44.8
Freedom From Anxiety	47.4
Popularity	43.4

4.4. Positive and Negative Labelling

Table 19 lists the number of positive and negative labels that each child reports to know the meaning of, as well as the number of positive and negative labels that the child reports others have used to describe her, and the number of positive and negative labels that the child reports that she would use to describe herself. (See Appendix B for a list of the 13 positive and 13 negative labels that were used in this research study).

Table 19: Number of Negative and Positive Labels Known by the Child, Used by Others to Describe the Child, and Used by the Child to Describe Herself.

Child	Number of Negative Labels that the Child Knows the meaning of	Number of Negative Labels that the Child Reports Others Call Her	Number of Negative Labels that the Child Reports She Would Use to Refer to Herself	Number of Positive Labels that the Child Knows	Number of Positive Labels that the Child Reports Others Call Her	Number of Positive Labels that the Child Reports She Would Use to Refer to Herself
1	12	2	0	12	8	8
2	6	2	2	7	2	3
3	12	4	2	12	8	8
4	9	3	3	9	6	6
5	10	9	6	10	5	4

The calculation of the difference between the number of negative labels and positive labels that the child knows; reports others call her; and reports that she would use to describe herself is shown in Table 20. Generally, there is no difference between the number of positive labels and number of negative labels that the children report to know the meaning of. Child 1 and Child 3 both report that other people tend to use more positive labels to describe them, and these two children also use a higher number of positive labels to describe themselves. Child 4 reports that other people tend to use more negative labels to describe them, however the child describes herself using more positive terms. This suggests that the child is able to apply some sort of protection or resilience against internalising the opinion of others. Child 5 reports more negative labels from others; however the child applies less negative labels to himself.

Table 20: Difference between the Number of Positive and Negative Labels Known by the Child, Used by Others to Describe the Child, and Used by the Child to Describe Herself.

Child	Number of Positive Labels – Number of Negative Labels that the Child Knows	Number of Positive Labels – Number of Negative Labels that the Child Reports Others Call Her	Number of Positive Labels – Number of Negative Labels that the Child Reports She Would Use to Refer to Herself
1	0	6	8
2	1	0	1
3	0	4	6
4	0	-3	3
5	0	-5	-2

Hypothesis 1(a) states that LD children will report that they have been described by more of the negative labels than the positive labels.

In order to assess if hypothesis 1(a) is true, the average differences between the positive and negative labels in Table 20 has been calculated:

Table 21: Average Differences between the Positive and Negative Labels

	Number of Positive Labels – Number of Negative Labels that the Child Knows	Number of Positive Labels – Number of Negative Labels that the Child Reports Others Call Her	Number of Positive Labels – Number of Negative Labels that the Child Reports She Would Use to Refer to Herself
Mean	0.2	0.4	3.2

Thus, Table 21 suggests that hypothesis 1(a) is false, as the average difference between the positive and negative labels the LD children reported other people have used to describe the children is positive, meaning that the children, on average, report that other people use more positive labels than negative labels to describe them (the children).

However, it is interesting to note that the children on average describe themselves more positively than they report other people do. The data does indicate that there is variability amongst the 5 subjects in this study with regard to the number of negative labels they perceive other people to have applied to them. The one consistent trend is that the children tend to describe themselves with more positive labels than the labels they perceive other people apply to them.

Hypothesis 1(b) states that the children who report the highest number of negative labels will tend to have a lower standardized self-concept scale score and/or projective self-concept score than the children with the lowest number of negative labels.

Due to the small sample size and the fact that the sampling in this study was not conducted randomly, it is not feasible to calculate a correlation co-efficient between the number of negative labels and the self-concept scores for the children. In order to decide

if there is a trend towards lower self-concept scores in children who report a larger number of negative labels from others, Table 22 and 23 shows the self-concept scores for the LD children in this study. The data has been arranged from the lowest to the highest number of negative labels reported by the children. Figure 2 and 3 show the scattergram graphs of the relationship between the number of negative labels that the child reports and the self-concept scores.

Table 22: A comparison of the Number of Negative Labels that the child reports others call her and the Self-Concept Scores the child obtained.

Child	No. of Negative labels from others reported by the child	Total Self-Concept T-score (PHCSCS-2)	Intellectual and School Status T-score (PHCSCS-2)	Total No. of KFD Indicators of Low Self-Esteem	Total No. of Bender Indicators of Low Self-Esteem	Total No. of CAT Indicators of Low Self-Esteem	Total No. of DAP Indicators of Low Self-Esteem	Total No. of Low Self-Esteem Words (RISB)
1	2	43	34	7	2	6	27	7
2	2	51	51	3	1	14	21	10
4	3	56	59	6	3	4	17	6
3	4	48	48	7	2	6	25	6
5	9	33	32	4	2	14	17	13

Table 22 shows the number of negative labels that each child reported that others have used to refer to them. The order that the children have been listed in the table has been changed to list the lowest to the highest number of negative labels reported. At first glance it is evident that Child 1, 2 and 4 (with the lowest number of negative labels) also tended to have higher self-concept scores on the PCSCS-2 when compared to Child 5. Table 23 is a representation of the same data, however the number of low self-esteem indicators has been converted to a percentage of the highest score obtained. This has been done to make comparisons between the different projective tests easier.

Table 23: A comparison of the Number of Negative Labels that the child reports others call her and the Self-Concept Scores the child obtained (where the projective indicator scores have been converted to percentages of the highest score obtained).

Child	No. of Negative labels from others reported by the child	Total Self-Concept T-score (PHCSCS-2)	Intellectual and School Status T-score (PHCSCS-2)	Percentage of KFD Indicators of Low Self-Esteem	Percentage Bender Indicators of Low Self-Esteem	Percentage of CAT Indicators of Low Self-Esteem	Percentage of DAP Indicators of Low Self-Esteem	Percentage of Low Self-Esteem Words (RISB)
1	2	43	34	100.00	66.67	42.86	100.00	53.85
2	2	51	51	42.86	33.33	100.00	77.78	76.92
4	3	56	59	85.71	100.00	28.57	62.96	46.15
3	4	48	48	100.00	66.67	42.86	92.59	46.15
5	9	33	32	57.14	66.67	100.00	62.96	100.00

Table 23 suggests that there may be a relationship between the number of negative labels that the LD children in this study report having experienced and their total and intellectual self-concept scores (from the PHCSCS-2 test). Child 5 obtained the highest number of negative labels as well as the lowest total and intellectual self-concept scores. When the results of the projective tests are included in the comparison, no obvious relationship is suggested with the projective tests as a group. This suggests that it could be possible that the different projective tests are assessing different domains or concepts. There may be a split between the verbal projective tests and the drawing projective tests, where the children appear to obtain similar scores within these two different styles of projective testing. Table 24 shows the two groups of projective tests:

Table 24: A comparison of the Projective Drawing Test and Projective Verbal Test Scores (where the low self-esteem indicator scores have been converted to percentages of the highest score obtained)

Child	No. of Negative labels from others reported by the child	Projective Drawing Tests		Projective Verbal Tests	
		Percentage of KFD Indicators of Low Self-Esteem	Percentage of DAP Indicators of Low Self-Esteem	Percentage of CAT Indicators of Low Self-Esteem	Percentage of Low Self-Esteem Words (RISB)
1	2	100.00	100.00	42.86	53.85
2	2	42.86	77.78	100.00	76.92
4	3	85.71	62.96	28.57	46.15
3	4	100.00	92.59	42.86	46.15
5	9	57.14	62.96	100.00	100.00

Figure 2: Scattergram of the Number of Negative Labels and the Total Self-Concept T-Score

