Volume-3, Issue-8, August-2014 • ISSN No 2277 - 8160

Research Paper | Clinical Research

A Study on Prevalence of Concentration Related Problems in Pre-School Children

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ABSTRACT

Background: Learning is a process in which one travels a path to knowledge and gets it. The concept of learning encompasses all the processes that change an organism so that the next time he plays in a similar situation differently and even faster. Undisturbed concentration is one of the essential basic principles for successful learning. The longer the individual can work at consistent speed and making the least possible amount of errors, the greater is the concentration.

Objectives: To check the prevalence of concentration related problems in children of 3-6 years of age. And to make early diagnosis of lack of concentration related problems in preschool children.

Material and Methods: In this research article a study on preschool children is carried out using MKVK test to find concentration related problems among children.

Results: During the preschool and early elementary school ages, attention span varies with age, gender, and type of activity.

Conclusion: It is concluded from the study that there is prevalence of concentration related problems in preschool children The MKVK (Marburger Concentration Test) can be used to check the concentration in preschool children and to find out children who are at risk of concentration related problems

KEYWORDS : Concentration, MKVK test, Preschool children

Introduction

Concentration is a central coordination mechanism whereby an individual coordinates patterns of action consciously and intentionally. The longer the individual can work at consistent speed and making the least possible amount of errors, the greater is the concentration.[1] Attention is the degree to which a child demonstrates sustained focus on designated tasks and activities, especially in school. During the preschool and early elementary school ages, attention span varies with age, gender, and type of activity. A longer attention span is generally found in older children than in younger children, and in girls more often than in boys. Children are usually able to maintain a longer attention span when performing tasks that match their abilities and interests.[2] The proficiency in children is very less usually not very large, Therefore, children are much shorter than adults in a position to concentrate.[3]

Purpose of the Study

To check the prevalence of concentration related problems in preschool children using German Marburg concentration test (MKVK) .

Significance of the Study

It was found that preschool children are at risk of concentration related problems mainly Attention Deficit Hyperactivity Deficit (ADHD). Early diagnosis at preschool level will help in early management of the problem. This concentration test can be used for the diagnosis of Attention deficit hyperactivity deficit in future as there is link found between concentration related problems and attention deficit hyperactivity syndrome

Review of Literature

Runner (2007) has used to detect the power of concentration. such as the sorting of cards, ambient level of all subjects and assume familiarity with the tasks and mastering the techniques necessary for solving the tasks in a required time.

Berger (2010)[1] concluded that MKVK Test is easy to conduct and shows children's ability to concentrate at preschool ages. It proves to be of particular value for the 4-5 year olds.

Smith & Segal(2013)[5] states that Attention Deficit Hyperactivity Disorder (ADHD) is a disorder that appears in early childhood. It makes it difficult for a child to inhibit his/her spontaneous responses that can involve everything from movement to speech to attentiveness.

Grohol (2007)[6] describes that symptoms of ADHD are present before the age of 7yrs. There must be evidence that the ADHD behaviors are present in two or more settings e.g., at home, school or work; with friends and family. Someone who can pay attention at work but is inattentive only at home usually wouldn't qualify for a diagnosis of ADHD

MATERIALS AND METHODS

Research Methodology

Sample size- 100 preschool children
Sampling method- Convenient Sampling

Sampling Criteria

Inclusion criteria-

- children between 3-6 years of age
- children with no physical disability

Exclusion criteria-

- Children having impaired vision and defective hearing
- Children with mental disability
- Children with movement disorder of hands.

Instrumentation-

- Four main cards and 100 testing cards
- A pen
- A stopwatch
- A table and a chair

Test procedure

The students from various schools in Hisar are included in the study on the basis of selection criteria. The voluntary participation was emphasized. Only one child was tested at a time. The four symbol cards during the test served as the main test card and another 20 cards were used as training cards and finally 80 were used as test cards. There were 12 symbols on each card separated by a frame of each other. The aim of the test was correct allocation of the cards for the respective group, based on the feature described on them. Since the cards were numbered on the back then after each test the original order was to be restored so that the same initial condition prevailed for all the children. Stop watch was used to note the time taken by the child in completing the test. After the test numbers of errors were also noted. The elements used in the test are presented in Table 1 below.

