



INTERNATIONAL JOURNAL OF TRENDS IN EMERGING RESEARCH AND DEVELOPMENT

Volume 2; Issue 2; 2024; Page No. 264-268

Received: 01-01-2024

Accepted: 04-02-2024

To study academic achievement of ADHD and normal children in relation to their gender

¹Km Veena Pathak and ²Dr. Pritee Dixit

¹Research Scholar, Department of Psychology, Kalinga University, Raipur, Chhattisgarh, India

²Professor, Department of Psychology, Kalinga University, Raipur, Chhattisgarh, India

Corresponding Author: Km Veena Pathak

Abstract

Critical thinking also aids in the interpretation of the world around us, and institutions place a strong focus on training students problem-solving skills. While students gain specific abilities from the courses they study in class, the method by which they learn this material and the original concepts they are encouraged to contemplate have an impact on many facets of their lives. Once ADHD is diagnosed, children and parents must be informed about how it might affect learning, behavior, personality, emotional intelligence, and family function. Therapeutic interventions for the home should aim to strengthen parenting abilities, improve the child's interpersonal interactions, build the child's study skills, and reduce the child's disruptive behavior. The goal of behavioral therapy is to identify behaviors that cause dysfunction (e.g., disruptive behavior, difficulty managing homework, failure to follow family or school norms) so that the child can work on gradually improving. To help the child succeed, parents and teachers should be guided in establishing clear communication of expectations, effective teaching methodologies, and contingency management. Large-scale multisite randomised controlled trials of up to two years have found that, while both behavioural therapies and substances improve outcomes, stimulants are more effective than behavioural therapies when used alone, with psychosocial approaches alone being only moderately effective in improving behaviour. The most severely impaired children with ADHD (often those with co-occurring disorders) benefit the most from a combination of carefully managed medication and behaviorally oriented therapy.

Keywords: Critical thinking, behavioral therapy, parenting abilities, behavior

1. Introduction

The relationship between intellect and creativity is not entirely understood, but new study indicates that intelligent people have a natural desire for higher levels of creativity. Research also reveals that intellect and creativity intersect, implying that an intelligent person has a high capacity for creativity and vice versa. This is somewhat contrary to earlier views that creativity boosts intellectual levels. According to intelligence models, creativity improves or even spotlights intelligence while not considerably increasing it. An article in "Psychology Today" expands on this theory by claiming that persons who are creative are more skilled at language, science, artistic interpretation, and technology, all of which are related with greater levels of intellect.

There is additional evidence that suggests a link between high levels of creativity and IQs of 120 or higher. Psychologists warn, however, that those with high

convergent intelligence, which applies to problems with just one correct answer, may not have high levels of divergent intelligence, which is the ability to think outside the box in order to produce several viable answers. However, creative intelligence is based on profound rather than abundant achievements.

It only takes a small amount of ingenuity to profit on intelligence. Psychologists caution that the absence of a link between convergent and divergent intelligence does not necessarily imply a lack of a relationship between intelligence and creativity.

Although empirical creativity study may now draw on a scientific heritage of over 60 years of examination, it remains unclear how the concepts of creativity and intelligence connect to one another. A generic framework for researchers that includes five possible relationships: Intelligence and creativity can be considered subsets of each other, coincident sets, separate but overlapping sets, or fully

distinct sets intellect is very important to creativity, although the nature of the relationship varies on both the level of intellect and the actual indication of creativity. In line with early expectations, intellect may boost creative potential up to a point where it loses its impact and other factors take over. It is possible that the more complicated the measure of creativity under consideration, the higher the threshold at which intelligence can have impact. Even at the highest ability level, intellect remains a meaningful indication of creativity.

1.1 Parent-child relationship and ADHD

The issues that ADHD teenagers confront have a significant impact on the parent-child connection. Parents of ADHD adolescents are tense because they tend to become very emotional during fights and use offensive language. Parents should aim to maintain their bond with their child through rewards. They should maintain a positive outlook on the sacrifices they make for their children.

Parenting style is an important parameter for the parent-child connection in ADHD adolescents. Parents who are affectionate, authoritarian, and strict with their children have higher moral standards than children whose parents are liberal, authoritative, irresponsible, and delinquent.

Research suggests that parents might gain a better understanding of their child's behavior by first learning about growth and adolescent development.

