

Effect of Play Therapy on School Adjustment of Attention Deficit Hyperactivity Disorder Pupils: A Controlled Intervention Study

Vivian Chukwunonyenim Amaechi-Udogu and Prof Ijeoma Margret Opara

Department of Educational Psychology, Guidance and Counselling, Faculty of Education, University of Port Harcourt, Rivers State, Nigeria

vivian.amaechi-udogu@uniport.edu.ng; ijeoma.opara@uniport.edu.ng

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Abstract: *The study investigated the effect of play therapy on school adjustment on attention deficit hyperactivity disorder pupils in Port Harcourt Metropolis, Rivers State. This study was guided by three research questions and three null hypotheses. Quasi-experimental research design within which; the Solomon four group design was employed. A purposive sampling technique was used to draw the sample for the study. A sample of 60 primary three pupils who met the criteria for ADHD were randomly assigned into the four groups which was made up of two experimental groups and two control groups. Two valid instruments titled: Conners' Rating Scales-Revised (CRS-R) for assessment of Attention Deficit Hyperactive Disorder and School Adjustment Scale (SAS) were used for collection of data in the study. The validity of instruments was determined using both expert judgment and multivariate statistical method of factor analysis. To ensure the reliability of the instruments for internal consistency, Cronbach alpha was used and reliability coefficients of .78 and .510 were gotten for CRS-R and SAS respectively. Data obtained was analyzed using mean, standard deviation, dependent sample t-test, 2, Analysis of Covariance (ANCOVA) and using One-way analysis of Variance (one-way ANOVA). The results revealed that play therapy (toy and object and role play techniques) is significantly effective in the improvement of school adjustment of attention deficit hyperactivity pupils.*

Keywords: Effect, Play Therapy, School Adjustment, Attention Deficit Hyperactivity Disorder and Pupils

INTRODUCTION

Over the years, research has shown that attention deficit hyperactivity disorder is confounded by high rates of prevalence. Rowland, et al (2002) found that prevalence rates for attention deficit hyperactivity disorder varied substantially based on presenting symptoms, assessment approaches used, and the setting in which the child was evaluated. Not surprising, the disorder's heterogeneous nature and sensitivity to

context dependent factors (i.e., tests used, setting) challenge the identification, education, and treatment process for schools (Reddy & Hale, 2007). Its prevalent rates indicate that children with attention deficit hyperactivity disorder experience one (44%) of the combined subtypes, two (38%) of hyperactive-impulsive subtype, or three (17%) of inattention (Szatmari, et al 1989). Specific learning disabilities (SLD) affect about 31% of the attention deficit hyperactivity disorder population across studies (DuPaul & Stoner, 2003), with reading (8–39 percent), mathematics (12–30 percent), and spelling (12–27%) SLD frequently reported (Barkley, 2005). Common comorbid psychiatric conditions include other disruptive behavior disorders (25–40%), mood disorders (10–30%), anxiety disorders (30 percent), and disorders (6%) (Barkley, 2005). That is Attention deficit hyperactivity disorder is often comorbid with other mental health conditions, including anxiety, depression, and learning disabilities (Biederman, et al 2000).

Attention Deficit Hyperactivity Disorder (ADHD) as a prevalent neurodevelopmental disorder characterized by persistent patterns of inattention, hyperactivity, and impulsivity Attention Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder characterized by persistent patterns of inattention, hyperactivity, and impulsivity, often resulting in academic and social challenges for affected individuals (American Psychiatric Association, 2013 & National Institute of Mental Health, 2022). That is, many children with attention deficit hyperactivity disorder exhibit severe and chronic academic (DuPaul & Stoner, 2003), social/emotional and/or behavioural symptoms (Clark, et al, 2002) in the home and at school. Attention deficit hyperactivity disorder ADHD is a common disorder that affects both children and adults. According to the Centers for Disease Control and Prevention (CDC), approximately 11% of children between the ages of 4 and 17 have been diagnosed with attention deficit hyperactivity disorder (CDC, 2021). The prevalence of attention deficit hyperactivity disorder in adults is estimated to be between 2% and 5% (Faraone et al., 2006; Kessler et al., 2006). Pupils with attention deficit hyperactivity seem to record disorder and exhibit lack of organization, staying focused, making realistic plans and having a thought before action (American Psychological Association, APA, 2020). More specifically as reported by APA, these set of children are fidgety, noisy, unable to adapt to changing situations, defiant, socially inept or aggressive. These sets of pupils find it difficult to approach tasks expectedly. Among school-aged children, ADHD can significantly impact on various aspects of academic and social functioning, posing challenges to effective school adjustment. ADHD can impede social adjustment within the school setting, affecting peer relationships, social skills development, and overall social integration.

