

# Consequences of micro-system setting on different component of learning disability

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■ **ABSTRACT :** Learning disability refers to a neurological disorder. This disability affects children's thinking and learning process. It affects children's ability to learn and engage in activities, his or her self-esteem and ability to evaluate difficult situation and make choices. This can lead to trouble with learning new skills and information. Families of learning disabled child also suffer a lot. They find it difficult to deal with the situation. Present study was carried out in Haryana state on learning disabled boys. Hisar district from Haryana state was selected purposively. From Hisar district Block I was selected on random basis. Hisar city was also selected purposively for urban sample. From Block I five villages named Kaimari, Mangali, Harikot, Daya and Singran were selected randomly. A sample of 60 boys (30 from urban and 30 from rural) with learning disability was selected for the study. Learning disability among boys of 10-12 years age group was taken dependent variable. Indian Adaptation of Stanford – Binet (1971) was administered for diagnosis of learning disability among boys of 10-12 years of age. It has the following components: Language, Mathematics, and Creativity. Different micro system variables were considered as independent variable. Results discovered that majority of the respondents were found in below average category for language and mathematics components of learning disability. Result further found that most of the boys were found in above average category in creativity component of learning disability.

■ **KEY WORDS:** Learning disability, Micro-system variables, Components of learning disability

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Learning disability has been by far the fastest growing, the most controversial, and often the most confusing area within special education, learning disability is real and a stumbling block for a nation's development process. Learning disabilities are the most puzzling area in special education. Children with learning disabilities all have uneven development of skills, but what they learn, how they learn, the people they are,

and the way the learning disability affects non-academic areas of day to day life for example relationships, friendships, job and success can be different.

Learning disability describes specific kinds of learning problems. Learning disabilities make it hard to learn and use some specific skills for a person. Learning disability mostly affects a person's ability to read, write, listen, speak reasoning, and doing math. Learning

disabilities vary from person to person. It is not necessary that every individual with Learning disability have the same kind of problems. One person with learning disability may have difficulty with reading and writing. Another person may have troubles in understanding math. It can be possible the same person may have difficulty in both areas (National Dissemination Center for Children and Youth with Disabilities [NICHY], 2004).

Children with learning disabilities show signs of trouble in one or more of the essential psychosomatic processes involved in understanding spoken or written language. These may be manifested in disorders of listening, thinking, talking, reading, writing, spelling, or arithmetic.

Children with learning disabilities frequently struggle with areas of academic performance. During early years of school an inconsistency between ability and achievement begins to appear in students with learning disabilities. Sometime teachers found helpless to understand children with learning disabilities because these children shows similar strength to their peers in several areas, but their rate of learning is surprisingly slower (Stephenson *et al.*, 1999). These kinds of problems frequently continue from the primary grades through the end of formal schooling, including college (Berninger and Amtmann, 2003).

Learning disability refers to developmental delayed in one or more of the processes of language, reading, spelling, writing or arithmetic resulting from a likely cerebral dysfunction and emotional disturbance and not from intellectual retardation, sensory deficiency, cultural factors. The term “specific learning disability” means a disorder in basic mental or psychological processes involved in understanding and using spoken and written language, which may be a disability to listening, speaking, reading, writing, spelling, or do mathematical calculations. It includes conditions like lack of understanding, brain injury, brain dysfunction, dyslexia, and developmental aphasia. This is not included those children who have learning disabilities that are mainly the result of visual, hearing, motor handicaps, mental retardations, emotional trouble, environmental, cultural or economically disadvantage. Individuals with Disabilities Educations ACT (IDEA) (1990).

Hoiem and Lundberg (2000) found that cultural, social, and educational factors are having critical importance when trying to understand why some

individuals have an unsuccessful relationship with the written language. They indicate that individual biologically determined factors are also important.

Garbarino (2002) has pointed out risks to development can come both from direct threats and from the absence of normal, expectable opportunities. Besides such obvious biological risks like malnutrition or injury, there are socio-culture risks that impoverish the developing individual’s world of essential experiences and relationships and thereby threaten development. A system approach may help in understanding the complex interplay of biological, psychological, social, and cultural forces in early development risks and their amelioration.

Suresh and Sebastian (2003) have found large incidence of learning disabilities even in rural areas in Kerala, attesting to the view that learning disabilities is a widely prevalent, life span disorder. There are many associated features of learning disabilities that are specific to the Indian context. These include the fact that bilingualism and multilingualism are common, classroom conditions are far from ideal and socio-economic factors.

High risk neighborhoods and poor living conditions add to the factor of being more vulnerable to having a learning disability. A study was conducted exploring the areas of pollution and socio-economic factors related to having a higher risk of a learning disability. Margai and Henry (2003) used primary data and analyzed clusters of people in a distinct part of a community near a toxic waste place, living in poor neighborhoods and living in poverty. The results confirmed that a majority of the people with a learning disability came from some socio-economic indicator such as poverty, subdivided housing, and lower adult educational attainment. Individuals with a learning disability will rely more heavily on public assistance/welfare than individuals who do not because of their lack of knowledge.