Effective parenting requires parents to be aware of their child's changing needs. According to research, aggressive parenting is beneficial to both children and adolescents, and psychological autonomy provides a criterion for how much parents interact with their children, allowing them to broaden their horizons and form opinions. Parents must also comprehend how their families are changing in order to understand how their child's behavior needs to change.

Children with ADHD can have an impact on parenting outcomes, for a variety of reasons. It is tempting to view the birth of an autistic infant as an unexpected shock to the relationship. This occurrence may contribute to arguments that strain the parents' partnership, resulting in higher psychological costs for the parents than in homes without an ADHD child. However, having a child with ADHD will have a substantial impact on the link between parents by bringing the family closer together. If raising a child with ADHD leads to family breakdown, mental dysfunction, and poorer school outcomes, the infant who also struggles with the condition is more likely to suffer negative effects from parental disturbance. A child with ADHD may also have an impact on parents' time distribution because they require more time commitment for training in everyday chores than a child without ADHD. Both parents may reduce their working hours to deal with the increasing caregiving burden and time demands. Alternatively, they can choose a family specialization approach in which one parent, most likely the woman, spends less time on the job market and invests more in child-care practices while the father focuses on market occupations. In some cases, a woman may withdraw from the labor force in order to devote her whole focus to her children and other domestic responsibilities. These increased non-3 business expenditures are marriage-related practices, which reduce the chance of marital dissolution. Although ADHD is a common illness, few studies have

focused on how it affects parents' outcomes. We are currently aware of only one paper that documents a greater divorce rate for parents of ADHD children. A comparable study found that families with newborns and children with Autism Spectrum Disorders were more likely to divorce (ASD).

2. Review of Literature

Attention Deficit/Hyperactivity Disorder (ADHD) is a frequently diagnosed childhood disorder connected with parent-child conflict and parental stress. The current study investigated whether parents' interpretations of symptomatic behavior predicted bad relationships and perceptions of their kid. The researchers enrolled parents of 7-12 year old children who were diagnosed with ADHD (n = 41), diagnosed with ADHD but whose parents interpreted symptomatic behavior positively (Indigo children; n = 36), or had no diagnosis (n = 26). Parents filled out a questionnaire on their experiences with their child. Compared to parents who simply labeled their children's conduct as ADHD, parents who additionally saw symptomatic behavior as an indication of positive attributes had fewer bad encounters with their child and less severe negative feelings. They also saw their children as more self-sufficient and more likely to have a successful future. Positive assessments of child symptomatic behavior seemed to mitigate the effects of ADHD symptoms on parents and parent-child relationships.

Investigated how ADHD and ODD symptoms, as well as cognitive performance, affect social acceptance and positive bias in children. The sample consisted of 86 children (49 girls) aged 7 to 13 years old, chosen to represent a broad range of ADHD symptoms. Parents and instructors discussed ADHD and ODD symptoms, as well as social acceptance. Children were asked about social acceptance and given tasks that measured working memory, inhibition, and response time variability. The disparity score between kid and adult reports of social acceptance was used to assess positive bias. Inattention independently explained variation in social acceptance. Cognitive characteristics were connected to social acceptability and positive bias, but not to ADHD and ODD symptoms. Disruptive behavior is the primary factor contributing to external reports of children's social acceptance.

Investigated the efficacy of a two-week therapeutic summer day camp for children with ADHD that includes social skills training and parent psychoeducation and training. This was an open-label, nonrandomized Phase I clinical intervention trial. Parents performed the Weiss Functional Impairment Rating Scale (WFIRS) and Conners' Global Index-Parent Version (CGI-P), while children completed the Index of Peer Relations. All questionnaires were completed before the camp and three weeks after school began. The camp's 33 participants were compared to a group of 15 ADHD youngsters who did not attend. CGI-P, IPR, and WFIRS showed significant improvement in the camp group but not in the control group. Effect sizes ranged between 0.7 and 1.6. Therapeutic summer day camp helps youngsters improve their ADHD symptoms, peer interactions, and overall functioning.

Claimed that pupils from chosen primary schools were included in this study, totaling 774 youngsters. Each child

was evaluated by his or her instructor using a standardized scale. The Attention Deficit Hyperactivity Disorder Scale-Teachers Version was used to assess ADHD symptoms and learning difficulties. There was a very high connection between attention deficit and learning issues (prevalence ratio [PR] = 31.7; 95% confidence interval = [16.1, 62.3]). The findings show that either attention deficit causes learning problems or that attention deficit and learning problems are coexisting conditions, in which case learning problems may contribute to secondary symptoms in ADHD.