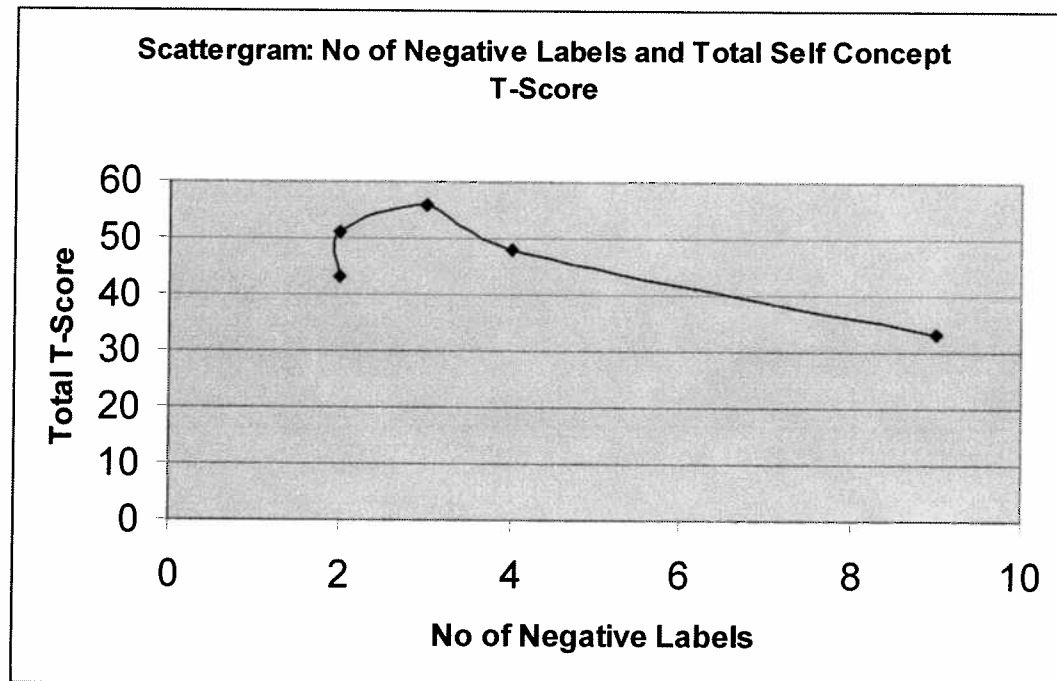


Figure 3: Scattergram of the Number of Negative Labels and the Intellectual and School Status Self-Concept T-Score

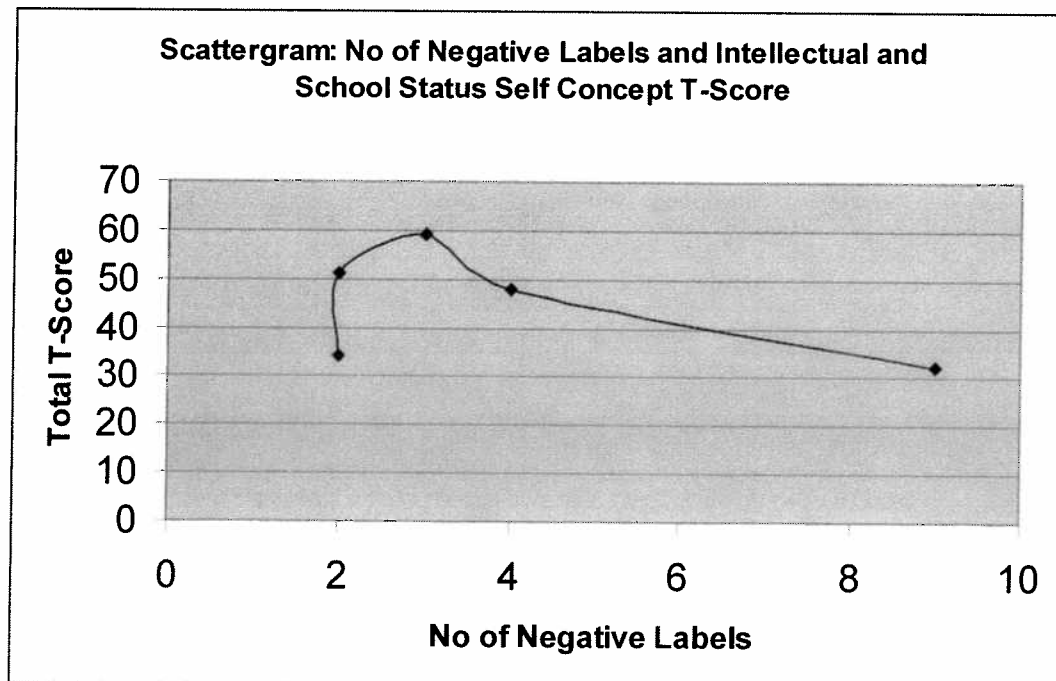
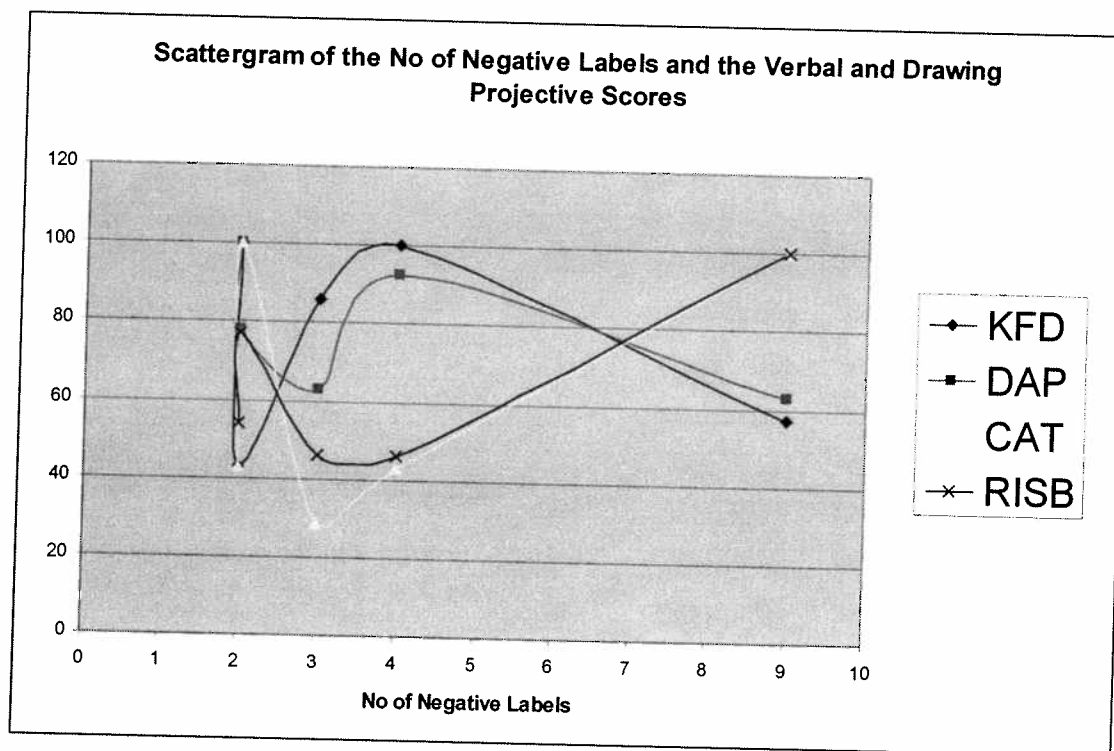


Figure 4: Scattergram of the Number of Negative Labels and the Verbal and Drawing Projective Self-Esteem Scores



Thus, Hypothesis 1 (b) is partially confirmed where a relationship between the number of negative labels that the child reports and the obtained psychometric scores on the PHCSCS-2 is suggested. The relationship between the number of negative labels reported by the child and the projective test scores is more complicated, where the projective verbal tests and projective drawing tests may be tapping a different aspect of the self-esteem and personality of the child. The number of negative labels seems to relate more to the number of low self-esteem indicators on the verbal projective tests.

Hypothesis 2 (a) states that the projected self-concept will account for different aspects than are accounted for by the standardized psychometric tests. The projected self-concept will measure informal feelings that the child has about herself and the standardized psychometric self-concept scale will measure the more formal, expressed attitude the child has about herself.