Children with ADHD may encounter challenges in following social cues, regulating their impulses, and maintaining appropriate behaviour, which can contribute to social rejection, peer conflicts, and feelings of isolation and not adjusted to school environment. Adjustment could be seen as the ability to adapt to situations, events or phenomena. This has to do with realignment of behaviour in consonance with the immediate environment. The complex interplay between the symptoms of ADHD and the demands of the school environment underscores the importance of addressing school adjustment issues among affected pupils. Effective interventions aimed at enhancing school adjustment for children with ADHD are essential not only for improving academic performance and social functioning but also for promoting overall well-being and long-term success. In light of these considerations, research focusing on the

relationship between ADHD and school adjustment, as well as interventions aimed at mitigating difficulties and enhancing adaptation, holds significant implications hence the research in this area.

School adjustment plays a crucial role in a child's life, and it is the rock on which child's entire life is built (Ogbogo & Amaechi-Udogu 2019). They see School adjustment as the process of adapting to the academic, social, and emotional demands of school. Feeling comfortable, manifestation of great interest in academic pursuit, relaxed, happy, and positive attitude about school and learning are signs that may show that an individual is well adjusted to school. School adjustment is the readiness and willingness of learners to fit into school programmes and activities. According to Gates and Fersild in Mangal (2008), school adjustment is a consistent process in which students with different behavior exist to produce a more harmonious relation within themselves and the school environment. To Agbakwuru and Agbakwuru (2012) school adjustment is the process of ensuring that behaviour is in conformity with the rules and regulations of the school. Conceptually, school adjustment will be seen from the point of view of the pupils adjusting to the school academic and non-academic activities. Pupils with ADHD are likely to experience difficulty adjusting to the school environment both academically, socially and otherwise. These categories of pupils' record are also likely to have poor success in their social life and school activities. These associated issues amongst others, requires that concerted efforts and intervention aimed at addressing these issues be employed. Among the various interventions aimed at addressing the multifaceted difficulties associated with ADHD, play therapy has emerged as a promising approach. Play therapy, grounded in the principles of psychodynamic theory and cognitive-behavioral techniques, offers a unique avenue for children with ADHD to express themselves, develop coping strategies, and enhance social skills within a supportive and engaging environment. Play therapy is a form of therapy used basically for in-school children. Play therapy is a type of psychotherapeutic that can assist children to be emotional, mental stable, and internal conflicts in addition to his or her daily life and current relationships (American Psychological Association, 2023 & Ohwovoriole, 2021). In the same vein, play therapy is a form of psychological treatment that can involve playing with toys, role-playing, and games. The possible reason for the use of play therapy on the pupils is based on the fact that they have no control of their emotions and thoughts (Pietrangelo, 2019). During play therapy, the children are closely monitored, observed and are helped to gain insights into their problems. The therapist in doing this helps the children explore their emotions and handle unresolved unpleasant experiences. Playtime allows the children to develop new coping strategies as well as measures to redirect inappropriate behaviours. Essentially, play therapy helps in taking more responsibility for certain behaviours, developing coping strategies and creative problem-solving skills, respect for others and self, alleviation of anxiety, learning to fully experience and express feelings, stronger social skills and stronger family relationships (Pietrangelo, 2019). Studies has shown that play therapy is effectiveness the improvement of school adjustment of ADHD students (Ashori & Bidgoli 2018; Pearson 2007). Other scholars have also proposed that play therapy can be efficacious in the correction and handling of behavioural problems among students (Agwu, 2017; Steven, 2018; Ashori & Bidgoli 2018; Heshmati et al, 2016; Khodabakhshi-koolae et al, 2018; Movallali et al. 2015), social adjustment and social adaptation, (Barimani et al, 2018; Kaboodi 2023; Ghadampour et al, 2018). Rointan et al., 2021) socio-emotional competence and assets (Blalock et al., 2019; Chinekesh et al., 2014; Wilson, & Ray 2018)