3. Objective of the research

1. To study creativity of Normal children in relation to their gender.
2. To study academic achievement of ADHD children in relation to their gender.
3. To study academic achievement of Normal children in relation to their gender.

4. Research methodology

The heart of research and scientific technique is methodology. It is a crucial technique that is carried out, and researchers go about their work describing, explaining, and forecasting phenomena. Its goal is to provide a research work plan and identify result correlations that researchers will need to design a methodology for the problem they have chosen. It is important to note that even if the considerations in two problems are the same, the methodology may differ. In this chapter, the research objective, study, and selection of the research instrument are discussed, as well as the method for collecting data and statistics for analysing the data.

Creativity, Intelligence, and Academic Achievement in ADHD and Normal Students is the topic of this study. Two hundred and forty pupils were chosen for this study by the researcher. The current study's strategy and methods, including the statement of problem, objectives, variables, method, sample, tool, data collection, statistical methodology, and so on, will be covered in this research.

The current study used a random strategy to obtain data. Initially, children were approached at their schools, and their willingness to engage in the study was confirmed by their school Principal and Parents. The parents and school were told that the data would be kept confidential, and that no pupils' names would be used in any aspect of the study. The data was collected from four schools in Ahmedabad, Gujarat. A total of 750 students took part in the study. Students were selected based on the symptoms displayed, using the Nonverbal Disability Checklists. 580 pupils were found to be in the Normal category, whereas 170 were diagnosed with ADHD symptoms. During the next step of determining their creativity and intelligence, it was discovered that students diagnosed with mild ADHD were unable to execute on the test. Getting any task from these 50 kids was challenging because they couldn't write or grasp fundamental language abilities. Thus, they were excluded from the data. At the end of the test, all students were acknowledged for their participation in the data collecting.

Data collection was analyzed by appropriate statistical analysis techniques, to study influence of dependent variables under investigation in creativity, Intelligence and academic achievement. For this purpose following statistical

method was used.

1. ANOVA (F test)
2. LSD (Least significance difference)
3. Correlation
4. T test

5. Results and data interpretation

Data analysis is defined by statistician John Tuke as "procedure for analyzing data, techniques for interpreting the results of such procedures, ways of planning the gathering of data to make its analysis easier, more precise, or more accurate, and all the machinery and results of statistics that apply to analyzing data."

5.1 Result discussion and interpretation of intelligence level of ADHD and normal students

Table 1: Showing the ANOVA table of intelligence related to sex, age among ADHD and normal group of students variables

Variables	Sum of squares	Df	Mean Squares	F	Sig.
A (Gender)	35.265	1	0.415	0.005	NS
B (age)	1500.000	1	1401.665	10.154	0.01
C (Group)	21.600	1	35.265	0.253	NS
A*B	54.150	1	1500.000	10.872	0.01
A*C	36.815	1	21.600	0.155	NS
B*C	32014.065	1	54.152	0.394	NS
A*B*C	2769572.000	1	36.815	0.265	NS
Error	32014.065	294	137.994	-	-
Total	2769572.000	300	-	-	-
Corrected total	35063.985	299	-	-	-

Significant Level *0.01=6.66 *0.05=3.85 NS=Not significant.

Table 1 displays the f ratio of intelligence in relation to age and gender for ADHD and normal pupils. The f ratios for B (Age), C (Groups), AxC (Gender xGroups), BxC (Age xGroups), and AxBxC (Gender xAge xGroups) variables were not significant. The f ratios of A (Age) and AxB (Gender x Age) are statistically significant at the 0.01 level, Kaplan, Dewey, Crawford, and Fisher (1998) shown that children with ADHD do not always have memory issues. Kaplan, Crawford, Dewey, and Fisher (2000) discovered that the IQ scores of children with ADHD were regularly distributed.

Table 2: Showing the mean and the f value of the gender difference in intelligence

Sr. No	Variable	N	Mean	F	Sig
1	A1(Boys)	150	106.785	0.005	NS
2	A2 (Girls)	150	106.700		

Significant Level *0.01=6.66 *0.05=3.87 NS=Not significant.

