

Study on Self-consciousness of Children With Learning Disabilities and Related Factors

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Objective To study the self-consciousness of children with learning disabilities (LD) and to identify related factors. **Methods** Five hundred and sixty pupils graded from 1 to 6 in an elementary school were investigated. According to the pupil rating scale revised screening for learning disabilities (PRS), combined Raven's test (CRT) and achievement of main courses, 35 of 560 pupils were diagnosed as LD children. Thirty-five children were selected from the average children and 35 from advanced children in academic achievement equally matched in class, gender, and age with LD children as control groups. The three groups were tested by Piers-Harris children's self-concept scale. Basic information of each subject was collected by self-made questionnaire. **Results** Compared with the average and advanced children, LD children got significantly lower scores in self-concept scale. Based on logistic regression analysis, 3 factors were identified, including family income per month, single child and delivery model. **Conclusion** The results suggest that self-consciousness of children with LD is lower than that of normal children.

Key words: Children; Learning disabilities; Self-consciousness; Related factors

INTRODUCTION

Learning disability (LD) is a main mental disorder of children. Learning disability not only results in academic failure among children, but also affects their emotion, personality and social development, and even their lives of adulthood. Self-consciousness is a core component of personality. Previous studies have indicated that students with learning disabilities may develop lower self-perception problems such as low self-efficacy beliefs^[1-2]. Self-concept of children with LD is lower than that of children without LD. Low self-concept may produce negative effects on conducts, learning and social intercourse of LD children, and make their personality abnormal. Although researchers have understood the characteristics of self-consciousness of LD children, little attention has been paid to how self-consciousness may be affected by other factors (e.g., parents, economic status, etc.) of LD children. In the present study we are trying to explore the self-consciousness of children with learning disabilities and related factors to provide a basis for intervention.

METHODS

Subject Selection

Subjects Five hundred and sixty pupils graded from 1 to 6 in an elementary school in Wuhan were investigated. According to the pupil rating scale revised screening for learning disabilities (PRS), and combined Raven's test (CRT) and achievement of main courses, 35 children of the 560 pupils were diagnosed as LD children; meanwhile 35 children were selected from the average children and 35 from the advanced children in academic achievement equally matched in gender, age (difference below 3 months) and class with LD children as the control groups.

Diagnostic criteria Children with LD were defined according to the procedures outlined by Wu Hanrong and Meng Heng^[3]. The criteria for LD used in this study included: total score of pupil rating scale revised screening for learning disabilities (PRS)<60, IQ of combined Raven's test (CRT)>70 for excluding mental retardation children, and one of the main course scores at or below the 10th percentile on class. Criteria for average children included PRS score>60

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and <80, one of the main course scores between the 10th percentile and the 90th percentile on class. Criteria for advanced children included PRS score >85, one of the main course scores over the 90th percentile on class. These three groups of children had no obvious physical, neural and mental disorders.

Measurement

The pupil rating scale revised screening for learning disabilities (PRS)^[4] consist of 24 items with two kinds of verbal and no verbal scores. Every item score of the scale has 5 degrees. The scale was completed by class directors.

Piers-Harris children's self-concept scale The revised scale includes 80 items with "yes" or "not", and is divided into 6 factors—behavior, intelligence and academic performance, body appearance and attribute, anxiety, gregariousness, happiness and satisfaction. Total score served as an index to evaluate the self-consciousness in the study. Children with a total score less than 46 were defined as lower self-consciousness and more than 58 as over high self-consciousness.

Combined Raven's test (CRT) Combined Raven's test published by Tianjing Medical University was adopted to test children's intelligence. The investigators tested and recorded original scores and converted them into IQ according to the manual of the test.

Children's basic information questionnaire The questionnaire made by ourself included children and their parents information.

Procedure

The investigators were trained before the survey. Children were tested with combined Raven's test in order to exclude children with mental retardation, and their learning ability was assessed by their class directors with the pupil rating scale revised screening for learning disabilities. Children responded to Piers-Harris children's self-concept scale by themselves. Information of each child and his or her parents was collected by a self-made questionnaire. All surveys were finished in one week.

Data Analysis

Database was in Visual Foxpro 6.0. Data were analyzed with symmetry chi-square test, analysis of variance and multiple variable logistic regression in SAS 6.12.

RESULTS

Analysis of Scores of Self-consciousness With Symmetry Chi-square Test in LD Children and the Average and Advanced Children

The scores of self-consciousness were analyzed with symmetry chi-square test in LD children and the average and advanced children, and the difference in rank distribution was significant (Tables 1 and 2). The results suggested that learning disability was associated with self-consciousness of individuals.

TABLE 1

Scores of Self-consciousness in LD Children and the Average Children

Average Children	LD Children		
	Low	Median	High
Low	6	2	0
Median	10	6	1
High	5	4	1

Note. $\chi^2=8.58$, thereinto, $\chi_1^2=3.38$, $\chi_2^2=3.60$, $\chi_3^2=1.60$, $P=0.01$.

TABLE 2

Scores of Self-consciousness in LD Children and the Advanced Children

Advanced Children	LD Children		
	Low	Median	High
Low	2	6	0
Median	8	2	1
High	11	10	1

Note. $\chi^2=16.15$ thereinto, $\chi_1^2=5.06$, $\chi_2^2=6.55$, $\chi_3^2=4.55$, $P=0.0003$.

