



A STUDY OF STRESS AMONG STUDENTS HAVING DYSCALCULIA

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ABSTRACT

These days stress has become the inevitable part of the life. According to some previous notion it used to be considered that the childhood is the only exception, but nowadays the scenario has been changed. Moreover, the students having dyscalculia are more prone to experience the stress in their formative years. To deal this issue the present study compares the stress of students of primary school students having dyscalculia in relation with their gender and the type of schools. A sample of 100 students having dyscalculia was drawn from the Dehradun district of Uttarakhand. For comparing data statistically, 2x2 ANOVA was applied through SPSS software. The investigation revealed that the female and male primary school students having dyscalculia experienced the stress differently as the obtained scores were significantly differ from each other, whereas, no significant difference was found between the government and private school students having dyscalculia. The obtained results also explain that gender and type of the school have no interaction effect in relation to the academic stress experienced by the primary school students having dyscalculia.

KEYWORDS: Specific Learning Disability, Dyscalculia, Stress, Gender, elementary schools.

INTRODUCTION

Stress has become the part of human life regardless of their status, age and gender. Stress in its other manifestations viz. depression, anxiety and fatigue have become a common problem of people, working in different arenas. In the last couple of years this delicate matter has been elevated prominently and this topic has been highlighted in print as well as electronic media. Moreover, a number of workshops and seminars have been conducted in order to teach people, the coping skills and strategies to deal with stress (Keinan & Perlberg 1986). Earlier stress used to be considered as the part of only "adult life" but these days "children are no exceptions". Early developmental years of a child are very crucial for his healthy personality. Education and development go hand in hand in this new age of technology. As it is evident that the present education system is evolving every day and educating a child, to enhance his potential is the prime concern of educators, parents and government. This complex situation somehow leaves a very strong impact over the tender minds of children studying in primary classes. They are growing and learning to accommodate with the new challenges of their life. In classrooms, dealing with different subjects, teachers, students, is very crucial for their development. Some students are able to set pace with the new and challenging environment, but few of them struggle to maintain their identity in the competitive system. Such situations create pressure upon the children as well as, parental expectations are also to be taken care, by them. Academic stress is the undesirable psychological situation which occurs because of the high and sometimes unrealistic expectations from the present educational system and society. The child sometimes found himself caged into the expectations of their parents, teachers and peers etc to perform better, which make them stressed, moreover if the child is not able to handle this academic pressure his/her performance

shows a steep decline in terms of grades. For young school going children, doing all the work together and managing time between their studies and extracurricular activities can be stressful.

Experiencing the academic stress is quite complex for school going students as initially managing academic pressure is quite a challenge for them. The teacher's and the parent's expectations also made them anxious during the formative years. The performance in the academics of a student is closely related to his level of stress. The poor academic performance of students can be resulting into the high level of academic stress; whereas, good academic performance can be beneficial in reducing the level of academic stress. Moreover, their academic performance would also leave an impact on the perception of their teachers and parents by considering them as 'slow' 'stupid' 'lazy or 'smart' 'bright' and 'hardworking'. All these experiences of formative years, leaves a permanent mark on an adult personality. In secondary and higher secondary level, this pressure or stress is clearly visible among students to prove themselves. The identity crisis, leading numbers of dropouts and suicide after board results has become so common these days.

The Academic stress has been a burning topic among researchers. Studies found some basic stressors which make academics stressful for the students such as numerous assignments, academic competitions, failures, relationship issues with peers and teachers. In different professions and occupations, stress and its derivatives viz. depression, anxiety and burnout has become a day-to-day problem for people. According to the studies feeling of frustration, depression and anxiety can be the result of higher stress level. In the context of special learning disabilities, low level of resilience was observed 75% of the children and adolescents, which further concludes that they are more vulnerable to stressful situations. In this sample severe stress (16.6%), severe anxiety (23.8%) and severe depression (14.2 %) was also observed. (Panikar,2016). Keeping this scenario in mind it is high time to teach students the coping techniques in their formative years only, so that the next generation could be well equipped to deal with the various stressors in life.

DYSCALCULIA

The term dyscalculia can be described as the difficulty with numbers resulting because of developmental, cognitive condition, or due to an acquired difficulty. Dyscalculia can be defined as learning disability which affects the ability to acquire arithmetic skills normally despite of having average or above average intelligence, scholastic opportunity, emotional stability and motivation. According to the studies some descriptive terms have been used interchangeably to express difficulties in mathematics, named as Mathematical Disability, Arithmetic Learning Disability, Developmental Dyscalculia, Number Fact Disorder and Psychological Difficulties in Mathematics (Butterworth 2003). In dyscalculia, the neural association is usually broken, which further complicates the procedure numeric dialect, making it more difficult to access and process numeric data. Two very prominent classification systems for psychiatric etiology—the *International Classification of Diseases* (World Health Organization, 2005) and the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 2000)— emphasis to define the mathematic skills disorder, that an individual's mathematical ability doesn't justify his overall intelligence level resulting into his school performance is affected. The *Diagnostic and Statistical Manual of Mental Disorders'* describes the diagnostic criteria for the "mathematics disorder" as:

- A) The mathematical ability, calculated by standardized tests, administered individually, is quite lower as compared to the expected standards of individuals 'chronological age, age- appropriate education and measured IQ;
- B) The challenges mentioned in above criteria, affect the normal abilities of the individual to successfully complete the activities which requires mathematical ability and hinders his academic achievement;
- C) In case of the presence of some sensory deficit, the difficulties faced by the individual to adjust with his mathematical disability increases in addition to those which usually associated with it (American Psychiatric Association, 2000).

