

# A Quasi Experimental Study to Assess the Effectiveness of Concentration Enhancement Activities among the School Children with Attention Deficit

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**Abstract:** This paper presents a quasi-experimental study to assess the effectiveness of concentration enhancement activities among the school children with attention deficit.

**Keywords:** Concentration Enhancement

## 1. Introduction

Children's population is considered to be the greatest potential for any nation. Only when children enjoy a state of well-being in every true sense, harmony, stability, peace and happiness, will prevail in any family and community, in building a strong nation. A major task of families and educational institutions is to nurture children to become healthy, responsible and creative adults. If any child has the problem of inattentiveness and hyperactivity that may lower his or her concentration which may internally affect the academic performance. Centre of Disease Control and Prevention (CDCP) in 2007 reported that 4.5 million children between the age of 3 and 17 years (7% of this age group) were affected with ADHD.

Having the presumed knowledge of the existence of low concentration among the school going children and the availability of the possible interventions to improve their concentration, the investigator has undertaken a study to evaluate the effectiveness of concentration enhancement activities in improving the concentration among the selected school age children with attention deficit and hyperactivity in the selected primary schools in Trivandrum.

## 2. Materials and Methods

The study has adopted a quasi-experimental research design on two groups of school age children, 30 in the experimental group and 30 in the control group. Subjects were selected by purposive sampling technique from two government primary schools. Ludwig Von Bertalanffy's General System Theory was adopted to conceptualizing the design using input, throughout, output components of her theory.

## 3. Tools

The tools used for the data collection were a) Demographic variables. b) Modified NICHQ Vanderbilt's Assessment Scale for screening the attention deficit and hyperactive children. c) Bhatia's Battery of Performance Test of Intelligence (BBPTI) for pre and post testing the level of concentration among the attention deficit and hyperactive children.

## 4. Methods

The study has adopted a quasi-experimental research design on two groups of school age children, 30 in the experimental group and 30 in the control group. Subjects were selected by purposive sampling technique from two primary schools. Ludwig Von Bertalanffy's General System Theory was adopted to conceptualizing the design using input, throughout, output components of her theory. The tools used for the data collection were a) Demographic variables. b) Modified NICHQ Vanderbilt's Assessment Scale for screening the attention deficit and hyperactive children. c) Bhatia's Battery of Performance Test of Intelligence (BBPTI) for pre and post testing the level of concentration among the attention deficit and hyperactive children. The investigator has screened the attention deficit and hyperactive children between the age group of 6 and 8 years using Modified NICHQ Vanderbilt's Assessment Scale. The investigator purposefully selected 60 samples with attention deficit and hyperactive children from both the schools, each having 30 as experimental group and 30 as control group. A pre test was done for both the group on the concentration level using BBPTI scale. Experimental group was given concentration enhancement activities inclusive of letter cancellation, colour cancellation, beading, storytelling and puzzle solving, each activity for 30 minutes on two consecutive days. The post test of concentration level of both the groups was done on the 11th day using the same BBPTI scale.

## 5. Results

The findings of the study revealed that the pre-test mean concentration score of the experimental group was  $5 \pm 0.96$  and the mean score of the control group was  $3.5 \pm 0.96$  and it showed that before implementing concentration enhancement activities both the groups were having more or less equal level of concentration. The post test mean score of concentration of the experimental group was  $9.8 \pm 1.29$  and that of control group was  $3.7 \pm 0.38$ . A comparison was done between the pre and post tests of level of concentration among the experimental and control groups. The t test value of experimental group was 31.33 df (29) at  $p < 0.05$  and the control group was 1.92df (29) which is not significant. The difference of post test mean concentration score between the experimental and control group was statistically highly significant. The 't' value was found to be t (37.39) df (59) and  $p < 0.01$ . The association of demographic variables like gender, type of family, family income, birth order and family structure was tested by chi square test and found to be insignificant with pre test level of concentration.

## 6. Discussion

The finding of the study revealed that Selection of samples with attention deficit and hyperactivity for the experimental and control groups A screening test was done using Modified NICHQ Vanderbilt's Assessment Scale for the 6-8 years old children in the selected two Government primary schools. Both the schools together had 118 children at 6-8 years of age. From the first school 30 such children were screened to have attention deficit and hyperactivity who were assigned in the experiment group. From the second school 30 such children were screened and assigned in the control group.

. Pretesting of the concentration level of selected school age children with attention deficit and hyperactivity in both experimental and control groups. A pretest on the concentration level of the selected attention deficit and hyperactive children was done using Bhatia's Battery of Performance Test of Intelligence for both experimental and control groups. Mean value of concentration level for the experiment group was  $5 \pm 0.96$  and for the control groups  $3.5 \pm 0.96$ . This showed that before implementing Concentration Enhancement Activities, both the groups were having more or less equal level of concentration.

