



RELATIONSHIP BETWEEN ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD) AND DYSCALCULIA AMONG HIGH SCHOOL STUDENTS

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Abstract: Purpose: i) To identify the students with dyscalculia and Attention Deficit Hyperactivity Disorder in Xth Standard. ii) To find out the significant difference between dyscalculia and ADHD among the dyscalculic students with respect to gender. iii) To study the significant relationship between ADHD and its component levels among the dyscalculic students.

Method: Purposive sampling technique was used to collect the data from 60 samples.

Results: The results found were that there is no significant difference between the ADHD with its component levels and Dyscalculia with respect to gender. Also, it was found that there is a significant relationship between ADHD and its component levels among the dyscalculia school students.

Conclusion: There is a necessity to raise awareness about how much it is essential for the early diagnosis and treatment of ADHD. The issue of student's difficulties in learning mathematics and their performances has to be addressed by teachers and researchers.

Keywords: Dyscalculia, School students, Attention Deficit Hyperactivity Disorder.

Introduction

Mathematics plays an important role to survive in the modern world. Without the optimum level of knowledge in mathematical numeracy an individual is more of a handicap and getting a job is a dream. The organisation for Economic Cooperation Development (2010) highlighted that "an improvement of one-half standard deviation in mathematics and science performance at the individual level implies, by historical experience, an increase in annual growth rates of GDP per capita of 0.87%". Such an important subject is ignored by many individuals by stating "I don't like math or even math will not come to my father". Without understanding the genuine reason for not success in leaning, people dismissal the math disability using the powerful determinant attitude as good indicator for nurturing the mathematically talented students.

Attention is important for acquisition of skills that will help to increase one's efficiency. It is one of the very important ways to recall and remember which help to learn basic mathematical skills. There are many factors that are responsible for dyscalculia and attention deficiency, such as: lack of memory, lack of attention, lack of motivation, lower self efficacy, high anxiety, cognitive growth, visual – spatial ability, etc. From various studies it was found that, inattention in many ways causes math disability. It was found that the dyscalculic students may also have reading disability or ADHD. Zentall (1990) also concluded that children with attention deficit are most likely to show diminished classroom performance in arithmetic computations. Difficulties in mathematics and attention often co-occur. Attention deficiency one or other way causes math disability. Studies have shown that some students with math disability also have a reading disability or Attention-Deficit/Hyperactivity Disorder (AD/HD). A study by Mayes & Calhoun, (2006) found that 26% of children with ADHD have a specific math disability. Gross-Tsur, Manor & Shalev, suggested that attention deficits may be strongly associated with math disability than reading ability. So math skills should be improved to give confident among the learners.

The American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders (2000) defines, "The essential feature of Attention-Deficit/Hyperactivity is a persistent pattern of inattention and / or hyperactivity-impulsivity that is more frequently displayed and more severe than is typically observed in individuals at a comparable level of development."Dyscalculia (a mathematical disability) can be understood as that condition when an individual is unable to do any task that involves basic maths. A dyscalculic student is unable to make sufficient progress in maths at school compared to his/her

peer group. *Ratra* (2008) explained dyscalculia as the difficulties faced by children in learning mathematical concepts like quantity, place value, time, memorizing mathematical facts and organizing numbers.

Many studies are conducted to know the relationship between ADHD and dyslexia and other factors but, very few studies is conducted to know about attention deficits and dyscalculia. Examining the literature focussed on Co-occurrence ADHD and dyscalculia it is found most of the study has not adopted any stringent criteria for understanding the ADHD and dyscalculia. Also co-morbidity between these two has not been studied in detail. Due to that a very little is known and lack of awareness exists in the area of ADHD and Dyscalculia. Therefore, this study is needed to identify the Dyscalculia among school students and study the relationship between Attention Deficit Hyperactivity Disorder on the identified Dyscalculic high school students. This research is also important as it may help to aware the parents as well as the teachers about the need for identification, guidance and interventions at home and school.