For a child, managing stress as well as suffering with the specific learning disability can be very challenging. Precisely in this highly competitive scenario, it can be very challenging for a child to be judged harshly upon the academic standards, in spite of his/ her other talents. The academic pressure to perform better without encouraging social skills and understanding familial atmosphere will be increasing complexities for the child having specific learning disabilities. (Paniker, 2016). Studies expressed that the children with specific learning disabilities were mostly burdened by feelings of low self-worth, incompetence, and many believed that their situation would never improve. It is no wonder that, this sense of hopelessness resulting into the major hindrance to their future accomplishments. Therefore, a vicious circle continuously intensifying the feelings of defeat and despair (Brooks, 1991). This situation becomes more complicated if the child is having any kind of learning disability. Under the umbrella of learning disability, dyscalculia is very rarely reported and mostly unseen in the classrooms. Generally teachers and educators confused the dyscalculia with mathematical incompetency, due to which mostly children drop mathematics after the tenth grade. In the present scenario when the system has become so complex, it is very essential to understand that the factors, the stress level among school going student. Academic performance of students is directly related to academic stress, poor academic performance of students can be resulting into the high level of academic stress, whereas good academic performance be beneficial in reducing the level of academic stress. The finding of Bhargava et al., (2013) also reveals that Students with dyscalculia and dyslexia having more issues in schools and usually depressive as compared to their normal peers. This statement also supports the argument that, students with learning disabilities facing more complex problems in schools as compared to their peers not having learning disabilities.

As per reports published by Sarva Siksha Abhiyan in Indian education system largest number of school aged children (approx.) 2.2 percent in the 6-14 aged has special needs. Awareness should be created to the parents and teachers about math disability. Different strategies should be introduced and adopted by teachers in the classroom who are usually the first and often last hope to save the mathematics disabled children. More research must be done to identify to find the exact causes for math disability in the classroom and provision should be made to remove the hindrance which blocks the path of mathematics disabled children. It is very crucial for the students at the young stage, to acquire the skills to cope up with the academic stress, even if it can't be removed. Especially in case of students having dyscalculia it is very important to understand the contributing factors related to academic stress such as gender and type of schools, so that appropriate remediation could be provided to the students. Keeping all above factors in consideration the present study focused upon the following objectives.

OBJECTIVES:

1. To evaluate the level of stress among male and female students having dyscalculia from government school.
2. To evaluate the level of stress among male and female students having dyscalculia from private school.
3. To evaluate the level of stress among students having dyscalculia in relation to: Gender x Type of school (Interaction effect).

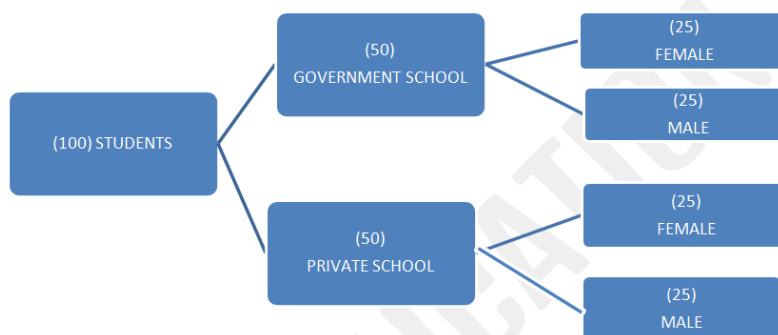
HYPOTHESIS:

1. The level of stress among students having dyscalculia will not be different significantly from their gender.
2. The level of stress of students having dyscalculia will not be different significantly from their type of schools.
3. There will be no significant difference between the level of stress of students having dyscalculia in relation to gender x type of school (interaction effect).

RESEARCH METHODOLOGY

Sample:

The mixed sampling method was administered to collect the desired sample for the study. The incidental sampling method was used for the selection of schools (private & government) from urban area of Dehradun city. To identify the students having dyscalculia of primary classes simple random sampling was used from selected schools. By screening and testing method a final sample of 100 students having dyscalculia has been selected. Exclusion and inclusion criteria were adopted while selecting the sample.



Description of the Tools Used:

In the present study the Stress Inventory for School Students by Seema Rani & Basant Bahadur Singh has been used. Inventory was administered on students having dyscalculia of primary classes of government and private schools of Dehradun, Uttarakhand.

