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A Study of Adjustment of Dyscalculic Elementary School Students of Shimla District

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ABSTRACT

The study compares the adjustment of dyscalculic elementary school students in relation to their gender and locality. A sample of 60 dyscalculic elementary school students was selected randomly from the Shimla district Himachal Pradesh. For comparing the data 2x2 ANOVA statistical technique was used. The results revealed that there exist significant difference among dyscalculic elementary school boys and girls. Girls were found to be well adjusted than dyscalculic elementary school boys irrespective, of levels of locality whereas no significant difference was found between rural and urban dyscalculic elementary school students.

Keywords: overall adjustment, rural, urban, elementary level.

INTRODUCTION

The term adjustment is often used as a synonym for accommodation and adaptation. Strictly speaking, the term denotes the results of equilibrium, which may be affected by either of these processes (Monroe, 1990). It is used to emphasize the individual's struggle to along or survive in his or her social and physical environment. In adjustment, the two crucial factors are the individual and the environment. In the study we have taken overall adjustment.

Every individual from the time he or she steps out of the family and goes to school makes to a long series of adjustments between the whole unique personality and the environment. The ardent desire of each boy and girl to become an individual person having a healthy physique, a growing intellectual ability, a greater degree of emotional poise and increased participation in social groups, such characteristics enhance one's personality. Even parents, teachers and other significant members of the society to which person belong will encourage this desire.

Dyscalculia

Dyscalculia is a term referring to a wide range of life-long learning disabilities involving maths. It includes all types of maths problems ranging from an inability to understand the meaning of numbers, to an inability to apply mathematical principles to solve problems.

Early childhood

Dyscalculia is rarely identified. Early studies have been done to try to identify predictors of potential mathematical disability. The main predictors include:

- Not knowing which of two digits is larger, i.e. understanding the meaning of numbers
- Lacking effective counting strategies
- Poor fluency in identification of numbers
- Inability to add simple single-digit numbers mentally and
- Limitations in working memory capacity.
- School-age children
- Poor mathematical concept development
- Lack of understanding of mathematical terms
- Confusion over printed symbols and signs

- Difficulty solving basic maths problems using addition, subtraction, multiplication and division.
- Poor memory of number facts (i.e. times tables)
- Trouble in applying their knowledge and skills to solve maths problems.
- Weakness in visual-spatial skills, where a person may understand the required maths facts, but has difficulty putting them down on paper in an organized way.
- Frequent reversal of single figures and reversal of tens and units (e.g. 34 written as 43)
- Difficulty in reading text compound the student's problem in maths.

Teenagers & Adults

If basic maths facts are not mastered, many teenagers and adults with dyscalculia may have difficulty moving on to more advanced maths applications. Language processing disabilities can make it difficult for a person to grasp the vocabulary of maths. Without a clear understanding of the vocabulary, it is difficult to build on maths knowledge.

Success in more advanced maths procedures requires the ability to follow multi-step procedures. For individuals with learning disabilities, it may be difficult to visualize patterns, different parts of a maths problem or identify critical information needed to solve equations and more complex problems.

Definitions of Dyscalculia

'a structural disorder of mathematical abilities which has its origin in a genetic or congenital disorder in those parts of the brain that are the anatomical-physiological substrate of the maturation of the mathematical abilities adequate to age, without a simultaneous disorder of general mental functions'. (Kosc, 1974, p165)

A condition that affects the ability to acquire arithmetical skills. Dyscalculic learners may have difficulty understanding simple number concepts, lack an intuitive grasp of numbers, and have

problems learning number facts and procedures. Even if they produce a correct answer or use a correct method, they may do so mechanically and without confidence" (Department for Education and Science, 2001)

Maths components • three groups: calculation, understanding of number concepts and the production of numbers McKlosky et al (1985) • the ability to carry out mathematical functions, understand arithmetical facts, understand and use arithmetical principles, and apply mathematical knowledge (Dowker 2004)

Math Learning Disabilities

While children with difficulties in mathematics are specifically included under the definition of Learning Disabilities, seldom do math learning difficulties cause children to be referred for evaluation. In schools, special education services were provided on the basis of children's learning disabilities. Approximately 6% of school going children has math deficits. These math deficits were widespread and required equivalent attention and concern. Effect of math failure with math illiteracy seriously handicap both daily living and career.