Attention Deficit Hyperactivity Disorder (ADHD) and Dyscalculia

As the name suggests, Attention Deficit Hyperactivity Disorder (ADHD) is a disorder that is related to inattention and hyperactive nature of an individual. It is that condition when one is unable to control his/her behaviour that accompanies by very less or no attention and extremely high level of physical activities. In children, restlessness, difficulty staying seated or play quietly commonly appears that may express hyperactivity. As the children lacks attention, they find difficulty in their education as well. Such children also avoid tasks that require mental effort. Anxiety disorders, disturbing behavioural disorders, mood disorder and learning disabilities can also co-exist with Attention Deficit Hyperactivity Disorder (ADHD). According to *Barkley* (1997), behaviour of the children with ADHD is classified into two main categories: poor sustained attention and hyperactivity impulsiveness which is further sub – divided into three types: predominantly inattentive, predominantly hyperactive– impulsive and combined types.

Some common symptoms of ADHD are behavioural problems, anxiety, depression, Learning disabilities, increased injuries and Peer problems. Since, from the early age children exhibit very less or no attention and hyperactivity, careful observation is required for its diagnosis. *Olusegun Emmanuel Afolabi* (2016) highlighted that the signs of this disorder are predisposed to accidents, disruptions and improper conduct, strain interpersonal relationship, etc. Besides clinically oriented disorder in children, Attention Deficit Hyperactivity Disorder also links to characteristics in adulthood such as, drugs, alcohol, socio - cognitive disorder, disruptive conduct and delinquency.

Dyscalculia is termed as Developmental Dyscalculia which was first described by *Kosc* in the year 1974. According to him, it is a result of impairment to particular parts of brain involved in mathematical cognition, without difficulty in general cognitive functions. Reversed numbers and confusion between before and after are the general tendencies of Dyscalculic students. Estimating time, size, weight, shape and space are also difficult for them. They also face difficulty in acquiring skills of reasoning which helps them in problem solving at higher classes. *Stanislas et.al.*, (2009) defined Dyscalculia as “a more fundamental inability to conceptualize numbers as abstract concepts of comparative quantities (a deficit in number sense).”

The dyscalculic school students find difficulty in remembering the mathematical facts and trouble in figuring out their skills to solve their problems. Many a times we ignore the children who face difficulties in doing basic math problems. We also ignore the fact that they could suffer from Dyscalculia. Similarly, we as stakeholders ignore the Attention Deficit Hyperactivity disorder in children.

Kosc (1974) identified six types of Dyscalculia: *Verbal Dyscalculia*: It is the condition when one finds difficulty in using mathematical concepts in oral language. *Practognostic Dyscalculia*: It is the condition when an individual finds difficulty in manipulating concrete materials. *Lexical Dyscalculia*: It is a condition when reading mathematical symbols becomes a difficulty for an individual. *Graphical Dyscalculia*: It is a condition when writing mathematical symbols becomes a difficulty for an individual. *Ideognostic Dyscalculia*: It is that condition when an individual fails to understand mathematical relationship. *Operational Dyscalculia*: It is a difficulty faced by individuals in performing specified mathematical operations.

Some of the common symptoms of Dyscalculia are:

- Difficulty arranging number in ascending or descending order.
- Difficulty copying numbers from the blackboard or textbook.
- Unable to memorize the Addition, Subtraction or Multiplication tables.
- Such individual finds it difficult to read multi- digit numbers.
- Such individual fails to grasp the concept of place value.
- The individual puts decimal in the wrong place.

When the basic mathematical facts are not understood earlier, the Dyscalculic students will definitely have trouble in understanding the advance and difficult mathematical problems or applications. For this, the individual should follow the mathematical procedures stepwise and be able to identify ways that are needed to solve equations and more complex problems.