Hypothesis 2 (b) states that the composite self-concept description accounts for a broader spectrum of the pre-adolescent's experience than does either the projected self-concept or the standardized self-concept scale results. This will enable a more holistic view of the child's self-concept.

While conducting this study it occurred to me that the different LD children seem to prefer different methods of expressing their feelings, and so it appears that utilising a variety of methods of assessing self-concept results in a richer and larger amount of information and possibly more valid results. I will discuss each child individually in the following section in order to expand on this idea that different assessment methods produce very different information.

Child 1

When investigating the PHCSCS-2 scores for Child 1 it is evident that he has a generally low average self-concept, with particularly low scores in the popularity and intellectual and school status domains. He does, however, have an above average score for happiness and satisfaction. This suggests that although he feels unpopular and that he is not achieving at school, he is still resilient and able to maintain his general happiness in a different way. Child 1 reported that he has no friends at school, and that other children do not like him. He also reported that his academic difficulties are due to his placement in a different school earlier in his schooling, where he was not happy and misbehaved often. He stated that he did not learn much in those years and now has to catch up, and so he feels that he can catch up his work and will excel if he tries. Thus, Child 1 attributes his lower academic abilities to a temporary setback academically, and feels that with time and effort he will be able to manage and catch up.

The interview with Child 1 suggests that his ability in sports and skateboarding is where he invests his self-esteem, and so his lower academic abilities do not affect his happiness and satisfaction with himself. He placed a high score on the importance for himself of his ability to do skateboarding. It is interesting that he rated his skateboarding skills to be very unimportant to his teacher, parents and peers. The possible reason why he does not seem to internalise the fact that others do not consider his primary skill as important is that he reported that he considers his own opinions to be most important (as

opposed to his parents', teacher or peers' opinion). (For more information on the importance ratings that the child attributes to the things he is good at and not good at, see Tables 25 to 28). Thus, it is probably the fact that he has skills in another area of his life, which he values, that is a source of resilience for his self-concept combined with the fact that he considers his own opinions to be the most important in his life.

Child 1 tends to use a lower number of low self-esteem words in his verbal projective tests, i.e. sentence completion (RISB) and story telling (CAT); however his projective drawings had the highest scores among the LD children in this study for low self-esteem indicators. In fact, I would describe his DAP drawing to be a very dark, ominous, shaded figure with dark rings around their eyes, and no hands or feet. This could indicate that although he verbally reports an adequate self-concept and good coping methods, there may be emotional difficulties in his life which are only evident in his projective drawings.

Child 2

Child 2 obtained scores on the PHCSCS-2 which suggests an average to above average self-concept in all the domains of the test. Child 2 scored the lowest score on Physical Appearance and Attributes and the highest score on the Happiness and Satisfaction domain. The psychometric tests scores alone would suggest that this child has an adequate self-concept and happiness, yet her behaviour during the testing sessions suggests otherwise. Her answers on the PHCSCS-2 appeared to be what she thought she should say, and so she would answer 'I am happy' in a very low energy, unenthusiastic way, that did not sound happy. She may have been responding with a bias towards socially acceptable answers or answers that she feels would please the assessor. She did not smile once during the whole day of testing, and was generally very reserved and appeared sad. She would wring her hands often, and needed to be prompted often to speak an opinion or an answer. Her CAT storytelling task had the highest number of low self-esteem words of the 5 children tested, and the themes in the story involved the characters crying and feeling sad, as well as the characters feeling overwhelmed by their problems. Her RISB score and DAP projective drawing also showed a high number of indicators of low self-esteem, in comparison to the average of the children assessed in this study.

Child 2 applied only 3 of the positive labels to herself, which is below the 5.4 average of the 5 children in this study. She tended to rate the things she was good at as less important than the things she reported she was not good at. She rated that her parents, teacher and peers considered the things she was not good at to be much more important than the things she is good at (with about a 1.5 point difference). She also considered her parents and teacher's opinions to be most important in her life.

Child 3

When investigating the PHCSCS-2 scores for Child 3 it is evident that he obtained average scores on all the domains of self-concept, with the lowest score for the Physical Appearance and Attributes domain and the highest score for the Happiness and Satisfaction domain.

Child 3 reports that others refer to him using 8 of the positive labels, and he applies all 8 of these labels to himself as well. In the CAT task, Child 3 told stories which involved a theme of violence, anxiety and negative affect words. His KFD projective drawing contained a larger number of indicators of emotional problems than the other children assessed, where his picture showed the adults and siblings in his life to be much larger than him, and his parents have their backs turned while the siblings look threatening. He scored higher on indicators of low-esteem in the drawing tasks than in the verbal tasks. This would link with the fact that Child 3 was reserved during the assessment sessions, he only talked spontaneously and smiled two hours into the assessment.

Although Child 3 included a large number of indicators of low self-esteem in his drawings, he is talented at drawing. His projective drawings had detail and perspective that is much more advanced than would normally be seen in a 9 year old child's drawings and this appeared to be his source of self-esteem at school. He reported that Art was his favourite subject, and that he gets good marks in Art.

Child 3 reports that he places just about equal importance on the things he is good at and the things he is not good at, however he feels that his teacher and parents place a slightly higher importance value on the things he is not good at (with about a 1 point difference).

Child 4

Child 4 obtained average to above average scores on all the domains of self-concept in the PHCSCS-2. Her highest scores were Behavioural Adjustment, Intellectual and School Status and Happiness and Satisfaction and her lowest score was in the Freedom from Anxiety domain. The projective tests suggested that she generally obtained lower scores for the number of low self-esteem indicators, with the exception of her Bender score, where her performance anxiety and continual erasures and redrawing of the pictures resulted in the highest score out of the 5 children assessed in this study. Her CAT stories contained a theme of anxiety and feeling out of control and her KFD and DAP projective drawings also involved a large number of erasures and second attempts at drawing.

Child 4 reported in her interview that she has a good support system, where her parents are very supportive; she goes to the teacher when she needs help and she also has a best friend who assists her with problems. Child 4 is also good at playing musical instruments, and this is a source of happiness for her. She reports that she likes school and learning new things, she stated that "her school is brilliant and her teacher is kind". Child 4 reports that others describe her using 6 of the positive labels and she applies all 6 of these positive labels to herself. The main negative label that she applied to herself is that she is 'slow', and this is possibly due to the number of erasures and reworking that she does in her work, which did slow her work output and speed down during the assessment.

Child 4 feels that the things she is good at are more important for herself, her teacher, her parents and her peers; than the things she is not good at (with an average score difference of about 2 points).

Child 5

Child 5 obtained the lowest scores of the 5 children in this study on all the domains of self-concept that is assessed by the PHCSCS-2. His lowest score was in the Popularity, Freedom from Anxiety, and Intellectual and School Status domains. His highest score in

the Happiness and Satisfaction domain was still below average. Child 5 reported that others apply 9 of the negative labels to him, and he applied 6 of the negative labels to himself, in comparison to the 4 positive labels that he applied to himself. Child 5 obtained higher numbers of low esteem indicators on all the projective tests in comparison to the average of the children in this study. In particular, Child 5 used many negative affect words in his CAT stories, omitted important details in his projective drawings, and used a high number of low self-esteem words in the RISB task. Child 5 was very aware that he does not achieve academically on the same level of his peers and he wished that he could read and spell better. He referred to himself as 'stupid' and said that some children at the school bully him and call him names. He said in his interview that he finds school very tiring, and does not like it when he gets low marks. He feels helpless to improve his academic work and feels very tired if he thinks about homework or extra lessons.

Child 5 reported that he perceives that his parents and teacher place a lower value of importance on the things he is good at (scoring 2.2 and 2.8) and a higher value on things he is not good at (scoring 4.6 and 4.4). Child 5, himself, places a higher importance on things he is not good at (scoring 4.8) than the things he is good at (which scored 4). He also felt that his peers place a higher score on the things he is not good at (with a score of 4.8) compared to the things he is good at (which scored 3.8).