aggression (Akbari & Rahmati 2015; Parker et al. 2021), shyness and social withdrawal (Jafari et al., 2011; Ghyasizadeh 2013).

Despite the growing interest in the potential benefits of play therapy for children with ADHD, empirical evidence regarding its efficacy in improving school adjustment remains limited and inconclusive. Therefore, this study seeks to address this gap in the literature by conducting a controlled intervention study to explore the efficacy of play therapy in enhancing school adjustment for pupils diagnosed with ADHD. By employing a controlled intervention design, this research aims to rigorously assess the impact of play therapy on various facets of school adjustment. The findings of this study hold significant implications for educators, clinicians, and policymakers involved in the provision of support services for children with ADHD in educational settings. Ultimately, by elucidating the role of play therapy in enhancing school adjustment, this research endeavors to contribute to the development of evidence-based interventions tailored to meet the unique needs of students with ADHD, thereby fostering their academic success and social well-being.

Research Questions

1. What is the effect of play therapy on school adjustment of attention deficit hyperactivity disorder pupils as measured by the difference in the pretest and posttest mean scores of pupils in the experimental group 1?
2. What is the effect of play therapy (toy and object and role play techniques) on school adjustment of attention deficit hyperactivity disorder pupils as measured by the pretest-posttest mean scores of pupils in the group (experimental group 1 and control group 1)?
3. What is the effect of play therapy (toy and object and role play techniques) on school adjustment of attention deficit hyperactivity disorder pupils on the basis of their groups (experimental group 1, control group 1, experimental group 2 and control group 2)?

Hypotheses

1. There is no significant effect of play therapy (toy and object role play technique) on the school adjustment of attention deficit hyperactivity disorder pupils as measured by the difference in the pretest and posttest mean scores of pupils in the experimental group 1.
2. There is no significant effect of play therapy (toy and object and role play techniques) on school adjustment of attention deficit hyperactivity disorder pupils as measured by the pretest-posttest mean scores of pupils in the group (experimental group 1 and control group 1).
3. Play therapy (toy and object and role play techniques) has no significant effect on school adjustment of attention deficit hyperactivity disorder pupils on the basis of their groups (experimental group 1, control group 1, experimental group 2 and control group 2).

METHODS

Quasi-experimental research design was adopted in the conduct of this research. With quasi-experimental research, researchers rely more on techniques other than randomization to control extraneous variables

for minimization or reduction of the influences of factors that threatens internal validity (Kpolovie 2010). Within the quasi-experimental research design, the Solomon four group design was employed. This design contains two experimental groups and two control groups. This research design is appropriate as it provides opportunity to investigate the effect of independent variable (Play Therapy) on the dependent variables (School adjustment) of the study. The population of the study comprised of all the public primary three pupils. As at the time of the study, there were 5634 public primary three pupils in the 26 primary schools in Port Harcourt Metropolis.