Table 3: Showing the LSD for the gender differences in intelligence

Sr. No	Pair	MD	Sig
1	A1 vs A2	0.85	NS

LSD level *0.01=4.61 *0.05=3.50 NS=Not significant

In table 2, the f ratio of gender difference in intelligence level was determined to be.005. The average for boys was 106.785, while for girls it was 106.700. The f ratio between group differences in Creativity level was not significant. So we can conclude that the HO8 has been adopted.

Table 3 displays the LSD for Intelligence Level among Boys and Girls. The mean difference between boys and females is .85, which is insignificant. There was no difference in intelligence level between boys and girls. In a study by Arcia, Emily, and Connors, Keith. C (1998), there is no indication of cognitive or neurological differences by gender in samples susceptible to behavioral deviances in girls, but adult women's self-perception is comparatively weaker than adult men's.

Table 4: Showing the mean and the f value of the age difference in intelligence

Sr. No	Variable	N	Mean	F	Sig
1	B1 (10-12)	150	109.154	2.665	NS
2	B2 (13-15)	150	104.327		

Significant Level *0.01=6.66 *0.05=3.85 NS=Not significant.

Table 5: Showing the LSD for age difference in intelligence

Sr. No	Pair	MD	Sig
1	B1 vs B2	4.85	NS

LSD level *0.01=4.61 *0.05=3.50 NS=Not significant

In table 4, the f ratio of age difference in intelligence level was determined to be 2.665. The mean for pupils aged 10 to 12 and 13 to 15 was 109.154 and 104.327, respectively. The f ratio of group differences in intelligence level was not statistically significant. So we can conclude that the HO9 has been accepted.

Table 5. displays the LSD for intelligence levels among kids aged 10 to 12 and 13 to 15. The mean difference between these age groups was 4.85, which is not significant. There was no difference in intelligence levels between the 10 to 12 and 13 to 15 age groups.

Table 6: Showing the mean and the f value of the group differences in intelligence

Sr. No	Variable	N	Mean	F	Sig
1	C1 (ADHD)	150	106.354	10.154	NS
2	C2 (Normals)	150	107.127		

Significant Level *0.01=6.66 *0.05=3.85 NS=Not significant.

Table 7: Showing the LSD for the group differences in intelligence

Sr. No	Pair	MD	Sig
1	C1 Vs C2	0.765	NS

LSD level *0.01=4.61 *0.05=3.50 NS=Not significant

Table 6 reveals that the f ratio of group differences in intelligence level was 10.154. The mean for ADHD kids was 106.354, while the mean for normal students was 107.127. The f ratio of group differences in intelligence level was not statistically significant. So we can conclude that the HO10 has been approved because no substantial difference is observed.

Table 7 displays the LSD for Intelligence Level among ADHD and Normal Students. The mean difference between the ADHD and normal groups is 0.765, which is not significant. ADHD pupils and normal students have roughly same intelligence levels. As a result, we can conclude that ADHD patients and normal pupils have roughly equal levels of intelligence. In a study by Maja Katusic. B.S., Robert G Voigt et al. (2011) [21] reported that of these 370 subjects,

331 (89.5%) had recorded full-scale IQ scores available in their school and/or medical records from tests taken between the ages of 6 and 18. Based on these values, 34 respondents were classified as high IQ, 276 as normal IQ, and 21 as low IQ.

6. Conclusion

In the current study, normal kids outperformed ADHD students in terms of IQ. When comparing the two genders, male students demonstrated more IQ than female pupils.

In terms of originality, ADHD kids outperformed normal pupils. Male pupils outperformed female students in terms of creativity.

There is a considerable gap in academic achievement between normal and ADHD students. Even after comparing academic success, normal boys showed a substantial difference from ADHD males. After comparing academic success, Normal girls showed a substantial difference compared to ADHD boys. After comparing academic achievement, Normal boys demonstrated a substantial difference from ADHD girls.

The study was conducted to determine the amount of creativity, intelligence, and academic accomplishment among ADHD and normal adolescents. The results demonstrate that ADHD pupils are more creative than normal students. There was no significant difference in intelligence between ADHD and normal kids, but in academic accomplishment, normal students outperformed ADHD pupils.

According to the study, students with modest ADHD symptoms attend normal schools with some difficulty. Many times, the teacher fails to identify them. Their academic performance suffers as a result of the teacher's failure to address and utilize their hyperactivity effectively. However, they are more creative than normal students.