To explore the influence of parental rearing patterns on learning performance in 240 students were examined by using a questionnaire. Results found that Parental emotion warmth and understanding scores of the students were significantly higher than those of the low students, while parental punishment and scores of the low students were significantly higher than those of the top students. Related analysis showed that students’ learning performance had significantly negative correlation with parental punishment and severity factors. Conclusion Bad

parental rearing patterns have impressive impact on students' learning performance. Appropriate interference measures should be taken according to every student's family circumstance (Junlin, 2004).

Smith (2006) studied that children and adolescents with learning disabilities have high rates of mental health problems and behavioural difficulties. Comorbid disorders such as epilepsy, autism and attention – deficit hyperactivity disorder are common. Psychiatric services provided for these young people and their families. The children suffer as a result and may have to move away from home unnecessarily, at enormous emotional and financial cost. Education and social services assist these complex children and give them to best chance to fulfill their potential.

Michal Al-Yagon (2007) examined the role of maternal personal resources (mother's attachment style, coping strategies, and affect) in moderating the effects of learning disabilities (LD) on children's socio-emotional and behavioral adjustment (self-rated sense of coherence, loneliness, and hope; and mother-rated child behaviour checklist measures), as well as on their secure attachment among school-age children with LD. The sample consisted of 110 mother-child dyads: 59 mothers and their children with LD (29 boys, 30 girls) and 51 mothers and their typically developing children (21 boys, 30 girls) from the same schools. Analyses indicated significant group differences on all children's measures and in several of the maternal personal resources. Mothers' low use of avoidant coping strategies and less avoidance in close relationships with significant others were found to moderate the effect of children's disabilities on children's level of loneliness, feelings of hope, and secure attachment. Results are discussed in terms of understanding these maternal personal resources' influences on socio-emotional well-being among school-age children with LD.

## ■ RESEARCH METHODS

### Selection of schools:

Present investigation was carried out in Hisar district of Haryana state. A sample of 60 learning disabled boys between 10-12 years of age was drawn from the schools of Hisar city and block-I of Hisar district. The major criterion for the selection of respondents was age. The final sample is consisted of 60 boys, 30 from rural and 30 from urban, in 10-12 years age group.

### Identification of learning disability:

Indian Adaptation of Stanford – Binet (1971) was administered for diagnosis of learning disabled boys of 10-12 years of age. It has the following components: Language, Mathematics, and Creativity.

### Variables of micro-system:

It is defined as the immediate social settings in which the child lives. Child's family environment and neighborhood environment comprise the immediate social settings of the child. The following factors were studied under Micro system. These are as follows: Age, Type of family, Family size, Number of siblings, Education of parents, Family income, surroundings of residence, Stay of grandparents, Interactions with grandparents, School environment, Relationships with teachers, Relationships with peers.

### Statistical analysis:

To see the association between dependent and independent variables, the Chi-square ( $\chi^2$ ) test of independence was applied. But due to small sample size as 45 per cent of the cells have expected count less than 5, so the Chi-square was not valid test. Therefore, it was decided to use the descriptive statistics and the data were analyzed with the help of frequency and percentage.

## ■ RESEARCH FINDINGS AND DISCUSSION

The results obtained from the present investigation as well as relevant discussion have been summarized under following heads :

### Effects of micro system variables on learning disability:

Table 1 portrays that more than half respondents were 10-11 years of age and they were falling in below average category in language (46.67%) and mathematics (41.67%). But for creativity component 35 per cent younger respondents were in average category. Results show that respondents which were more than eleven in age were falling in below average category in language (33.33%) and mathematics (28.33%) but for creativity component 26.67 per cent younger respondents were in average category.

The data anticipated that more than half respondents belonged to nuclear family and they were falling in below

average category. For language 48.33 per cent and for mathematics 43.33 per cent, but creativity component 50 per cent were in average category. Many of the respondents belonged to joint families were falling in below average category in language (36.67%) and mathematics (40%) and for creativity component 35 per cent respondents were fall in average category.

As far as family size is concerned respondents were from medium size family were falling in below average category for language (36.67%) and mathematics (40%) but for creativity component 35 per cent respondents were in average category. In other side respondents belonged to small size families were in below average category for two components of learning disability *i.e.* language (31.67%) and mathematics (38.33%) but on creativity component these respondents were in average (30%) category.

According to results majority of the respondents have 1-2 siblings and they were falling in below average category for language (30%) mathematics (36.67%) but they were average in creativity (41.67%) component of learning disability. In contrast table shows that respondents who have more than two siblings and they were falling in below average category for two components of learning disability *i.e.* language (45%), mathematics (43.33%) but they were fall in average category for creativity (41.67%) component.