A sample size of 60 primary three pupils with Attention Deficit Hyperactive Disorder was used for this study. This sample comprised of male and female pupils in government owned primary schools in Port Harcourt Metropolis. A purposive sampling technique was employed to draw the above sample for the study. To get the final sample for this study series of tests were administered. Firstly, the Conners' Rating Scales-Revised for ADHD was administered to screen the pupils for Disorder. Pupil who scored 60 and above on Conners' Rating Scales-Revised for ADHD were regarded as having the disorder. Pupils confirmed as having ADHD (based on their scores of 60 to below 70 on the Conners Rating Scales-Revised) therefore fall into any of the control or experimental groups. The respondents were randomly assigned (which was limited to their traits in ADHD) into the various groups (experimental group I- 15 pupils, experimental group II- 15 pupils, control group I- 15 and control group II-15 pupils respectively. Two instruments were used for data collection. They are; attention deficit hyperactivity disorder instrument which is the Conners' Rating Scales-Revised (CRS-R) for parents, and the School Adjustment Scale. The first instrument was an adapted Conners' Rating Scales-Revised (CRS-R) for assessment of Attention Deficit Hyperactive Disorder, developed by Conners, 2000. The Conners' Rating Scales-Revised (CRS-R) is a paper and pencil screening questionnaire consisting of 28 items with three response options. scale contains the subscales/indices of Oppositional, Cognitive Problems, Hyperactivity, and the ADHD Index. A standardized score called a T-score helps to compare results. When a pupil's T-score is less than 60, it usually means one doesn't have ADHD. A score of 60 and less than 70 indicate ADHD, that is score a T score 60 and above are signs of academic, behavioural, or social issue. T-score of 70 and above means ADHD Symptoms are more serious or extremely severe. The second instrument which is the School Adjustment is self-developed by the researcher. This instrument was used to elicit response on adjustment to school. The pupils' response to the scale were rated on a Likert scale. Higher scores represent high School Adjustment and lower scores otherwise.

The face, content and construct validity of the four instruments were determined using three expert judgments and multivariate statistical method of factor analysis. Firstly, the face and content validities of the instruments were conducted by giving copies of the instruments to expert (test and measurement experts and educational psychologist). These instruments were given to these experts to critically analyse the items for the content, language and ambiguities of the test. These expert judgments accounted for the face and content validity of the instruments. The construct validity of the instruments was determined using the multivariate factor analysis. Furthermore, Convergent validity was demonstrated using correlations of long and short forms, which ranged from .95 to .99 on various scales for Conners' Rating Scale Revised.

To ensure the reliability of the instruments for internal consistency, the Cronbach alpha technique was used. Precisely, for Connors' Rating Scales-Revised (CRS-R) a Cronbach alpha reliability coefficient of .722 was obtained while a coefficient of .510 was obtained. The experiment was carried out in different stages. the first stage was the Briefing and Training Stage, the second Stage was the Selection and Random Assignment of the participants into groups, the third stage was the Pretest stage which is the application of pretest (School Adjustment Questionnaire), the fourth stage was the application of treatment (play therapy) which was in phases and the last phase which was the posttest stage which was the application of posttest (School Adjustment Questionnaire),

The treatment lasted for a period of 8 weeks with twice weekly sessions lasting 40 minutes. Consent was obtained from parents, guardians and the school authorities. Play therapy materials used were toys, art supplies, games, the setting was selected class rooms which were designed as play therapy room within the school. Pupils were engaged in various play therapy activities, such as role-playing, and art projects, designed to enhance social skills, emotional regulation, and coping strategies. The treatment procedure was monitored, to maintain records of participants' engagement, interactions, and emotional responses during sessions. At the end of the 8-week period, the school adjustment scale was re-administered. Data was analyzed with research questions 1-3 answered with mean and standard deviation. Hypotheses 1 was tested using dependent sample t-test, 2, was tested using Analysis of Covariance (ANCOVA) while hypotheses 3 was tested using One-way analysis of Variance (one-way ANOVA).

RESULTS

Research question 1: What is the effect of play therapy on school adjustment of attention deficit hyperactivity disorder pupils as measured by the difference in the pretest and posttest mean scores of pupils in the experimental group 1?

Hypothesis 1: There is no significant effect of play therapy on the school adjustment of attention deficit hyperactivity disorder pupils as measured by the difference in the pretest and posttest mean scores of pupils in the experimental group 1.