4.5. Importance Ratings

Tables 25 to 28 shows the total importance ratings that the children placed on the things they are good at and the things they are not good at. The ratings were calculated by allocating a score of 5 to 'very, very important'; a score of 4 to 'very important'; a score of 3 to 'important'; a score of 2 to 'a little important' and a score of 1 to 'not important'.

Table 25: Importance that the child perceives is placed on the 5 things she reports that she is good at

Child	IMPORTANCE in Own Life	IMPORTANCE for Teacher	IMPORTANCE for Parents	IMPORTANCE for Peers
1	22	16	23	15
2	13	18	18	11
3	22	16	18	15
4	22	18	23	20
5	20	14	11	19

Table 26: Importance that the child perceives is placed on the 5 things she reports that she is good at – Average Scores

Child	IMPORTANCE in Own life	IMPORTANCE for Teacher	IMPORTANCE for Parents	IMPORTANCE for Peers
1	4.4	3.2	4.6	3
2	2.6	3.6	3.6	2.2
3	4.4	3.2	3.6	3
4	4.4	3.6	4.6	4
5	4	2.8	2.2	3.8

Table 27: Importance that the Child perceives is placed on the 5 Things she reports that she is not good at

Child	IMPORTANCE in Own life	IMPORTANCE for Teacher	IMPORTANCE for Parents	IMPORTANCE for Peers
1	23	20	23	5
2	15	16	16	16
3	23	50	23	19
4	10	13	13	10
5	24	22	23	24

Table 28: Importance that the Child perceives is placed on the 5 Things she reports that she is not good at – Average scores

Child	IMPORTANCE in Own life	IMPORTANCE for Teacher	IMPORTANCE for Parents	IMPORTANCE for Peers
1	4.6	4.6	4	1
2	3	4	4	4
3	4.6	4.6	4	3.8
4	2	2.6	2.6	2
5	4.8	4.6	4.4	4.8

Hypothesis 3(a) states that the LD children with lower self-concept scores will report that they think their teacher, parents and class mates place higher importance on the 5 things that they are not good at, and the LD children with higher self-concept scores will report that they think their teacher, parents and class mates place higher importance on the 5 things that they are good at.

Table 29: Average Importance Ratings for the things the child feels she is good at, compared to Self-Concept Scores

Child	Total Self-Concept T-score (PHCSCS-2)	IMPORTANCE in Own life	IMPORTANCE for Teacher	IMPORTANCE for Parents	IMPORTANCE for Peers
1	43	4.4	3.2	4.6	3
2	51	2.6	3.6	3.6	2.2
3	48	4.4	3.2	3.6	3
4	56	4.4	3.6	4.6	4
5	33	4	2.8	2.2	3.8

Figure 5: Importance Ratings for the things the child is good at

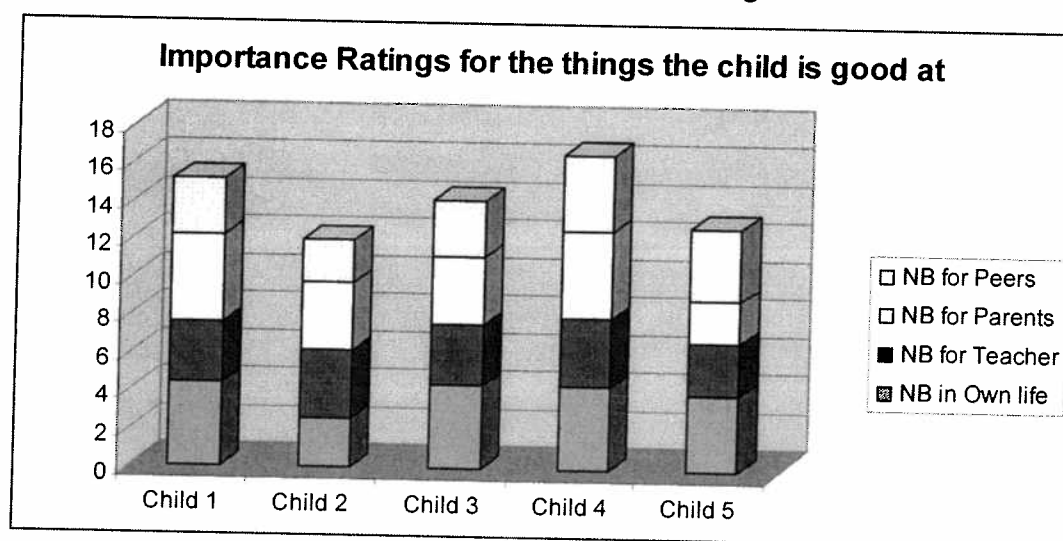


Table 29 and Figure 5 indicate that the two children with the lowest ratings for the things they are good at are Child 2 and 5.

The children with the highest ratings for the things they are good at are Child 1 and 4. This could indicate a trend, since Child 5 has the lowest self-concept scores and Child 4 has the highest self-concept scores. The anomaly that appears in this relationship (as

can be seen in Figure 6) is that Child 2 obtained a high PHCSCS-2 Self-Concept Score and yet all her other self-esteem ratings are low (including the importance ratings that she reported about the things she is good at). I have suggested earlier in this report that Child 2 may have responded to the PHCSCS-2 with a bias towards pleasing the assessor or giving socially acceptable responses.

Figure 6: Scattergram of the Average Importance rating of each Child for the things she is good at in comparison with Self-Concept Total T-Scores

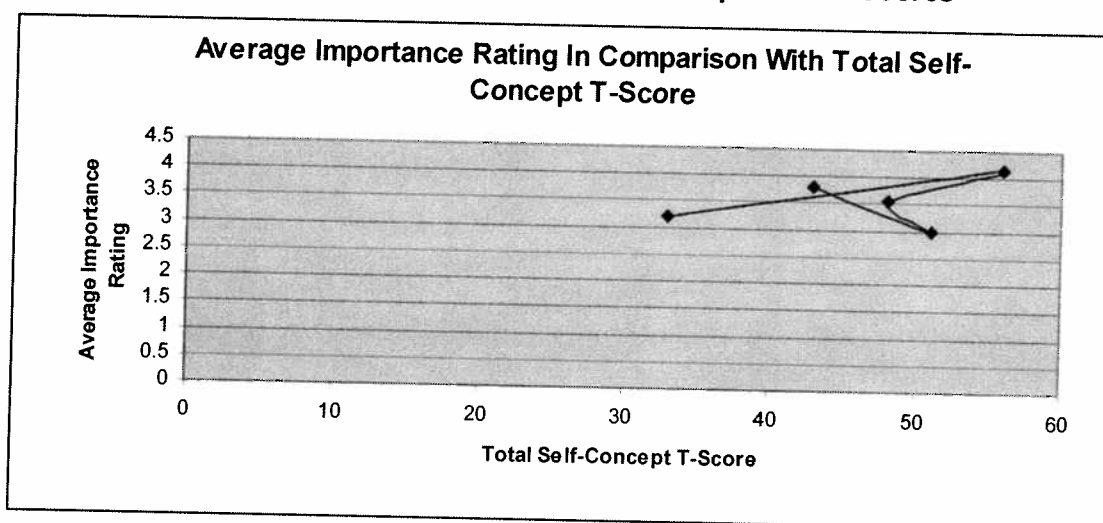


Table 30: Average Importance Ratings for the things the child feels she is good at, compared to Self-Concept Scores

Child	Total Self-Concept T-score (PHCSCS-2)	IMPORTANCE in Own life	IMPORTANCE for Teacher	IMPORTANCE for Parents	IMPORTANCE for Peers
1	43	4.6	4.6	4	1
2	51	3	4	4	4
3	48	4.6	4.6	4	3.8
4	56	2	2.6	2.6	2
5	33	4.8	4.6	4.4	4.8