Results of the study further depicts that respondent's mothers were educated up to graduation level were falling in below average category in language (35%) and mathematics (51.66%) but they were average in creativity (46.67%). The same trend was observed for father's education. More than half of the respondent's fathers were educated up to graduation level were falling in below average category in language (55%) and mathematics (51.66%) but they were average in creativity (46.67%) component. More than half of the respondents were belonged to high income group families and they were falling in below average category in both components of learning disability *i.e.* language (36.67%) and mathematics (43.33%) and average for creativity component (38.33%).

As far as area was concerned most of the respondents were living in developing area they were falling in below average category for language (48.33%) and mathematics (50%) but they were fall in average category for creativity component (46.66%).

It is clear from the Table 1 that the respondents whose grandparents were live with them and had good interaction with them were falling in below average category for both components of learning disability *i.e.* language (36.67%), mathematics (41.67%) and in average category in creativity component (43.33%). Results regarding relationship with peers indicated that many of the respondents have average relationship with peers and they were falling in below average category for language (36.67%) and mathematics (38.33%) and average category in creativity (35 %).

Relationship with teacher was also considered and it was observed that many of the respondents have average relationship with teacher and they were falling in below average category for language (33.33%) and mathematics (31.67%) and average category in creativity.

It was observed that inadequate instruction, socio-economic status or lack of motivation and other factors compound the impact of learning disabilities. Frequently learning disabilities co-exist with other conditions, including attention, behavioral and emotional disorders, sensory impairments or other medical conditions (Chadha, 2001).

More than half of the respondents were from 10-11 years of age and they were falling in below average category in both the components *i.e.* language and mathematics, but average for creativity component. Teachers noticed that, when these boys entered in school system they had many behavioral and adjustment problems with peer groups and teachers because their teachers and parents have great expectations from them in the field of academics as well as in general behavior. Parents and teachers did not understand the problems of these boys. While most of the parents were educated up to graduation level but they did not have knowledge about learning disability among children. Learning disabled children look like normal children but they are different in some specific fields like language and mathematics etc.

Huang *et al.* (2009) studied the influences of parenting style, mental stress and general health qualities to children's learning disabilities. They found that parents' anxiety, worry about children's study and their parenting style were significantly correlated with learning disability. Learning disabilities in these children mainly presented the disorders in reading, speaking, perception, action and

attention. Bender (2002) was also found that difficulty in reading is the most prevalent type of academic difficulty for children with learning disabilities. In his research he found that 90 per cent of the children with learning disabilities have reading difficulties and even approximately 60 per cent children have the low

estimation power in mathematics.

Majority of the respondents belonged to nuclear families and they have language and mathematical disabilities. This may be due to lack of interaction with others, because child is living only with their parent. Sometimes experienced grandparents had knowledge