Comparison of the Factor Scores of Self-consciousness between LD Children and the Average and Advanced Children

Analysis of variance was conducted to compare

the factor scores of self-consciousness between LD children and the average and advanced children. The results showed that the means of 6 factor scores and total score of self-consciousness in LD children were significantly lower than those in the average and

advanced children. Multiple comparisons between groups showed that differences among the three groups were significant in 4 factors including intelligence and academic performance, body appearance and attribute, anxiety, and so in the total score (Table 3). The differences in behavior,

happiness and satisfaction factors were significant between LD children and the average children and advanced children. The differences in gregariousness factors were significant between LD children and advanced children, and between the average children and advanced children.

TABLE 3

Factor Scores of Self-consciousness of LD Children and the Average and Advanced Children ($n=35$, $\bar{x} \pm s$)								
Factors	LD (1)	The Average (2)	The Advanced (3)	F Value	P Value	(1)* (2)	(1)* (3)	(2)* (3)
Behavior	10.03±3.10	11.71±2.72	12.69±2.42	8.30	0.0005	*	*	
Intelligence and Academic Performance	7.29±2.49	10.14±2.70	12.26±2.79	30.69	0.0001	*	*	*
Body Appearance and Attribute	5.32±2.61	7.00±2.47	8.07±2.51	15.26	0.0001	*	*	*
Anxiety	6.94±2.21	8.80±2.41	9.89±1.98	15.91	0.0001	*	*	*
Gregariousness	7.23±1.99	7.71±2.36	9.29±1.60	10.06	0.0001		*	*
Happiness and Satisfaction	6.06±1.80	7.54±1.60	7.86±1.65	11.42	0.0001	*	*	
Total Score	42.86±10.67	52.91±9.06	60.63±8.96	31.37	0.0001	*	*	*

Note. * $P<0.05$, ** $P<0.01$.

Factor Analysis of Self-consciousness in LD Children

Total scores of self-consciousness in LD children were acted as dependent variables, which were divided into low, median, high ranks. Potential related factors such as parents' occupation, education degree, family income per month, single child, and delivery models were acted as independent variables.

Multiple logistic regression analysis was conducted to identify related factors, and the entry and stay level for stepwise regression were 0.3 and 0.15, respectively.

Three variables were identified by multiple logistic regression analysis. Single child was a protective factor, family income per month and cephalo-forceps delivery were risk factors (Table 4).

TABLE 4

Potential Related Factors of Self-consciousness in LD Children					
Variable	Parameter Estimate	Wald Chi-square	Pr>	Standardized Estimate	Odds Ratio
Intercpt1	1.38	1.48	0.22		
Intercpt2	4.26	9.13	0.003		
Family Months Income	-0.89	3.23	0.07	-0.42	0.41
Single Child	1.73	4.40	0.04	0.46	5.67
Cephalo-forceps Delivery	-2.33	2.27	0.13	-0.30	0.10

DISCUSSION

Learning Disability and Self-consciousness

Self-consciousness is defined as the perception and subjective estimation of individuals on physical, psychological and social functions by oneself, that is, the consciousness to oneself. Self-consciousness is a core component of personality of individuals, and its formation and development affect the mental development of individuals. Researches have

indicated that LD children have more negative perception on intelligence, academic achievement and companioner recognition than children without LD^[5-6], which was consistent with results of the present study. The study showed that factor scores and total score in LD children were significantly lower than those in the average and advanced children. The result revealed that self cognition, self evaluation and self regulation of LD children were significantly lower than those of behavior, intelligence and academic performance, body

appearance and attribute, anxiety, gregariousness, happiness and satisfaction of normal children. It is possible that LD children often suffer criticism and blame from parents and teachers, and discrimination from peers because of poor academic achievements. Moreover, compared with children without LD, LD children had fewer successful experiences in academic achievement, social competence, etc. For example, students with LD often received poor grades for academic and test performance. They usually had to face internal (e.g., maladjustment to their disability) and social barriers (e.g., rejection by peers or others) in schools^[7]. These repeated criticism, rejection, discrimination and failure have become internalized to induce negative self cognition, passive self evaluation, and could weaken their ability to make achievements in the academic field. Consequently, learning disability is considered to result in lower self-consciousness of individuals. Certainly, it is also possible that low self-consciousness affects learning ability development, leading to academic failure. Kershner's research showed that academic achievement of LD children would advance when their self perceptions were improved and attribution of academic failure was rebuilt^[8]. This indicated that low perceptions of ability could lead to academic failure. Thereby, learning disability and lower self-consciousness are mutually influenced.

Related Factors of Self-consciousness in LD Children

This study also explored 3 related factors of self-consciousness in LD children, which were single child, family income per month and cephalo-forceps delivery identified by multiple logistic regression analysis.

Single child and self-consciousness in LD children

Our study showed that single child was a positive factor of self-consciousness in LD children, that is, self-consciousness of single child was higher. It is possible that since single LD child can get more love, support, and direction, they are more self-confident than other LD children. Thus self-consciousness of single child in LD children is relatively higher.

Family income per month and self-consciousness in LD children

Family income per month was a risk factor of self-consciousness in LD children in this study. This showed that the less the family income, the higher the self-consciousness in LD children. It is possible that children in low income family are difficult to get sufficient substances. They have experienced hardships since they are young.

They are becoming to know that their need can not be satisfied until they endeavor and struggle by themselves. Whereas children in high income family are easy to meet their needs. They may not be willing to endure hardness or struggle. They are frail and incapable of self-controlling.

Delivery model and self-consciousness in LD children

The study showed that cephalo-forceps delivery was a risk factor for self-consciousness in LD children. This may indicate that self-consciousness in LD children with such model of delivery is low, which possibly attributes to the brain damage. However, this suggests that delivery model may affect self consciousness development in LD children.

CONCLUSION

Self-consciousness in LD children is lower, and learning disability may be corrected by improving their self-consciousness in LD children. Family financial condition, single child and delivery model may be important related factors to self-consciousness in LD children.

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