Figure 7: Importance rating for the things the child is not good at

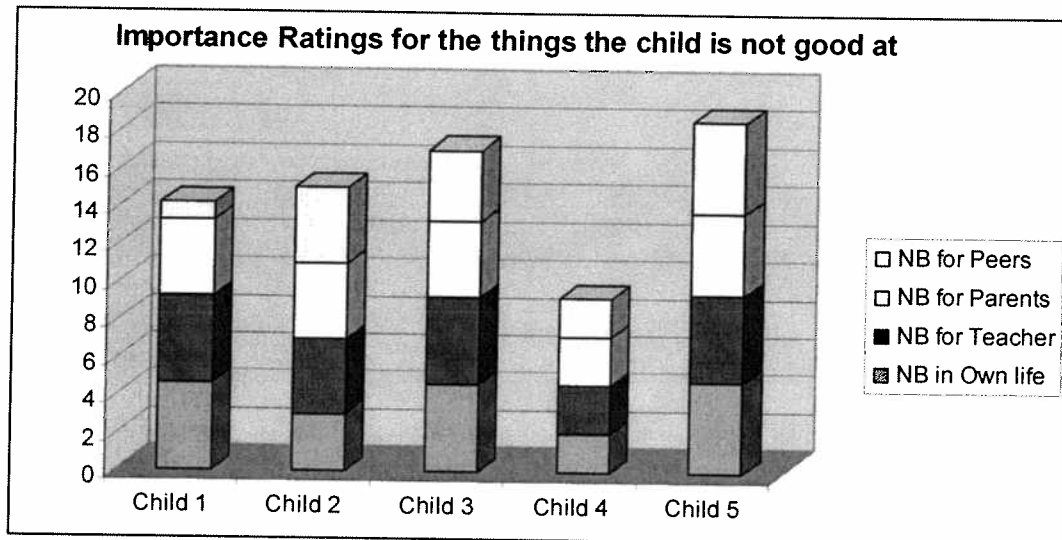


Figure 8: Scattergram of the Average Importance rating of each Child for the things she is not good at in comparison with Self-Concept Total T-Scores

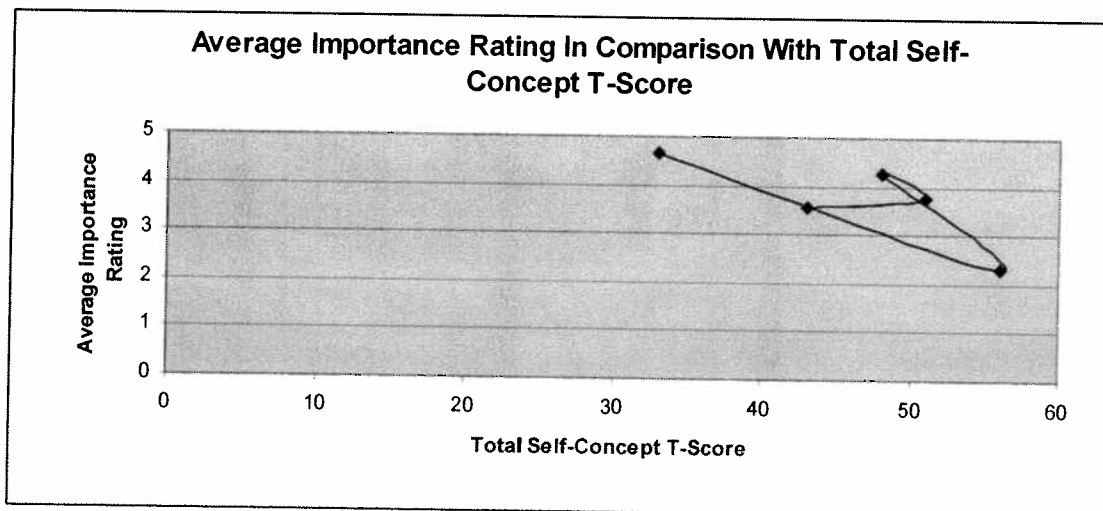


Table 29 and Figure 5 indicate that the two children with the lowest ratings for the things they are not good at are Child 1 and 4.

The children with the highest ratings for the things they are not good at are Child 3 and 5. This could indicate a trend, since Child 5 has the lowest self-concept scores and Child

4 has the highest self-concept scores. The anomaly that appears in this relationship (as can be seen in Figure 6) is that Child 1 obtained a low PHCSCS-2 Self-Concept Score and yet all his other self-esteem ratings are high (such as his Happiness and Satisfaction Self-Concept Score). As discussed above, Child 1 showed signs of resiliency with regard to his self-concept and he did obtain a higher Happiness and Satisfaction score.

Thus, there may be some kind of relationship between self-concept scores and the importance that the child perceives that others place on the things she is good at and not good at. Although it is not possible to do a correlation co-efficient with such a small sample that was not randomly selected, I would suggest that the above data confirms Hypothesis 3 (a).

Chapter 5

5. Discussion of Results

The results presented in the previous chapter are a good beginning to understanding the LD children's self-concepts. I agree with Vygotsky (1993) that "psychometrics offers only a point of departure for analysis, or provides the background for composing the picture" (p. 285).

One of the research questions in this study focused on understanding which positive and negative labels LD children know, perceive others to have used to describe them, and which of the labels the children apply to themselves. The rationale behind this research question is to try to understand how the children are internalizing labels from their social environment with the Vygotskian understanding that the learning from others precedes the development of the child's self-concept. In terms of the internalization of labels, a number of observations can be made with regard to the research conducted on the LD children in this study. Each child knew the meaning of the same number of negative and positive labels, which would suggest that they have been exposed to a similar amount of negative and positive labels generally in the social environment. The children commonly have experienced negative labelling from others, however they all did not apply as many negative labels to themselves as they perceive others have used to describe them. It seems that, contrary to the hypothesis of this study that children would apply more negative labels than positive labels to themselves, only one child (Child 5) applied more negative labels than positive labels to himself. It is also interesting that the children seem to have some sort of protective factor working for them, that they do not internalize as many negative labels as they have experienced from their environments.

This resilience to a negative self-concept and the internalization of negative labels from others appeared to originate from two sources amongst the children in this study. The first protective factor that was suggested in the assessments of the children is the importance of feeling that you are good at something else (other than academic work). The three children that felt that they are good at skateboarding, music and art showed higher self-concept scores on the PHCSCS-2 and the projective testing. This highlights the important role of extra-curricular activities for LD children's self-concepts, as well the importance of utilising Vygotsky's (1993) positive differential approach in not only

understanding an LD children's positive characteristics in terms of academic ability, but also in other aspects of the children's lives in order to identify potential strengths.

The results suggest that there may be a relationship between self-concept scores and the importance that the child perceives that others place on the things she is good at and not good at. The children with higher self-concept scores tended to report that others placed more importance on the things they are good at, and the children with lower self-concept scores tended to report that others placed more importance on the things they are not good at. Thus, it appears that children have internalized ideas about what their parents, teacher and peers value, and this possibly has a relationship to the child's self-concept. The concept of resilience also plays a role in the internalization of other's values, in that one child (Child 1) was able to maintain a positive self-concept despite the fact that he considered his parents, teacher and peers to not value the things he is good at. The resilience appears to stem from the fact that he stated that he considered his own opinions to be the most influential in his life, where the other children stated that they considered their parents' and their teacher's opinions to be most important. The other child with higher self-concept scores (Child 4) did consider her parent's opinions to be important, but also reported that she received a lot of support from her family, teacher and best friend and also reported that others used more positive than negative labels to describe her.

Vygotsky (1993) stressed in his writing the importance of not just relying on psychometric measures. In this research study, if a screening for self-concept difficulties had been done in this school using just the PHCSCS-2 then child 2 would not have shown up as having any significant problems. However, when interviewing the child, and conducting projective tests, it became apparent that this child is experiencing emotional difficulties and a lowered self-concept. The developers of the PHCSCS-2 state that:

it is relatively common for children to distort their responses on the Piers-Harris 2 in a conventional or socially desirable direction. However, this tendency does not necessarily represent a deliberate attempt to mislead others. It may reflect confusion between the child's true feelings and the child's perceptions of others' expectations of him or her.