Review of the Related Literature examining Co-occurrence of ADHD and Dyscalculia

Mammarella (2015) studied the verbal and visuo-spatial short-term memory and working memory performance in children with developmental dyscalculia and high mathematics anxiety compared with typically developing children. It was found that, relative to children with TD, those with DD did not show impairments on the forward or backward verbal tasks, but showed specific impairments in the visuo-spatial WM task. In contrast, children with MA were particularly impaired in the verbal WM task. **Mahewash (2015)** found that, highest number of children with Attention Deficit Hyperactivity Disorder (ADHD) was identified in the co-education school. Early detection of ADHD would lead to early treatment of the disorder in children and help in solving the day to day problem that those children have to face. It was also found that there was a difference between the teacher's perception of ADHD in children and actual occurrences of ADHD. **Al-Mamari, et al. (2015)** found that, thirty per cent of the children were reported to have symptoms of ADHD, including conduct problems (twenty four per cent), hyperactivity (twenty four per cent) and inattentive-passive behaviours (forty one per cent). **Dupaul, et al., (2013)** examined ADHD-LD co-morbidity, revealing a higher mean co-morbidity rate of 45.1 per cent than has been obtained previously. Higher co-morbidity may be the result of including students with writing disorders, not just reading and/or Mathematics Disabilities. **Ponde (2012)** assessed the impact of attention deficit on learning problems in a sample of school children in the city of Salvador, Bahia, Brazil and suggest either that attention deficit leads to learning problems or that attention deficit or learning problems are co-morbid conditions, in which case learning problems may also contribute to secondary symptoms in ADHD. **Rubinsten, et.al (2010)** investigated the effects of math anxiety on numerical processing in children with specific deficits in the acquisition of math skills by using a novel affective priming task as an indirect measure. It was found that, participants with Developmental Dyscalculia responded faster to targets that were preceded by both negative primes and maths related primes. A reversed pattern was present in the control group. **Brooks (2007)** found that the educational practitioners agree upon numerous educational processes in order to teach mathematics to students with ADD/ADHD also discovered that 86% of the educational practitioners do not believe that their classroom environment is conducive to students with ADD/ADHD learning mathematics. **Shankar (2007)** identified the children with arithmetical disabilities and studied the effect of remedial methods on the achievement of those children. The findings of the study reveal that remedial treatment methods were superior to conventional methods and remedial teaching had significantly improved the performance of the children in the arithmetic test. **Monuteaux, et.al (2005)** found that, among the 464 probands included in the analysis, the prevalence of dyscalculia in children with ADHD was significantly higher than among controls. It was also found that, significantly increased rates of ADHD in the relatives of probands with ADHD with and without dyscalculia compared to the relatives of control probands. Also, there was a significantly increased rate of ADHD in relatives of ADHD + Dyscalculia probands compared to relatives of dyscalculia probands. **Jennifer et al. (2005)** found that, the children's mathematics achievement improves and their on-task behaviour increase during the CAI sessions relative to independent seatwork conditions. It was also found that, students and teachers consider CAI to be an acceptable intervention for some students with ADHD who are having difficulty with mathematics.

Snider, et al. (2000) explored the relationship between Learning Disabilities and ADHD. Results indicated that 22.7 per cent of students with learning disabilities were also identified as having ADHD and that 14.2 per cent were being treated with stimulant medication. Thirty five per cent of identified students were described as having attention deficit without hyperactivity. **Johnson, et al. (1999)** examined the interaction of attention deficit and learning disabilities on the immediate memory abilities of children. The findings revealed that, children with attention deficit and a co-morbid learning disability had greater memory deficits. **Ruth and Shalev (1998)** showed that the factors significantly associated with persistence of dyscalculia were arithmetic problems in siblings of the probands and severity of the arithmetic disorder. Gender, socio-economic status, the presence of another learning disability and educational interventions are the factors that were not associated with persistence. **Dupaul et al. (1992)** performed a study investigating the attention performance of children with ADHD, children with LD, and children with no psychiatric diagnoses on various neuropsychological tests of attention. There are significant differences on the Stoop word and interference scores between the control group and both of the clinical groups, but found no differences between the clinical groups.

From the review of literature the investigator could not find studies which studied the directly the relationship of Attention Deficit Hyperactivity Disorder and Dyscalculia among high school students with respect to gender. This motivated the investigator to select the topic of this nature.

Objectives of the Study

Based on the problems of the study the following objectives are framed

- To identify the students with Dyscalculia in Xth Standard.
- To identify the students with Attention Deficit Hyperactivity Disorder in Xth Standard.
- To find out the significant difference between Dyscalculia and Attention Deficit Hyperactivity Disorder among the Dyscalculic students with respect to gender.
- To study the significant relationship between Attention Deficit Hyperactivity Disorder and its component levels among the Dyscalculic students.

Hypotheses of the Study

- There will be no significant difference between the male and female students with Dyscalculia.
- There will be no significant difference between the male and female students with Attention Deficit Hyperactivity Disorder and its component levels.
- There will be no significant relationship between Attention Deficit Hyperactivity Disorder and its component levels among the dyscalculic students.

Delimitation of the Study

Some of the limitations of the study are-

- The study is confined only to the sample studying Class X with age group of 13 – 15 years restricted to Kamrup (M) district of Assam within the period of 2019-20.
- In this study the mathematical learning disabilities/difficulties of the students are studied and not the technical 'dyscalculia' as Neuro-psychologically method diagnostic evaluation is not possible.