Table 1: Mean and standard deviation and dependent samples t-test analysis showing the significant effect of play therapy on the school adjustment of attention deficit hyperactivity disorder pupils as measured by the difference in the pretest and posttest mean scores of pupils in the experimental group 1 (pretest and posttest score of experimental group 1)

Treatment Group	N	Pretest Mean	SD	Posttest Mean	SD	Mean Gain	Df	t	Sig
Experimental Grp 1	15	38.60	4.45	57.20	4.33	20.60	14	10.93	.000

Table 1 showing the effect of play therapy (toy and object and role play techniques) on the school adjustment of attention deficit hyperactivity disorder pupils as measured by the difference in the pretest

and posttest mean scores of pupils in the experimental group 1, at pretest the pupils had a mean score of 38.60 (Sd = 4.45) and at posttest stage has a mean score of 57.20 (Sd = 4.33). this resulted in a mean difference of 20.60, which indicates that play therapy (toy and object and role play techniques) contributed in improving the school adjustment of ADHD pupils. When these values were subjected to an independent paired sample t-test analysis, a t-value of 10.93 was obtained, at degree of freedom (df) of 14 and a p-value of .000 which was statistically significant at 0.05 alpha level of significance. Based on the results of the t-test, the null hypothesis is rejected (H_0) at the 0.05 significance level, that is $t = 10.93$, $p = .000$ ($p < .005$). Therefore, there is a significant effect play therapy (toy and object and role play techniques) on the school adjustment of ADHD pupils, as indicated by the significant improvement in the pretest test and posttest scores in the experimental group 1. This implies that the difference that exists in the school adjustment as measured by the pretest score before the experimental group 1 received play therapy treatment and the school adjustment posttest score after the experimental group 1 received play therapy treatment is statistically significant and not due to chance or error.

Research Question 2: What is the effect of play therapy on school adjustment of attention deficit hyperactivity disorder pupils as measured by pretest-posttest mean scores of pupils in the groups (experimental group 1 and control group 1)?

Table 2. Mean and standard deviation analysis showing the effect of play therapy on school adjustment of attention deficit hyperactivity disorder pupils as measured by pretest-posttest mean scores mean scores of pupils in the groups (experimental 1 group and control group 1).

Treatment Group	N	Pretest		Posttest		Mean Gain
		Mean	SD	Mean	SD	
Experimental Grp 1	15	36.60	4.45	57.20	4.33	20.60
Control Group 1	15	33.26	2.99	35.93	2.96	2.67

Table 2 presents the mean and standard deviation analysis for the effect of play therapy on the school adjustment of attention deficit hyperactivity disorder (ADHD) pupils, comparing Experimental Group 1 (received play therapy) and Control Group 1 (did not receive play therapy). The pretest means scores represent the baseline levels of school adjustment for each treatment group. Experimental Group 1 has a higher pretest mean score (36.60) compared to Control Group 1 (33.26). After the intervention (play therapy for Experimental Group 1), the posttest means scores show the levels of school adjustment. Experimental Group 1 has a substantial increase in the posttest mean score to 57.20. Control Group 1, which did not receive play therapy, had a smaller increase in the posttest mean score to 35.93.

The mean gain represents the difference between the posttest and pretest mean scores, indicating the change in school adjustment. Experimental Group 1 has a positive mean gain of 20.60, suggesting a significant improvement in school adjustment due to play therapy. Control Group 1 has a smaller positive mean gain of 2.67, indicating a more modest improvement without play therapy. The study design appears to have controlled for initial differences between the groups, as evidenced by their comparable pretest mean scores. The results suggest that play therapy had a substantial positive effect on the school

adjustment of ADHD pupils in Experimental Group 1. Control Group 1, which did not receive play therapy, showed a smaller improvement in school adjustment compared to Experimental Group 1, supporting the idea that the observed improvements in the experimental group can be attributed to play therapy. The positive mean gain value for Experimental Group 1 indicates a significant increase in school adjustment after the play therapy intervention. From the result, play therapy (Toy and object and Role Play Techniques) has a positive effect on the school adjustment of ADHD pupils, as indicated by the significant improvement in scores in Experimental groups compared to the Control Groups.