(Piers & Herzberg, 2005, p. 18)

However, attempting to understand the child's self-concept is just a first step in the process of assisting children. Vygotsky (1983) stated that a therapeutic-pedagogical prescription should be specific to the child's primary and secondary symptoms, as well as the child's qualitatively unique and different structures and psychological processes that have developed in the process of disontogenesis. During the progression of this research study I met with the parents of all the children and offered some specific suggestions for remediation and assistance for each child. I also met with the children's class teachers (with the consent of the parents) and discussed these suggestions for remediation. Some of the suggestions that I discussed with the various parents and teachers are as follows:

Child 1

It was suggested to Child 1's parents that he continue with his skateboarding and other sports as it is a valuable source of a positive self-concept for him, and it is also a way for him to socialise away from his peers in the classroom (whom he considered to not like him).

Child 1's reading assessment suggested that he would benefit from a remedial reading and spelling course that focuses in particular on phonemic awareness and which sound pictures (or combination of letters) are used to represent specific sounds in a word. His spelling assessment was particularly interesting, and highlighted that he had missed out on basic reading and spelling skills in the past:

He used the wrong letters to represent sounds: 'buwel' for blue, 'toos' for juice, 'coffe' for coffee, "clim" for climb.

He adds extra letters in: "groweing" for growing, "sunden" for sudden.

He leaves sounds out of words: "wintd" for winter, "thund" for thunder, "butt" for butter, "rememb" for remember.

It was also suggested that this child's parents and teacher consult with him on the remedial work that needs to be done, as the child is feeling motivated and optimistic

about overcoming his academic difficulties, and would benefit from feeling like he is an active and important part of the process and lessons.

In terms of mathematical skills, Child 1 achieved a mathematics reading age score that was 1.48 below his chronological age. The Vassi Mathematics Proficiency Test was used to indicate which mathematical concepts should be addressed in remedial mathematics lessons:

Child 1 showed a good knowledge of:

Addition sums

Sequential patterns

Names of shapes

Knowledge of what a 3-D picture is

Reading information off a graph

Time (clocks, how many months in a year)

Money (how many cents in a rand)

Child 1 had some difficulty with:

Knowledge of more than / less than (< >)

Rounding off a number

Fractions ($\frac{1}{2}$ or $\frac{1}{3}$)

Decimal numbers (0.3)

Knowing when to use which mathematical process in a word sum (e.g. what is the difference...)

To set out a sum in order to work it out (which function to use, how the sum should look)

Quantities (litres, kilograms, grams etc.)

Word sums

Multiplication and division sums with numbers larger than 9

Child 2

I was particularly concerned about this child, and suggested to her parents that they consult with a child psychiatrist to discuss the child's unhappiness and low energy, which could be an indication of depression. I recommended to her parents that child 2 attend

some sort of social skills and emotional skills training, as she has difficulty expressing her feelings and opinions, and appeared anxious whenever asked to answer a question. She was able to express herself better in writing, and I recommended that she be allowed to write notes to her teacher and parents to ask for assistance or express herself. It was also suggested to her parents that they consult an Audiologist, as this child appeared to not be able to discriminate sounds clearly when people speak to her. In a screening of her auditory processing, she reported that she considered the following sounds to sound the same to her:

tub/tug, leg/led, sought/fought, shake/shape, pat/pack, coast/toast, cat/cap, din/bin, bum/bomb, pat/pet, and pen/pin.

She also seemed to comprehend better when she was able to read an instruction herself together with hearing me read it aloud, which could possibly indicate that she was not hearing every sound in the words that people are saying.

In terms of mathematical skills, Child 2 achieved a mathematics reading age score that was 1.48 below her chronological age. The Vassi Mathematics Proficiency Test was used to indicate which mathematical concepts should be addressed in remedial mathematics lessons:

Child 2 showed a good knowledge of:

Knowledge of more than / less than (< >)

Addition sums

Sequential patterns

Names of shapes

Knowledge of what a 3-D picture is

Reading information off a graph

Child 2 had some difficulty with:

Rounding off a number

Time (clocks, how many months in a year, how many days in a year)

Fractions ($\frac{1}{2}$ or $\frac{1}{3}$)

Decimal numbers (0.3)

Knowing when to use which mathematical process in a word sum (e.g. what is the difference...)

To set out a sum in order to work it out (which function to use, how the sum should look)

Quantities (litres, kilograms, grams etc.)

Money (how many cents in a rand)

Word sums

Multiplication and division sums with numbers larger than 9

Child 3

It was suggested to Child 3's parents that he continue with his interest in art, and that they may be able to nurture this interest with art lessons or art materials. Child 3's ability in art is an important part of his self-concept, and he also prefers to express himself through drawing than through words. I spoke to his parents about ensuring that there is no aggression between this child and his older siblings, and that he can be encouraged to express any feelings of anger through appropriate means, such as physical activities and sport, drawings and assertive words.

Child 3's reading assessment suggested that he was having difficulty with his knowledge of which letter or combination of letters represents which sounds in the English language:

He misread the following words: "persal" for parcel, "locked" for looked, "projess" for progress, "taward" for towards, "promptet" for prompt, "rejain" for regain, "enbuild" for enabled.

It was suggested that his remedial reading and English lessons focus on vocabulary building as well as knowledge of which letters or combination of letters represent which sounds in English.

In terms of mathematical skills, Child 3 achieved a mathematics reading age score that was 1.1 below his chronological age. The Vassi Mathematics Proficiency Test was used to indicate which mathematical concepts should be addressed in remedial mathematics lessons:

Child 3 showed a good knowledge of:

Addition sums

Names of shapes

Reading information off a pie chart

How many months in a year

Money (how many cents in a rand)

Child 3 had some difficulty with:

Knowledge of more than / less than ($<$ $>$)

Rounding off a number

Reading time from a clock

Sequential patterns

Knowledge of what a 3-D picture is

Fractions ($\frac{1}{2}$ or $\frac{1}{3}$)

Decimal numbers (0.3)

Knowing when to use which mathematical process in a word sum (e.g. what is the difference...)

To set out a sum in order to work it out (which function to use, how the sum should look)

Quantities (litres, kilograms, grams etc.)

Word sums

Multiplication and division sums with numbers larger than 9

Child 4

It was suggested to Child 4's parents that she continue with her music lessons, as her participation in music is an important part of her self-concept. She was particularly excited at the prospect of starting to play the violin soon. The main source of difficulties with regard to self-concept appeared to be her need to answer all her questions perfectly, which resulted in her re-doing much of her work, and also completing her tasks at a slower pace than the rest of the children in this research study. The negative label that she placed most emphasis on, and applied to herself, was 'slow' and this was also confirmed in an interview with her parents, where they reported that she often did not finish her school work in the allocated time. It was recommended that her parents and teacher discuss with her that it was not always necessary to complete things perfectly,

and that she could develop a sense of feeling good about herself in completing her work and a feeling that it is 'good enough'.

A significant source of resilience for Child 4 was the support she received from her parents, teacher and best friend, and it was recommended that this support could be utilised to assist Child 4 with her need for perfection and performance anxiety.

Academically, Child 4 achieved the highest scores in reading and mathematics in comparison with the other children in this research study. She actually achieved a mathematics age score above her chronological age. The main concern that Child 4's teacher had expressed was the need to understand why this child was unable to finish her work within the allocated time.

Child 5

Child 5's scores on the PHCSCS-2 indicated a low self-concept on all the domains of the test, in particular the domains of Popularity, Freedom from Anxiety, and Intellectual and School Status. It was recommended to Child 5's parents that more focus needs to be placed on the things that the child is good at, and that it would assist the child to develop a sense of self-esteem and a sense that others value the good things about him. It was pointed out to his parents that Child 5 perceived his positive characteristics to include his physical abilities with motorcycle and quad biking, his love of animals and nature, and his sense of fairness in friendship and the importance of being a good friend.