Methodology of the Research

Research Design

In the present study, the researcher attempted to identify the student of a local private school having both Developmental Dyscalculia and Attention Deficit Hyperactivity Disorder. The study was conducted using the descriptive method.

Variables of the Study

The main variable for the present study are Dyscalculia among the students of Class X and the influence of Attention Deficit Hyperactivity Disorder among the identified Dyscalculic students.

Population of the Study

The population for this study includes the students of Classes X standard of Kamrup (M) district, Assam, India.

Sample of the study

The children having Dyscalculia and Attention Deficit Hyperactivity Disorder from Classes X will be the sample for the study that is shown elaborately in Table 1.

Sampling Type

For this study, Purposive Sampling Technique is used.

Tools used in the study

The tools used in the study are:

- Learning Disabilities Battery developed by Rajshree Bhargava and Dr. R. L. Bharadwaj.
- Attention Deficit Hyperactivity Disorder Tool developed by Neeta Jain and Ravi. K. Gunthey.
- Personal data sheet developed by the researcher.

Procedure of the study

At the initial stage researcher collect the marks of mathematics for all the students studying in the age range of 13-15 years from the previous school records. Students who scored marks less than 40 are considered for the further study. Also researcher discussed with the mathematics teachers to seek the correct sample and selected 111 students those who faces mathematical difficulties in the regular classroom. The selected students were assessed using Learning Disabilities - Dyscalculia screener (Developed by- Rajshree Bhargava and Dr. R. L. Bharadwaj in the year 2014); among those students 60 were identified with dyscalculia. After elimination of remaining students, these 60 students with dyscalculia were selected as sample for this study. On this final sample of students, to make confirm about the results of the screener with the help of mathematics teachers, researcher meet the parents of the sixty students and questioned about the students dyscalculia assessment. In addition to identify ADHD of the children, parents were asked to fill the Attention Deficit Hyperactivity Disorder form developed by Neeta Jain and Ravi. K. Gunthey.

Statistical Technique used for Analysis

In the present study descriptive and differential analysis techniques were used for data analysis.

Description of Sample on the Basis of Demographic Variable

The distributions of selected variables are shown in tables and graphs below:

table 1: showing the distribution of samples on the basis of gender

Gender	No. of students	Percentage
Male	25	41.7
Female	35	58.3
Total	60	100

Table 1 represents the distribution of samples on the basis of gender. The total sample size is 60. It is found that 25 male student i.e. 41.7% and 35 female student i.e. 58.3% of samples participated in the study.

table 2: showing distribution of samples based on the levels of dyscalculia

Levels of Dyscalculia	N	Percentage	Mean	S.D
Mild Dyscalculia	25	41.7	27.42	12.42
Severe Dyscalculia	35	58.3	30.80	12.68
Total	60	100	29.39	12.57

Table 2 represents the distribution of samples with Dyscalculia. The total sample size is 60. It is found that 25 were Mild Dyscalculia i.e. 41.7% and 35 were Severe Dyscalculia i.e. 58.3% among samples participated in the study.

table 3: showing distribution of samples for adhd and its components

ADHD & its components	Levels of Severity			N
	Above Average	Average	Below Average	
Inattention	15	14	31	60
Hyperactivity	38	11	11	60
Impulsivity	24	17	19	60
ADHD	32	23	5	60

Table 3 represents the distribution of samples for ADHD and its components. The total sample size is 60. For the first component i.e., Inattention, it is found that 15 were above average, 14 were average and 31 were below average. For

Hyperactivity, it is found that 38 were above average, 11 were average and 11 were below average. For Impulsivity, it is found that 24 were above average, 17 were average and 19 were below average. And for ADHD, it is found that 32 were above average, 23 were average and 5 were below average.

table 4: showing distribution of samples based on gender, levels of dyscalculia severity & adhd and its components

Levels of Severity	Dyscalculia Category				Total No. of students
	Male		Female		
	Mild	Severe	Mild	Severe	
Above Average ADHD	1	1	13	17	32
Average ADHD	6	15	2	0	23
Below Average ADHD	2	0	1	2	5

Table 4 represents the distribution of samples based on Gender, levels of Dyscalculia severity & ADHD and its components. The total sample size is 60. The ADHD is divided into levels of severity. There were 32 above average ADHD that includes, 1 male student had mild dyscalculia and 13 female students had mild dyscalculia and 1 male students had severe dyscalculia and 17 female students had severe Dyscalculia. There were 23 average ADHD that includes 6 male students had mild dyscalculia and 2 female students had mild dyscalculia and 15 male Severe Dyscalculia and no female had Severe Dyscalculia. There were 5 below average ADHD that includes 2 male students had mild dyscalculia and 1 female student had mild dyscalculia and no male students had severe dyscalculia and 2 female students had severe dyscalculia.