Learning Disability and Behaviour and Adjustment Problems

Child with L.D appears to exhibit emotional problems due to adjustment difficulties resulting from academic failure. Deficits in social skills found to exist at significantly high rates among children with learning disabilities. In general, social skill deficits include difficulties interacting with people in an appropriate fashion For example, lack of knowledge of how to greet people, how to make friends, and how to engage in playground games or a failure to use knowledge of such skills in these situations

Objectives

1. To study the adjustment of male and female dyscalculic elementary school students from rural areas.

- To study the adjustment of male and female dyscalculic elementary school students from urban areas.
- To study the adjustment of dyscalculic elementary school students in relation to: Gender x Locality

Hypothesis

- There will be no significant difference on the adjustment of dyscalculic elementary school students in relation to gender.
- There will be no significant difference on the adjustment of dyscalculic elementary school students in relation to locality.
- There will be no significant difference on the adjustment of dyscalculic elementary school students in relation to: gender x locality

METHOD AND PROCEDURE

SAMPLE

A sample of 60 dyscalculic elementary school students of 8th class was drawn from randomly selected schools of Shimla district.

TOOLS USED

In the present study Adjustment Inventory for School Students, developed by Sinha and Singh (2013) was used. The inventory was administered

on rural and urban dyscalculic boys and girls of 8th class of randomly selected schools of Shimla district of H.P.

SCORING

For any answer indicative of adjustment Zero is given, otherwise a score of one is awarded.

- Emotional Adjustment:** High score indicate unstable emotion. Students with low scores tend to be emotionally stable.
- Social Adjustment:** Individuals scoring low are submissive and retering. High scores indicate aggressive behaviour.
- Educational Adjustment:** Individuals scoring high are poorly adjusted with their curricular and co-curricular programmes. Persons with low scores are interested in school programmes.

The sum of scores in different areas gives measures of total adjustment. Higher the scores lower would be the level of adjustment and vice-versa.

ANALYSIS OF DATA

To analyse the data the statistical technique of 2x2 ANOVA was employed. The mean and standard deviations are given below in the Table -1

Table 1: Means and Standard Deviations at Various Levels in AxB Factorial Design for Adjustment

Locality	Gender				Total
	Male		Female		
Rural	M	20.87	M	19.73	20.3
	σ	4.98	σ	5.02	
Urban	M	20.80	M	14.80	17.8
	σ	4.19	σ	6.22	
Total		20.83		17.26	19.05

The summary of analysis of variance for the effect of gender and locality on adjustment is given in Table 2 as under:

Table 2 Complete Summary of Analysis of Variance for A x B Factorial Design

Sources of Variance	Sum of Squares	df	Mean Squares	F- Ratio
Gender (A)	190.82	1	190.82	7.17*
Locality (B)	93.75	1	93.75	3.53
A X B	88.82	1	88.82	3.34
Within	1489.47	56	26.60	
Total	1862.85	59		

*Significant value at 0.01 level of significance at 1/58 df. (Table value =7.10)

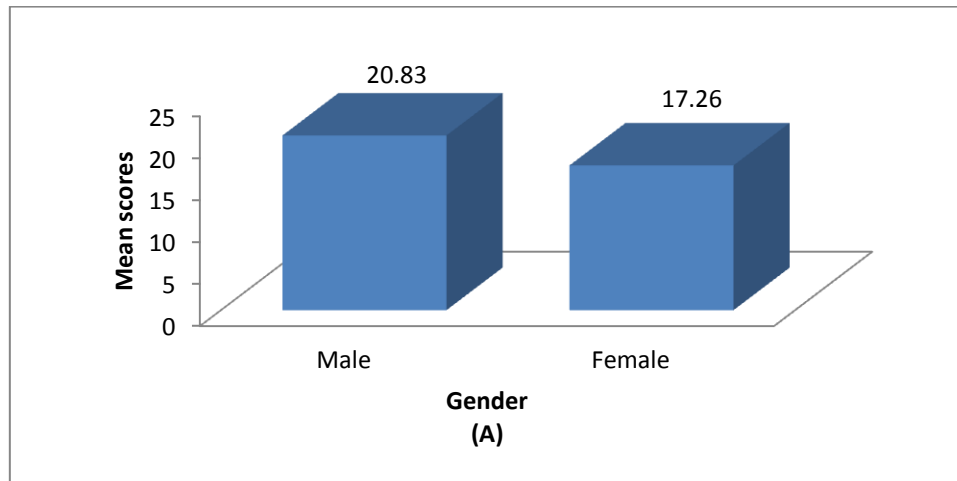
Gender (A)