Academically, Child 5 achieved the lowest score in comparison with the other children in this research study with regard to reading. His reading assessment suggested that he had developed a compensatory mechanism for his reading problem, which was in fact exacerbating the problem. Child 5 tended to guess words in the text based on the first letter of the word and the general context of the story (including any pictures in the book) rather than try to decode the word. This may have assisted him earlier in his schooling, where in the first 2 years of school a child is only expected to be able to read a rather limited number of words, and so it was possible to guess correctly most of the time from memory. This has now resulted in him not applying basic reading skills of segmenting and blending sounds in words in order to decode the word, and this has resulted in a

very low reading age score. Child 5's reading assessment resulted in the following observations:

He substituted or guessed words: he read "cat" for kitten, "walked" for went, "pack" for parcel, "Sunday" for Saturday, "steps" for stamps, "from" for for, "of" for for, "have" for arrive, "John" for Jane, "what" for with.

He misread the following words: "come" for came, "skats" for skates, "set" for sent".

It was recommended that Child 5 attended remedial reading lessons aimed at increasing phonemic awareness and which sound pictures (or combination of letters) are used to represent which sounds in a word, as well as having him practice reading aloud without guessing words. Child 5 was experiencing problems with motivation for academic work and a general feeling of helplessness in terms of improving his academic abilities, and it was recommended that a system of positive reinforcement and rewards could be implemented at home and in the classroom to try assist with this child's motivation, as he was not experiencing any intrinsic rewards from participating in or completing academic work at the moment.

It was also recommended to both Child 1 and Child 5's parents and teachers that they could attend some remedial reading lessons together, as they both had indicated in their interviews that they felt that they were the only children with reading difficulties, and so felt isolated and unpopular at school.

In terms of mathematical skills, Child 5 achieved a mathematics reading age score that was 1.17 below his chronological age. The Vassi Mathematics Proficiency Test was used to indicate which mathematical concepts should be addressed in remedial mathematics lessons:

Child 5 showed a good knowledge of:

Knowledge of more than / less than (< >)

Sequential patterns

Names of shapes

Knowledge of what a 3-D picture is

Reading information off a graph

Time (clocks, how many months in a year)

Rounding off a number

Child 5 had some difficulty with:

Addition sums

Fractions ($\frac{1}{2}$ or $\frac{1}{3}$)

Money (how many cents in a rand)

Decimal numbers (0.3)

Knowing when to use which mathematical process in a word sum (e.g. what is the difference...)

To set out a sum in order to work it out (which function to use, how the sum should look)

Knowledge of quantities (litres, kilograms, grams etc.)

Word sums

How many days in a year, what a leap year is

Multiplication and division sums with numbers larger than 9

5.1. Discussion of Results in Relation to Theories of Self-Concept

This research study was also conducted with the aim of providing a therapeutic-pedagogical prescription for the 5 children participating in the study which focuses on the child in a holistic way, but also paying specific attention to the primary disabilities of the children in terms of academic difficulties as well as the secondary disabilities of lowered self-concept, motivation and social difficulties.

In research about self-concepts various multi-dimensional models have been developed (Liu, Wang & Parkins, 2005). Harter's model (in Elbaum, 1999) conceptualizes self-concept as comprising scholastic competence, social acceptance, physical appearance, behavioural conduct as well as a separate global domain. In Marsh's model of self-concept (in Elbaum, 1999), academic self-concept is further subdivided into subjects such as English and Maths, and the non-academic self-concept is sub-divided into social, personal-emotional, and physical self-concepts. Although most multi-dimensional self-concept models do include a few non-academic components, they may not capture all the possible skills that children may consider themselves good at, and which may be acting as a protective factor against a low self-concept. Some of the factors which had a positive impact on the self-concept of the children in this study included being a good

friend, being honest, being good at sports, being good at music and art. I would suggest that Gardner's (in Foxcroft and Roodt, 2001) ideas about multiple intelligences could assist with the theorising about multi-dimensional self-concept models, where skills or talents in the following areas may be a factor in the self-concept: musical, bodily kinaesthetic, logical-mathematical, linguistic, spatial, interpersonal and intrapersonal skills.

In this research using the PHCSCS-2 it appears that the Happiness and Satisfaction subscale reflected which children's self-concept were being protected due the children perceiving that they have other skills (which they consider important). James (in Coopersmith, 1967) and Harter (1993) theorised that people need to feel that they are skilled or talented in an area that is personally important, and this was also highlighted in this research study, where children were able to derive a positive self-concept from talents that they themselves valued, but which were not necessarily valued by their parents, teachers or peers. The fact that children could value and derive a positive self-concept from skills that they do not consider others to value suggests that the child's internalization of other's beliefs about her (as mentioned in Bouchey and Harter, 2005) and the impact this has on her self-concept may be more complicated than just a straightforward internalization process.

The cognitive side aspect of the development of the self-concept is highlighted in the fact that the child's own values of her skills play a role, as well as the idea that the attributions the child makes with regard to her performance impacts on her self-concept. Child 1 attributed his low academic achievement to the fact that in his previous school he misbehaved and did not learn the skills he needed to learn, and so felt that with hard work he could catch up and learn what he needs to learn. Child 5, in contrast, felt that his low academic achievement was because he was not able to do the work, and he felt that extra practice and extra lessons would not really help.

Vygotsky (1993) believed that any problem in acquiring psychological tools (such as language or mathematics symbols, concepts and meanings) results in a learning difficulty, and that the acquisition of psychological tools is primarily a socio-cultural phenomenon that happens through the interaction with others. Thus, according to Vygotsky (1993) learning difficulties are a primarily social phenomenon that can only be

solved through a “disability-specific psycho-educational profile” detailing the primary and secondary disabilities, and a positive differential approach to the implementation of a disability-specific compensatory strategy (in Gindis, 2003, p. 206). The one thing that became evident in this study, is that even in a school with a 30:1 learner-teacher ratio (which is lower than the majority of public schools in South Africa) and a social worker and remedial teacher on the staff, there is very little knowledge of what difficulties the children in the study are experiencing or how to remedy them. If a system of compensation (which focuses on the intensification of cultural enlightenment, the strengthening of higher psychological functions, the quality of interaction with adults and a peer collective) (Gindis, 1999b) is to be implemented in a school it will involve a rethinking of the resources needed and the priorities given to education.

Although this study made use of standardized testing, it has been conducted with the understanding that psychometric testing can at best just be a starting point to understanding how a child is functioning and what a concrete and meaningful pedagogical prescription should entail (Vygotsky, 1987). The richness of Vygotsky's (1993) ideas with regard to how a child should be assessed is inspiring, and it is my hope that this research report highlights the importance of developing a more dynamic, qualitative method of assessment in education that can lead to a useful pedagogical diagnosis, prognosis and prescription of what is needed for the child (Vygotsky, 1993).

Chapter 6

6. Conclusion

This concluding section is intended to provide a summary of the most important findings of this study. In addition, due to the paucity of investigative research into LD children's self-concepts in South Africa, some suggestions for further research will be made.

In terms of the children's total self-concept scores as assessed by the PHCSCS-2, one child's score fell in the low range, one child fell in the low average range and three children fell in the average range. With the exception of one child (child 2) who scored average PHCSCS-2 scores but showed many other indications of low self-concept in the interview and projective testing (and possibly answered the PHCSCS-2 with a socially-pleasing bias), the PHCSCS-2 scores of the LD children appeared to confirm the level of indicators of low self-concept and emotional difficulties found during the interview and projective testing.

The LD children on average scored lower on the PHCSCS-2 Popularity and Intellectual and School Status domains than on the other domains, however they generally still scored average scores on the Happiness and Satisfaction domain. It is suggested in this research report that the higher scores on happiness despite the children scoring lower of popularity and intellectual status is a result of the children having factors in their life which assists with resilience to a general low self-concept. The children reported that ability and participation in extra-mural activities, support from family, teachers and friends, and a sense that their own opinion and values regarding what they are good at is most important, despite negative labelling from others, assists with resilience.