Hypothesis 2: There is no significant effect of play therapy on school adjustment of attention deficit hyperactivity disorder pupils as measured by pretest-posttest mean scores of pupils in the groups (experimental group 1 and control group 1).

Table 3 ANCOVA analysis showing significant difference in the effect of play therapy on school adjustment of attention deficit hyperactivity disorder pupils as measured by pretest-posttest mean scores of pupils in the groups (experimental group 1 and control group 1).

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	3394.816 ^a	2	1697.408	119.801	.000	.899
Intercept	585.969	1	585.969	41.357	.000	.605
Sch Adjustment Groups	2.782	1	2.782	.196	.661	.007
Error	2125.561	1	2125.561	150.020	.000	.847
Total	382.551	27	14.169			
Corrected Total	68831.000	30				
	3777.367	29				

Table, 3 shows the significant effect of play therapy (Toy and Object and Role Play Techniques) on school adjustment of attention deficit hyperactivity disorder pupils as measured by pretest-posttest mean scores of pupils in the groups (experimental group 1 and control group 1). The table shows that the computed $F(2, 27) = 150.020$ $P < .05$, i.e., $p = .000$ is statistically significant at the chosen alpha level of 0.05. Therefore, there is a significant effect of toy and object play therapy on the school adjustment of ADHD pupils, as indicated by the significant improvement in scores in the experimental group 1 compared to the control group 1 $F(2, 27) = 150.020$ $P < .05$, i.e., $p = .000$. The null hypothesis of no significant effect of play therapy (Toy and Object Play and Role Play Techniques) on school adjustment of attention deficit hyperactivity disorder pupils as measured by the difference in the mean scores of pupils in the groups (experimental group 1 and control group 1) is rejected and the alternate accepted, This implies that the difference that exists between experimental group (which received play therapy) and the control group (which did not receive play therapy) statistically is significant. Furthermore, the partial eta square which shows the effect size of the independent variable on the dependent variable shows a very large partial eta square of .880. This large partial eta squared value of .847 suggests a very strong effect of toy and object

play therapy on the school adjustment of pupils with ADHD. Play therapy enhances social skills by providing a structured and supportive environment for practicing interaction with peers, also, it has the capacity to improve emotional regulation, helping ADHD students better manage their impulses and emotions, leading to increased focus and participation in academic tasks which all in turn, significantly affect school adjustment of ADHD pupils. Therefore, play therapy (toy and object and role play techniques) has statistically significant effect on school adjustment of attention deficit hyperactivity disorder pupils.

Research Question 3: What is the effect of play therapy on school adjustment of attention deficit hyperactivity disorder pupils on the basis of their groups (experimental group 1, control group 1, experimental group 2 and control group 2)?

Table 4. Mean and standard deviation analysis showing the differential effect of play therapy on school adjustment of attention deficit hyperactivity disorder pupils on the basis of their groups (experimental group 1, control group 1, experimental group 2 and control group 2).

Groups	N	Mean	Std. Deviation
Experimental Group1 (Pretest and Posttest)	15	57.20	4.33
Experimental Group 2 (Posttest Only)	15	54.66	2.96
Control Group 1 (Pretest and Posttest)	15	35.93	4.42
Control Group 2 (Posttest Only)	15	35.53	4.39

Table 4 presents the mean and standard deviation of school adjustment scores for pupils with Attention Deficit Hyperactivity Disorder (ADHD) across four groups: Experimental Group 1, Experimental Group 2, Control Group 1, and Control Group 2. Experimental group 1 (pretest and posttest) had a mean score of 57.20 (Sd = 4.33), while pupils in experimental group 2 (posttest only) had a mean score of 54.66 (Sd = 2.96), Control group 1 (pretest and posttest) who did not receive play therapy but was assessed before and after the treatment had a mean score of 35.93(Sd = 4.42), while control group 2 (posttest only) who were post tested and did not receive play therapy had a mean score is 35.53 (Sd = 4.39).