STATISTICAL ANALYSIS

To analyze the data the statistical measure of 2x2 ANOVA was used. The obtained results of analysis are presented in the Tables 1 & 2.

Table 1: Mean & Standard Deviation at different levels in AxB Factorial Design for Stress.

Gender		Type of school		
		Government	Private	Total
Male	M	134.48	136.68	135.58
	SD	8.155	9.003	8.574
Female	M	153.52	154.04	153.78
	SD	4.124	3.668	3.872
Total	M	144.00	145.36	144.68
	SD	11.549	11.098	11.289

The summary of ANOVA for the effect of gender and type of schools on academic stress is provided in the Table 2 as under:

Table 2: The complete Summary of ANOVA for AxB Factorial Design.

Sources of variance	Sum of Squares	Df	Mean Square	F	Sig.
Gender (A)	8281.00	1	8281.00	186.05*	.00
TOS (B)	46.24	1	46.24	1.03	.31
A x B	17.64	1	17.64	0.39	.53
Within	4272.88	96	44.50		
Total	2105848.00	100			

* =p<0.05

RESULTS

Gender (A)

The values in the table- 2 represented the calculated value of F to study the academic stress of dyscalculic students in relation to their gender is obtained by 186.05 which is found significant at 0.05 level, for df 96. It is also concluded further that the formulated hypothesis as “There will be no significance difference between the stress level of male and female students having dyscalculia” has been rejected. It was concluded that females having dyscalculia are more stressed comparative to their counterparts. Results also reveal that school boys and girls significantly differ from each other on academic stress, irrespective of the types of schools. The mean scores of male and female students having dyscalculia, on academic stress were represented diagrammatically in the following figure 1:

From Table 1 and Figure 1, it can be concluded that the mean score of male students having dyscalculia is 135.58, whereas the mean of dyscalculic female students is 153.78 while, the type of schools mean square in relation to a comparison between the mean scores of male and female school students having dyscalculia. The significant mean square 8281.00 leads to conclude that these two means differ significantly. In other words, female students having dyscalculia obtained higher mean scores than male students having dyscalculia, on academic stress which reveals that female students are more stressed than their counterparts in relation to academics.

Type of Schools (B)

The table 2 reveals that the calculated F value to study the stress level of students having dyscalculia in relation to the type of schools is 1.03. This value is not significant at 0.05 level for the df 96. Hence, the hypothesis postulated as “there will be no significant difference on academic stress of dyscalculic students in relation to type of school” has been accepted. It has been further concluded that private and government aided school students do not differ significantly from each other on the type of schools. Stress experienced by students having dyscalculia, academically don't differ significantly from each other.

Gender x Type of school (A x B)

From the Table 2, it has been observed that the computed value of F to study the difference on academic stress of students of elementary school having dyscalculia, in relation to gender x type of schools (AxB) is 0.39 which is not significant at 0.05 level of significance for df 96. Therefore, the hypothesis postulated that, “there will be no significant difference on the stress level of students having dyscalculia in relation to: Gender x Nature of school” has been accepted. It is further concluded that there is no significant interaction of gender and type of schools which further impact the academic stress of primary school students having dyscalculia.

DISCUSSION

Present study reveals that the primary school going boys having dyscalculia differ significantly from their female counterparts, on academic stress irrespective of the type of school. As the mean scores for girls having dyscalculia are higher than boys having dyscalculia, so the females found out to be more stressed than their male counterparts. The stress is an unavoidable aspect of a student's life moreover in case of the learning disabilities it makes the situation more critical. The research findings of Mazumdar, et al. (2012), stated that the different symptoms leading to stress were most commonly found among females rather than males. The results further reveals that there is no significant difference between government and private schools in relation with academic stress. No significant difference was found on the academic stress of the elementary school students having dyscalculia in relation with gender x type of school.

The Educational implications of study

As it has been observed from the obtain results that academic stress equally affect the students, irrespective of their gender and type of school. Therefore, the following measures are suggested, which may be helpful to cope up with the stress among students having dyscalculia.

1. A systematic and an early diagnosis of having learning disability (here dyscalculia) is very crucial to target the cause of stress.
2. To reduce the task to the smaller steps. Smaller chunks of class work and homework should be given.
3. Initially, it is crucial to demonstrate the problem solving strategies.
4. To promote the students to elaborate the problem in his own words.
5. A clear understanding of the problem solving methods should be developed.
6. Participatory thinking aloud by students as well as the teacher.
7. It is essential to explore their potentials at the early age, so that they can be guided in a better direction.
8. Utilization of their energies and creativity in sports or co curricular activities.
9. Strategies to build-up their self- esteem and confidence should be incorporated.
10. To make them aware, about their weaknesses and build up their strength.
11. Should not make them feel isolated.
12. Make them socially more active.
13. Parents and teachers should interact more often to address the special requirements of the child.

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