Hypothesis 1(a) was not confirmed, as the children did not on average report being described by others by more negative labels than positive labels. There was, however, individual variation where one child reported that others use more negative labels to describe him. Hypothesis 1(b) may have been confirmed in this study (although the small sample size and non-random sampling prohibited the calculation of a correlation co-efficient that would have definitely confirmed this hypothesis). Scattergram graphs and tables of the relationship between the number of negative labels the children report others have used to describe them and the children's self-concept scores suggest that

there may be a relationship, where children who report a larger number of negative labels also showed lower PHCSCS-2 scores. The relationship between the number of negative labels reported by the child and the projective test scores is more complicated, where the projective verbal tests show a stronger relationship and may be tapping a different aspect of the child's self-concept than the projective drawing tests.

Hypothesis 2(a) and 2(b) were confirmed in this research study, as a qualitative discussion of the children's assessments suggest that the projected self-concept did account for different aspects of the child's functioning than the standardized self concept test. The children tended to reveal more information about how they view themselves and how they are emotionally functioning using different methods that were preferred by each child. Child 1 was able to express himself well verbally in an interview, whereas child 2 preferred expressing herself in a written way. Child 3 revealed more information in his projective drawings, Child 4 revealed her performance anxiety most clearly in the Bender task and Child 5 revealed a low self-concept in the PHCSCS-2 standardized assessment as well as all the projective tests. The composite self-concept description that emerged from a combination of the standardized and projective tests did enable a more accurate and holistic view of the child's self-concept, particularly for child 2 who would not have been picked up as having a low self-concept and emotional difficulties using just the PHCSCS-2 as a screening method.

Hypothesis 3(a) was also confirmed in that the LD children with lower self-concept scores reported that they think their parents, teacher and peers place a higher value on the things they are not good at, and the LD children with higher self-concept scores reported that they think their parents, teacher and peers place higher importance on the things they are good at. This is in line with Vygotsky's (1993) theory that children internalize information from their social environment and this contributes to their cultural line of development and to the possible development of secondary disabilities such as low self-concepts.

In addition, it was noted that the children who were referred for participation in this research by the school showed more deficits in their reading abilities than their mathematical abilities, and the boys in the study had the highest difference between their chronological ages and their reading score ages.

A further aim of this research study was to highlight the importance of a thorough holistic assessment of children which results in a therapeutic-pedagogical prescription that can be value to the child's educators and parents.

6.1. Limitations of the Study

As a random sampling method was not used in this research, the results will not be generalisability to a larger population. The small sample size is also a limiting factor on the research results obtained. As this study is not a longitudinal study, information as to how the child's self-concept and perceptions change over time or developmentally with age cannot be reported on.

Whenever testing a person, there is some error variance and so the validity and reliability of the test needs to be considered. The use of standardised psychometric tests does ensure that the tests have adequate reliability and validity as long as the test was standardized based on relevant norm groups. In terms of the SSAIS-R, the test was standardized in 1988 based on the testing of 2 020 468 South African children from various cultural and language backgrounds, and therefore should have adequate cultural validity (van Eeden, 1997). The VASSI Mathematics test was also standardized in South Africa in 2000 (Vassiliou, 2003). However, there is questionable cultural validity for the other standardized tests as the Schonell Spelling Test makes use of norms based on samples of New Zealand children (Pisecco et al, 2001), the Neale Reading Test makes use of norms based on a British sample of children (Neale, 1988), and the PHCSCS-2 is standardized based on a sample of American children (Piers & Herzberg, 2005). This means that although the use of individual standardised tests minimizes any error variance, the lack of South African norms for some of the tests used in this research is a limitation.

When conducting research through questionnaires or interviews with children, and particularly when assessing a concept that is subjective, such as a person's self-concept, there are a number of significant issues that need to be considered. Response biases may include the tendency of the child to 'please the interviewer' or to 'present an ideal self' (Berg, 1990; Williams, 1999; Kelly & Norwich, 2004). It is important to take

note of the “tendency of some children to acquiesce to the suggestions of others. These issues are more complex with children than with adults as children are in situations of even greater power differentials” (Kelly & Norwich, 2004, p. 415). The use of a standardized test such as the PHCSCS-2 should limit this, as the tests are designed with minimizing bias in mind; however in this research study, it is postulated that one of the subjects did answer the PHCSCS-2 with a socially-desirable bias.

The use of projective tests (such as the TAT, DAP and SC) are sometimes considered problematic as they tend to be unstructured and ambiguous, allowing various interpretations of the same situation (Brenner-Cohen, 1994). One of the difficulties with projective testing is the difficulty with devising a standardized scoring procedure that is objective and clear. In order to minimize these difficulties, this research has made use of only one scorer (to eliminate difficulties with inter-rater reliability) and has also made use of a devised list of indicators of negative self-concept (using information obtained from test manuals and other research findings).

6.2. Practical Implications

This study has been designed with the intention of raising awareness of the nature of the self-concept of LD children and introducing Vygotsky's (1993) Theory of Disontogenesis as an alternative theoretical framework to the commonly embraced theories of self-concept development in children. It is hoped that more information with regard to the nature of the LD child's self-concept, the role that teachers and parents play and the protective factors that assist the child in maintaining a positive self-concept, will assist in the development of more effective self-concept assessment techniques as well encourage the development therapeutic-pedagogical prescription interventions to assist the LD child in a holistic way.

6.3. Suggestions for Future Research

As South Africa continues to implement the policy of inclusion of children with learning and other disabilities in general schools, the best way to meet disabled learners' needs in terms of education and self-concept would be a valuable subject for research. Chapman (1988b) suggests that the placement of the LD child in a segregated or a

mainstream, inclusive school does not make a significant difference in terms of self-concept (provided that the child is receiving remedial assistance). Chapman's (1988b) overview of self-concept studies suggest that the "nature of the classroom processes" have a greater effect on self-concept, in particular a "non-competitive classroom environment" where "individually orientated judgements on increments in performance" are made by the teacher (p. 365). I believe that this topic could be explored further, and the ideas of Vygotsky could be applied to the research, particularly in terms of how best to assess diverse children's ZPDs in the mainstream classroom, and what the role of the collective is in the disabled children's development.

A change in focus from research that predominantly focuses on academic difficulties in LD children may also be useful. Chapman (1988a) suggests that LD children differ from non-LD children in a number of personality variables considered important for school learning, and that when designing remedial efforts, educators should pay attention to signs of negative social-emotional development.

Education is not just about learning cognitive skills. It is also about helping children to learn about themselves, to be able to live peacefully with themselves, and with others, and to help them to develop into competent, mature, self-motivated adults.

(Lawrence, 1988, in Liu, Wang & Parkins, 2005, p. 568)

Gans, Kenny & Ghany (2003) suggest that more research examining the process through which children with LD form judgements about their self-concept would be beneficial. This research study has highlighted that children probably do not simply internalize the labels that they have heard others use to describe them, and this suggests that there may be a number of factors which can assist in the development of a child's positive self-concept.

Another area of interest that arose during research for this study is whether Vygotsky's ideas about secondary disability could be applied to the phenomenon called Attention Deficit Hyperactivity Disorder (ADHD). If ADHD is viewed as a disturbance of cultural development or underdevelopment of the higher psychological functions (such as undeveloped will, lacking in purpose, attention, organisation, memory, active

remembering, reflective activity and self-regulation skills)(Vygotsky, 1993), then what implications would this have for the causal diagnosis, prognosis and remediation of this cluster of symptoms?

And lastly, the need for the development of more dynamic form of assessment which focuses on both the primary and secondary disabilities of the LD child is highlighted in this research, which can lead to a useful pedagogical diagnosis, prognosis and prescription of what is needed for the child (and can be carried out by parents, teachers and the child's peer group).