Table 1: Socio Demographic Characteristics of Test Elements

Age in yrs	Frequency	Class	Frequency	Gender	Frequency
3	7	LKG	36	Male	60
4	39	UKG	21	Female	40

5	20	1st	28		
6	34	2nd	15		

Statistical Methods

Tools of Analysis used in the study for the primary data:-

a) Mean: Mean of errors committed, time taken and numbers of cards sorted was computed age wise, class wise, gender wise as well as school wise.

b) ANOVA: Analysis of Variance was calculated at 5% level of significance for 3-6 years age group children for the errors committed, cards sorted, and time taken for the test, class room learning and schools attended.

c) Coefficient of variance: Coefficient of variation between the childern of different age groups and the errors commited, cofficient of variation between the childern of different age groups and the sorting time consumed, cofficient of variation between the students of different classes and the errors commited. Cofficient of variation between Gender and the errors commited were computed .

RESULTS

The study was carried out on children in age group of 3 to 6 years. Table 2 below shows that the lower age children make on an average larger mistakes and it reduces when they grow in age. We observe that childern of 5 yrs of age are more consistent with minimum cv value of 48.88 Thus it is revealed from this analysis that lower age childern lack concentration in comaprison to upper age .Thus we find that the lower age children take on an average larger time and it decreases as age decreases. Thus it is revealed from this analysis that lower age childern lack concentration and are inconsistent even in time consumption for sorting of the cards in comparison to upper age children. It reveals that when children grow in age, their concentration too improves.

Table 2: Age Wise Analysis

Age in yrs	3yrs	4yrs	5yrs	6yrs
Mean of errors committed	24	19.6	8.35	5
Cv of errors committed	87.27	64.26	48.88	74.66
Mean of sorting time in sec	743	621	573	489
Cv of sorting time	427.1	372.9	355.7	354.5
All cards sorted in %	42	74	100	100

It is observed that the learning at school helps decreasing the commitment of errors. From the Table 3 above ,it revealed that the the students of 1st Std are most consistent followed by students of 2nd Std. where as pre school childern lack concentration in comaprison to upper classes. It reveals that school learning improves the concentration of children.

Table 3: Class Wise Analysis

	LKG	UKG	First	Second
Mean of errors committed	21.7	12.7	6.5	4.1
Cv of errors committed	59.64	60.52	23.21	27.53
Mean of sorting time in sec	683	633	568	482
Cv of sorting time	417.1	362.9	358.9	353.2
All cards sorted in %	67	90	100	100

Table 4: Gender Wise Analysis

	Girls	Boys
Mean of errors committed	10.2	14.6
CV of errors committed	112.1	108.5
Mean of sorting time in sec	567.98	580.18
Cv of sorting time	309.85	356.36
All cards sorted in %	80	90

Table 4 above shows that the girls are smarter and perform better. Thus it is revealed from this analysis that boys although commit more errors but there is consistency in their performance.Also, girls are faster in such activity in comparison to boys. So girls with high consistency and less errors obvivously give better performance.

DISCUSSION

MKVK test provides an appropriate method for the survey of attention as tested for its feasibility to the age group of three to six year old children. Children took interest in the test and considered it as a game. Parents and teachers were interested as they were told about the usefulness of the test and they wanted their child to be tested to rule out any concentration related problem. Some children were found at risk of hyperactivity and other were hypoactive as they didn't participate in the test at all. Toffees were used to motivate the children and to encourage the participation of the children. Every child had its own way to deal with the cards. Some understood the test in a less time whereas others didn't understand it completely till the end of the test. The hyperkinetic children are at risk of concentration related problems because they are not in position to filter out irrevallent stimuli so commit more mistakes. These findings are consistent with the results of a previous study done by R Burger et al, 2010 "Normative Data Collection of The Marburg Concentration test for Preschool Children".

CONCLUSION

It is concluded from the study that there is prevalence of concentration related problems in preschool children Also, it has been found that 3 year age children have short attention span and commit more mistakes than children of 4-5 years children The MKVK (Marburg Concentration Test) can be used to check the concentration in preschool children and to find out children who are at risk of concentration related problems.

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