Hypothesis 1: There will be no significant difference between the male and female students with Dyscalculia

table 5: showing mean, standard deviation and t-test gender wise for students with dyscalculia

Variable	Gender	N	Mean	S. D	t-value	df	Sig.(2 tailed)
Dyscalculia	Male	25	27.42	12.42	1.027	58	0.309
	Female	35	30.80	12.66			

From the above Table 5, it is found that the mean and standard deviation of male students with Dyscalculia is 27.42 and 12.42 respectively and the mean and standard deviation of female is 30.80 and 12.66 respectively. The calculated t-value is found to be 1.027 significant at 5% levels with df 58. Since p value 0.309 is greater than the chosen significance level 0.05 statistically fails to reject the null hypothesis. Therefore it is concluded there is no significant difference between male and female in students with Dyscalculia.

Hypothesis 2: There will be no significant difference between the male and female students with Attention Deficit Hyperactivity Disorder and its component levels.

table 6: showing mean, standard deviation and t-test gender wise for students with attention deficit hyperactivity disorder

Variable	Gender	N	Mean	S. D	t-value	df	Sig.(2 tailed)
Attention Deficit Hyperactivity Disorder	Male	25	73.56	8.54	0.826	58	0.412
	Female	35	75.51	9.36			
Inattention	Male	25	27.72	7.17	0.446	58	0.657
	Female	35	28.49	6.06			
Hyperactivity	Male	25	21.32	5.23	1.798	58	0.077
	Female	35	23.80	5.29			
Impulsivity	Male	25	19.00	4.38	0.495	58	0.622
	Female	35	18.40	4.78			

From the above Table 6, it is found that the calculated level of significance is greater than the chosen significance level 0.05 statistically fails to reject the null hypothesis. Therefore, it is concluded there is no significant difference between male and female in students with Attention Deficit Hyperactivity Disorder, Inattention, Hyperactivity and Impulsivity.

Hypothesis 3: There will be no significant relationship between Attention Deficit Hyperactivity Disorder and its component levels among the Dyscalculia students.

table no 7: showing mean, standard deviation and correlation for reasoning ability and academic achievement

Variable	N	Mean	SD	Pearson product Correlation	Significance (2-tailed)
Dyscalculia & Attention Deficit Hyperactivity Disorder	60	74.70	9.01	0.682	0.412
Dyscalculia & Inattention	60	28.17	6.50	0.199	0.657
Dyscalculia & Hyperactivity	60	22.77	5.36	3.233	0.077
Dyscalculia & Impulsivity	60	18.65	4.59	0.245	0.622

From the above Table 7, the computed significance value between Dyscalculia and Attention Deficit Hyperactivity Disorder, Inattention, Hyperactivity and Impulsivity are 0.412, 0.657, 0.077 and 0.622 respectively. It shows a perfect strong relationship between Dyscalculia and Attention Deficit Hyperactivity Disorder and its component level. Attention Deficit Hyperactivity Disorder, Inattention, Hyperactivity and Impulsivity has influence of 41.2%, 65.7%, 7.7% and 62.2% respectively on increasing Dyscalculia among the students.

Results of the Study

The findings of the study are:

- It is found that 25 were Mild Dyscalculia i.e. 41.7% and 35 were Severe Dyscalculia i.e. 58.3% among samples participated in the study as shown in Table 2.
- For the first component i.e., Inattention, it is found that 15 participants were above average, 14 were average and 31 were below average. For Hyperactivity, it is found that 38 participants were above average, 11 were average and 11 were below average. For Impulsivity, it is found that 24 participants were above average, 17 were average and 19 were below average. And for ADHD, it is found that 32 were above average, 23 were average and 5 were below average that is shown in Table 3.
- After dividing ADHD into levels of severity it was found that there were 32 participants were above average ADHD that includes, 1 male student had mild dyscalculia and 13 female students had mild dyscalculia and 1 male student had severe dyscalculia and 17 female students had severe Dyscalculia. There were 23 participants who were average ADHD that includes 6 male students had mild dyscalculia and 2 female students had mild dyscalculia and 15 male Severe Dyscalculia and no female had Severe Dyscalculia. There were 5 participants below average ADHD that includes 2 male students had mild dyscalculia and 1 female student had mild dyscalculia and no male students had severe dyscalculia and 2 female students had severe dyscalculia as shown in Table 4.
- The mean and standard deviation of male students with Dyscalculia is 27.42 and 12.42 respectively and the mean and standard deviation of female is 30.80 and 12.66 respectively as shown in Table 5. The calculated t-value is found to be 1.027 significant at 5% levels with df 58. Since p value 0.309 is greater than the chosen significance level 0.05 statistically fails to reject the null hypothesis. Therefore, *there is no significant difference between male and female in students with Dyscalculia.*
- It is also found that the calculated level of significance is greater than the chosen significance level 0.05 statistically fails to reject the null hypothesis as shown in Table 6. Therefore, *there is no significant difference between the male and female students in Attention Deficit Hyperactivity Disorder and its component levels.*
- The computed significance value between Dyscalculia and Attention Deficit Hyperactivity Disorder, Inattention, Hyperactivity and Impulsivity are 0.412, 0.657, 0.077 and 0.622 respectively as shown in Table 7. It shows a perfect strong relationship between Dyscalculia and Attention Deficit Hyperactivity Disorder and its component level. Attention Deficit Hyperactivity Disorder, Inattention, Hyperactivity and Impulsivity has influence of 41.2%, 65.7%, 7.7% and 62.2% respectively on increasing Dyscalculia among the students.
- Therefore it may be concluded that, there is a significant relationship between Attention Deficit Hyperactivity Disorder and its component levels among the Dyscalculia students.

Discussion

On the basis of the results, the following points may be discussed:

- Identification of Dyscalculia helps both the teachers and parents to work together in order to strategize things in such a manner that will help those children to learn effectively.
- Awareness about various learning disabilities specifically, Dyscalculia will help the teachers and parents to provide sufficient remedial to the children and create a conducive learning environment for them.
- The teachers need to be aware of various teaching strategies that they can use in order to make these children understand, learn and complete their mathematical tasks successfully.
- The teachers, after learning about the difficulties faced by the Dyscalculic students, can adopt the appropriate type of instruction in order to meet their specific needs.
- Teachings may be carried out with the help of various Visual aids, Audio aids and Audio-Visual aids so that such students finds it easy to understand the basic concepts.
- The teachers need to give extra attention to the children having Attention Deficit Hyperactivity Disorder.
- The energy level of the students with Attention Deficit Hyperactivity Disorder should be directed towards productive tasks.

Suggestion for the further study

From the result of the present study, the following points have been suggested for further research in this area:

- Such problem must be studied thoroughly in a wider aspect with larger sample and dedicating much more time.
- The attitude of the parents as well as the teachers towards various Learning Disabilities can also be studied.
- A similar study may also be carried out with the students of higher education.
- Studies on the attitude to the peers towards the Dyscalculic student in the class may also be carried out.
- Such studies may also be conducted with the students of remote areas and also showing the comparison between the Urban and Rural students having Dyscalculia.
- Studies may also be carried out showing various strategies teachers must adopt in order to handle the students having both Dyscalculia and Attention Deficit Hyperactivity Disorder.

Conclusion of the study

Many a times we ignore the children who face difficulties in doing basic math problems. We also ignore the fact that they could suffer from Dyscalculia. Similarly, we also ignore the Attention Deficit Hyperactivity Disorder in children. Therefore, in order to understand the influence of Attention Deficit Hyperactivity Disorder among the Dyscalculic school students, this study

is very necessary. From the research it is found that, there is no significant difference between the Attention Deficit Hyperactivity Disorder with its component levels and Dyscalculia with respect to gender. Also, there is a significant relationship between Attention Deficit Hyperactivity Disorder and its component levels among the Dyscalculia students. The result of this study also leads us to important conclusion to raise awareness about how much it is essential for the early diagnosis and treatment of Attention Deficit Hyperactivity Disorder. The issue of student's difficulties in learning mathematics which is exhibited in their performance has to be addressed by teachers and researchers.

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