Post tested level of concentration after implementing Concentration Enhancement Activities for the experimental group only and nothing to the control group. After implementing the Concentration Enhancement Activities only to the experimental group and nothing to the control group, a post test was done for both the groups on their level of concentration using the same Bhatia's Battery of Performance Test of Intelligence. The test result revealed that the experimental group had mean level of concentration of  $9.8 \pm 1.29$  and that of control group  $3.7 \pm 0.38$ .

Evaluation of the effectiveness of concentration

enhancement activities in improving the concentration by comparing the pre and post tests of concentration level among the experimental and control group. With the view of the previous objectives the investigator had compared the pre and post tested concentration levels of the selected school age children with their consecutive mean values and the test of significance. It revealed that there is a significant difference between the pre and post tested levels of concentration within the experimental group. The 't' test value was 31.33 df(29) and  $p < 0.05$ . The post tested concentration of the experimental group and control group were compared by 't' test, which was 37.39 df(59) and  $p < 0.01$ . This clearly indicates the effectiveness of Concentration Enhancement Activities in improving the concentration among the children.

Association of the pre tested level of concentration among the selected attention deficit and hyperactive school age children with their selected demographic variables. The investigator had selected demographic variables of the children with lower concentration such as gender, type of family, family income, birth order and family structure to relate to the pre tested level of concentration of those children which was found to be insignificant. By summing up all the results and above differences, the first two hypotheses were proved. That is there is a significant improvement in the level of concentration among the selected school age children in the experimental group after implementing concentration enhancement activities (H1) and there is a significant difference in the level of concentration between the experimental and control groups of selected school age children with attention deficit and hyperactivity after the concentration enhancement activities (H2). The research hypothesis H3 was not proved to be significant due to the inadequate sample size.

## 7. Conclusion

From the result of the study, it was concluded that providing concentration enhancement therapy to the school age children was very effective in improving the level of concentration which may further enhance them in improving their academic performance. Thus it may be considered as mandatory during their academic endeavour.

## References

- [1] Brown RT, Freeman WS, Perrin JM, Stein MT, Amler RW, Feldman HM, et al. Prevalence and assessment of Attention-Deficit/Hyperactivity Disorder in primary care settings. *Pediatrics*. 2001;107:43-54.
- [2] American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 4th ed. tr. Washington, DC: American Psychiatric Association; 2000.
- [3] Barkley RA. *Attention-deficit hyperactivity disorder: A handbook for diagnosis and treatment*. 3rd. New York: Guilford; 2006.
- [4] American Academy of Pediatrics. *Clinical practice guideline: Treatment of the school-aged child with attention -deficit/hyperactivity disorder*. *Pediatrics*. 2001;180:1033-44.
- [5] Power TJ, Karustis JL, Habboushe D. *Homework success for children with ADHD: A family-school intervention program*. New York: Guilford; 2001.

- [6] Pelham WE, Fabiano GA. Evidence-based psychosocial treatments for attention deficit/hyperactivity disorder. *J Clin Child Adolesc Psychol.* 2008;37:184–214.
- [7] Pfiffner LJ, Barkley RA, DuPaul GJ. Treatment of ADHD in school settings. In: Barkley RA, editor. *Attention-deficit Hyperactivity Disorder: A Handbook for Diagnosis and Treatment.* 3rd. New York: Guilford; 2006.
- [8] Pfiffner LJ, Rosen LA, O'Leary SG. The efficacy of an all-positive approach to classroom management. *J Appl Behav Anal.* 1985;18:257–61.
- [9] Rapport MD, Murphy A, Bailey JS. Ritalin and response cost in the control of hyperactive children. A within subject comparison. *J Appl Behav Anal.* 1982;15:205–16.
- [10] , Hess L, Bennett D. The acceptability of interventions for ADHD among elementary and middle school teachers. *J Dev Behav Pediatr.* 1995;16:238–43.
- [11] DuPaul GJ, Stoner G. *ADHD in the schools: Assessment and intervention strategies.* 2nd. New York: Guilford Press; 2003.
- [12] Pastor PN, Reuben CA. *National Center for Health Statistics: Vital Health Statistics (DHHS Publication No PHS 2002-1534)* Hyatsville, MD: Department of Health and Human Services; Attention deficit disorder and learning disability: United States 1997-1998.
- [13] Shapiro ES. *Academic skills problems workbook.* revised. New York: Guilford; 2004.
- [14] Zentall SS. Research on the educational implications of attention deficit hyperactivity disorder. *Except Child.* 1993;60:143–53.
- [15] DuPaul GJ, Ervin RA, Hook CL, McGoey KE. Peer Tutoring for children with attention deficit hyperactivity disorder: Effects on classroom behavior and academic performance. *J Appl Behav Anal.* 1998;31:579–92.
- [16] Greenwood CR, Seals K, Kamps D. Peer teaching interventions for multiple levels of support. In: Shinn MR, Walker HM, Stoner G, editors. *Interventions for achievement and behavior problems in a three-tiered model including RTI.* Bethesda, MD: National Association of School Psychologists; 2010. pp. 633–675.