7. References

- Ghelani K, Sidhu R, Jain U, Tannock R. Reading comprehension and reading related abilities in adolescents with reading disabilities and attention deficit/hyperactivity disorder. *Dyslexia*. 2004;10:364-84.
- Graetz BW, Sawyer MG, Hazell PL, Arney F, Baghurst P. Validity of DSM-IV ADHD subtypes in a nationally representative sample of Australian children and adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2001;40:1410-1417.
- Greenfield Spira E, Storch Bracken S, Fischel JE. Predicting improvement after first-grade reading difficulties: The effects of oral language, emergent literacy, and behavior skills. *Developmental Psychology*. 2005;41:225-234.
- Green RW, Biederman J, Faraone S, et al. Social impairment in girls with ADHD: patterns, gender comparisons and correlates. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2001;40:704-710.
- Heiligenstein E, Guenther G, Levy A, Savina F, Fulwiler J. Psychological and academic functioning in college students with attention deficit hyperactivity disorder. *Journal of American College Health*. 1999;47:181-185.

6. Hodgens JB, Cole J, Boldizar J. Peer-based differences among boys with ADHD. *Journal of Clinical Child Psychology*. 2000;29:443-452.
7. Jensen PS, Hinshaw SP, Kraemer HC, et al. ADHD comorbidity findings from the MTA study: comparing comorbid subgroups. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2001;40:147-158.
8. Kam C, Greenberg M, Kusche CA. Sustained effects of the PATHS curriculum on the social and psychological adjustment of children in special education. *Journal of Emotional and Behavioural Disorders*. 2004;12:66-78.
9. Kamps DM, Wills HP, Greenwood CR, et al. Curriculum influences on growth in early reading fluency for students with academic and behavioral risks: A descriptive study. *Journal of Emotional and Behavioral Disorders*. 2003;11:211-224.
10. Lahey B, Pelham WE, Stein MA, et al. Validity of DSM-IV attention-deficit hyperactivity disorder for younger children. *Journal of the American Academy of Child and Adolescent Psychiatry*. 1998;37:695-702.
11. Locke WR, Fuchs LS. Effects of a peer-mediated reading instruction on-task behavior and social interaction in children with behavior disorders. *Journal of Emotional and Behavioral Disorders*. 1995;3:92-99.
12. Lonigan CJ, Bloomsfield BG, Anthony JL, et al. Relations among emergent literacy skills, behavior problems, and social competence in preschool children from low-and middle-income backgrounds. *Topics in Early Childhood Special Education*. 1999;19:40-53.
13. Lorch EP, Milich R, Sanchez RP. Story comprehension in children with ADHD. *Clinical Child and Family Psychology Review*. 1998;1:163-178.
14. Lorch E, Sanchez R, van den Broek P, Welsh R. The relation of story structure properties to recall of television stories in young children with attention deficit hyperactivity disorder and non-referred peers. *Journal of Abnormal Child Psychology*. 1999;27:293-309.
15. Lorch EP, Milich R, Sanchez RP, et al. Comprehension of televised stories in boys with attention deficit/hyperactivity disorder. *Journal of Abnormal Psychology*. 2000;109:321-330.
16. Mannuza S, Klein RG, Moulton JL 3rd. Young adult outcome of children with "situational" hyperactivity: a prospective, controlled follow-up study. *Journal of Abnormal Child Psychology*. 2002;30:191-198.
17. Mayes SD, Calhoun SL, Crowell EW. Learning disabilities and ADHD: Overlapping spectrum disorders. *Journal of Learning Disabilities*. 2000;33:417-424.
18. Marzocchi GM, Lucangeli D, De Meo T, Fini F, Comoldi C. The disturbing effect of irrelevant information on arithmetic problem solving in inattentive children. *Developmental Neuropsychology*. 2002;21:73-92.
19. McGee R, Prior M, Williams S, Smart D, Sanson A. The long-term significance of teacher-rated hyperactivity and reading ability in childhood: findings from two longitudinal studies. *Journal of Child Psychology and Psychiatry*. 2002;43:1004-1017.
20. McInnes A, Humphries T, Hogg-Johnson S, Tannock R. Listening comprehension and working memory are impaired in attention deficit hyperactivity disorder irrespective of language impairment. *Journal of Abnormal Child Psychology*. 2003;31:427-443.
21. Voigt C, Brown G, Howat G. Wellness tourists: in search of transformation. *Tourism review*. 2011;66(1/2):16-30.

Creative Commons (CC) License

This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY 4.0) license. This license permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.