**Table 1 : Effects of micro system variables on learning disability (n=60)**

Sr. No.	Variables	Learning disabilities					
		Language		Mathematics		Creativity	
		Below average F (%)	Average F (%)	Below average F (%)	Average F (%)	Below average F (%)	Average F (%)
1.	<b>Age</b>						
	10-11	28(46.67)	5(8.33)	25(41.67)	8(13.33)	12(20.00)	21(35.00)
	>11-12	20(33.33)	7(11.67)	17(28.33)	10(16.67)	11(18.33)	16(26.67)
2.	<b>Type of family</b>						
	Nuclear	29(48.33)	3(5.00)	26(43.33)	6(10.00)	2(3.33)	30(50.00)
	Joint	22(36.67)	6(10.00)	24(40.00)	4(6.67)	7(11.67)	21(35.00)
3.	<b>Family size</b>						
	Small	19(31.67)	7(11.67)	23(38.33)	3(5.00)	8(13.33)	18(30.00)
	Medium	22(36.67)	5(8.33)	24(40.00)	3(5.00)	6(10.00)	21(35.00)
	Large	5(8.33)	2(3.33)	6(10.00)	1(1.67)	3(5.00)	4(6.67)
4.	<b>No. of siblings</b>						
	1-2	18(30.00)	11(18.33)	22(36.67)	7(11.67)	4(6.66)	25(41.67)
	3-4	27(45.00)	4(6.67)	26(43.33)	5(8.33)	6(10.00)	25(41.67)
5.	<b>Education of mother</b>						
	Illiterate	12(20.00)	3(5.00)	15(25.00)	0(0.00)	7(11.67)	8(13.33)
	Primary to middle	11(18.33)	5(8.33)	14(23.33)	2(3.33)	4(6.66)	12(20.00)
	High school/ graduate	21(35.00)	8(13.34)	25(41.67)	4(6.67)	9(15.00)	20(33.33)
6.	<b>Education of father</b>						
	Illiterate	6(10.00)	2(3.33)	8(13.33)	0(0.00)	3(5.00)	5(8.33)
	Primary to middle	13(21.67)	4(6.67)	10(16.67)	7(11.67)	5(8.33)	12(20.00)
	High school/ graduate	33(55.00)	2(3.33)	31(51.66)	4(6.67)	7(11.67)	28(46.67)
7.	<b>Family income</b>						
	Low	7(11.67)	0(0.00)	6(10.00)	1(1.67)	2(3.33)	5(8.333)
	Medium	20(33.33)	5(8.33)	22(36.67)	3(5.00)	6(10.00)	19(31.67)
	High	22(36.67)	6(10.00)	26(43.33)	2(3.33)	5(8.33)	23(38.33)
8.	<b>Residential surrounding</b>						
	Under developed	13(21.67)	1(1.67)	12(20.00)	2(3.33)	4(6.67)	10(16.67)
	Developing	29(48.33)	6(10.00)	30(50.00)	5(8.33)	10(16.67)	28(46.66)
	Fully developed	9(15.00)	2(3.33)	10(16.66)	1(1.67)	3(5.00)	5(8.33)
9.	<b>Stay of grandparent</b>						
	No	27(45.00)	4(6.67)	29(48.33)	2(3.33)	6(10.00)	25(41.67)
	Yes	22(36.67)	7(11.67)	25(41.67)	4(6.67)	3(5.00)	26(43.33)
10.	<b>Relationship with friends</b>						
	Not good	22(36.67)	6(10.00)	23(38.33)	5(8.33)	7(11.67)	12(20.00)
	Average	16(26.66)	1(1.67)	15(25.00)	2(3.34)	5(8.33)	21(35.00)
	Good	10(16.67)	5(8.33)	12(20.00)	3(5.00)	2(3.33)	13(21.67)
11.	<b>Relationship with teachers</b>						
	Not good	20(33.33)	5(8.33)	19(31.67)	0(0.00)	5(8.33)	10(16.67)
	Average	13(21.67)	1(1.67)	14(23.33)	7(11.67)	4(6.67)	18(30.00)
	Good	18(30.00)	3(5.00)	16(26.66)	4(6.67)	4(6.67)	19(31.66)

about such problems and can be helpful in identifying the problem and handling these children. Michal Al-Yagon (2007) supported that role of maternal personal resources (mother's attachment style, coping strategies, and affect) in moderating the effects of learning disabilities on children's socio-emotional adjustment as well as on their secure attachment among school age children with learning disability. Matheny *et al.* (1987) reported that all aspects of child development were affected by the poor parent child relationships. Ukech (2009) also viewed that interaction between parents and children with learning disabilities encourage reading skills in future.

Majority of boys have more than one/two siblings and they were falling in below average category in both components *i.e.* are language and mathematics of learning disability but average in creativity. Yang *et al.* (1992) found that siblings exert important influences on development, both directly, through relationship with each other and indirectly, through the effects an additional child has on the behaviour of parents. When siblings are close in age they relate to one another on a more equal footing than do parents and children, they often talk about their emotions in playful ways and call attention to their own wants and needs when conflicts arise Learning disabled adolescents experiencing problems in peer relationship which can be compensate by siblings. East and Rook (1992) also found that number of siblings has different effects; more number of siblings can lead to less time to pursue one's interest, more financial pressures, more sibling rivalries, less privacy and lesser close parent-child relationship which can negatively affect the development.

Parent's education, family income, surroundings of residence and stay of grandparents may not be having direct impact but as all the microsystem variables are working as interrelated networking system, these factors may have their indirect impact on the learning through influencing other factors. Studies by Panda (1995) have shown that academic and scholastic achievements are negatively affected by social disadvantages. Scholastic achievement of disadvantaged children is lower than that of advantaged children. Study further showed that deprivation had a deleterious effect on cognitive functioning, motivational patterns, aspiration levels, and academic achievement. As far as achievement is concerned, children from socially disadvantaged backgrounds are victims of unfavorable teacher expectations. Snow *et al.* (2000) in their report have identified several groups factors as constituting risk factor

for learning disabilities. These include poor schools, low income/poor neighborhoods, limited proficiency in medium of instruction, and dialectal difference in language. Many of these factors are pervasive in the Indian socio culture context and educational system and would require closer examination. Perhaps an ecological approach would be a more satisfactory approach and would enable us to study the many different factors that contribute to learning disabilities.

Maximum boys were falling in below average category in language and mathematics having average relationship with peers and teachers this result supported by Cartledge *et al.* (1985) he found that a significant number of students with learning disabilities experience difficulty in establishing friendship and drawing positive responses from peers. Warger (1991) also studied that peer tutoring has been shown to benefit friendships, social skills, academic class work, and positive attitudes and interaction between children with disabilities and their typical peers.

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