Table 2 shows that the calculated value of F for studying the difference on adjustment of adolescents of dyscalculic elementary school students in relation to gender came out to be 7.17 which is significant at 0.01 level of significance for 1/58 df. Therefore, the hypothesis stated as, "There will be no significant difference on the

adjustment of dyscalculic elementary school students in relation to gender." was rejected. . It indicates that dyscalculic elementary school boys and girls differ significantly from each other on adjustment, irrespective of levels of locality.

The mean scores of dyscalculic elementary school boys and girls on adjustment are shown diagrammatically in Figure 1 as under:

Figure 1: The Mean Scores of Dyscalculic Elementary School Boys and Girls on Adjustment



From Table 1 and Figure 1, it can be seen that the mean for dyscalculic elementary school boys is equal to 20.83 and that for dyscalculic elementary school girls is equal to 17.26. The locality (B) mean square corresponds to a comparison between the means of male and female dyscalculic elementary school students. The significant mean square (190.82) leads to conclude that these two means differ significantly. In other words, dyscalculic elementary school boys have higher mean score on adjustment as compared to that of dyscalculic elementary school girls.

From the above analysis, it may be interpreted that dyscalculic elementary school girls are more confident than their male counterparts, regardless of levels of locality.

Locality (B)

Table 2 reveals that F- value for studying the difference on adjustment of dyscalculic elementary school students in relation to locality (B) came out to be 3.53. This value is not significant at 0.05 level of significance for 1/58 df.

Hence, the hypothesis stated as, "There will be no significant difference on the adjustment of dyscalculic elementary school students in relation to locality," was accepted. It indicates that rural and urban dyscalculic elementary school students do not differ significantly from each other on adjustment, irrespective of levels of gender.

Gender x Locality (AxB)

From Table 2, it is evident that computed value of F for studying the difference on adjustment of dyscalculic elementary school students in relation to gender x locality (AxB) has come out to be 3.34 which is not significant at 0.05 level of significance for 1/58 df. In the light of this, the hypothesis stated as, "There will be no significant difference on adjustment of the dyscalculic elementary school students in relation to gender x locality," was accepted.

From this, it may be said that there is no significant interaction of gender x locality to affect the adjustment of dyscalculic elementary school students.

CONCLUSIONS

1. Dyscalculic elementary school boys differ significantly from the dyscalculic elementary school girls on adjustment irrespective of the level of locality. As the mean scores for dyscalculic boys are higher than dyscalculic elementary school girls so females are found to be well adjusted than their male counterparts.
2. No significant differences were found between rural and urban dyscalculic elementary school students on adjustment irrespective of the levels of gender.
3. No significant difference were found on adjustment of the dyscalculic elementary school students in relation to gender x locality.

EDUCATIONAL IMPLICATION OF THE STUDY

Since Extraversion has significant positive effect on social educational and general aspects of adjustment. So following programmes are suggested:

1. School should provide proper physical facilities for games, sports and co-curricular activity as these would channelize the creative energy of the pupils.
2. Social service camps NCC/ NSS activities and other outdoor activities. These would develop desirable social qualities considerate and co-operation which in turn help them to adjust well.
3. Students should be given an opportunity to express their ideas and discuss their problems with school authorities. It develops self confidence and mental satisfaction among the students.
4. Parents and teachers should provide intellectual, social and emotional support to children at the time of stress and tension.
5. Teachers should treat pupils with love, affection and understanding. Guidance and

counselling services should be arranged to assist students for healthy adjustment in schools and life. Teacher should be sensitive to the feelings and problems of individual pupils. Pupils should be enabling to recognize their strong and weak characteristics to avoid unnecessary aspirations.

6. Parents and teachers meet frequently to diagnose emotionally maladjusted cases and take remedial measures.
7. Teachers are in the continual interaction with their students. Their behaviour effects them directly. So, teachers should show behavior of emotional maturity to prove a model for their pupils. Teacher should appreciate accomplishments of the pupils. Undue criticism and ridicule should be avoided as these may lead to a sense of inferiority and anxiety.

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