The results suggest that play therapy had a substantial positive effect on the school adjustment of ADHD pupils in both Experimental Group 1 and Experimental Group 2. Control Group 1, which did not receive play therapy, showed a smaller improvement in school adjustment compared to Experimental Group 1, supporting the idea that the observed improvements in the experimental group can be attributed to play therapy. Similarly, Control Group 2, which did not receive play therapy, showed a smaller improvement in school adjustment compared to Experimental Group 2. The positive mean gain values for Experimental Group 1 and Experimental Group 2 indicate significant increases in school adjustment after the play therapy intervention. From the result, play therapy has a positive effect on the school adjustment of ADHD

pupils, as indicated by the significant improvement in scores in Experimental Group 1 and Experimental Group 2 compared to their respective control groups.

Hypothesis 3: Play therapy has no significant effect on school adjustment of attention deficit hyperactivity disorder pupils on the basis of their groups (experimental group 1, control group 1, experimental group 2 and control group 2) based on their pretest and posttest mean scores.

Table 5. One-Way ANOVA analysis showing significant effect on school adjustment of attention deficit hyperactivity disorder pupils on the basis of their groups (experimental group 1, control group 1, experimental group 2 and control group 2) based on their pretest and posttest mean scores.

Sources	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	6169.933	3	2056.644	124.054	.000
Within Groups	928.400	56	16.579		
Total	7098.333	59			

Table, 5 shows the significant effect of Play therapy on school adjustment of attention deficit hyperactivity disorder pupils on the basis of their groups (experimental group 1, control group 1, experimental group 2 and control group 2) based on their pretest and posttest mean scores. The table shows that the computed $F(3, 56) = 124.054$ $P < .05$, i.e., $p = .000$ is statistically significant at the chosen alpha level of 0.05. Therefore, there is a significant effect of play therapy on the school adjustment of ADHD pupils, as indicated by the significant improvement in the learning outcome mean scores in the experimental group 1 and 2 who receive the play treatment compared to the control group 1 and 2 that did not receive the play treatment as $F(3, 56) = 124.054$ $P < .05$, i.e., $p = .000$.

The null hypothesis of play therapy (toy and object and role play techniques) having no significant effect on school adjustment of attention deficit hyperactivity disorder pupils on the basis of their groups (experimental group 1, control group 1, experimental group 2 and control group 2) is rejected and the alternate accepted, This implies that the difference that exists between experimental group 1 and 2 (which received toy and object and role play therapy treatment) and the control group 1 and 2 (which did not receive play therapy as treatment) statistically is significant.. Therefore, play therapy (toy and object and roleplay technique has statistically significant effect on school adjustment of attention deficit hyperactivity disorder pupils.

However, since a significant difference was found to exist among the four groups, there is need, to determine the direction of the significant difference among the four groups. This was done by applying Post Hoc via Scheffe test for multiple comparisons as shown in table 6.

Table 6: Scheffe Post Hoc Test of Group Difference in School Adjustment

Groups	Mean Difference	Sig
Exp Grp 1 Vs Exp Grp 2	2.53	.414
Exp Grp 1 vs Control Grp1	21.27*	.000
Exp Grp 1 vs Control Grp 2	21.67*	.000
Exp Grp 2 vs Control Grp1	18.73*	.000
Exp Grp 2 vs Control Grp 2	19.13*	.000
Control Grp 1 vs Control Grp 2	-.40	.995

The result on table 6 revealed that a significant mean difference ($p < 0.05$) was obtained when experimental group 1 was compared with control group 1 and control group 2 and when experimental group 2 was compared with control group 1 and control group 2. No significant mean difference ($p > 0.05$) was obtained when experimental group 1 was compared with experimental 2, and when control group 1 was compared with control group 2.

DISCUSSION OF FINDINGS

The result shows that play therapy (toy and object and role play techniques) had a significant effect on the school adjustment of pupils with ADHD as seen by $p < 0.05$ between the pretest and posttest difference in experimental group 1, experimental group and control group and also between both the two experimental and two control groups. The significant effect of play therapy (toy and object and role play techniques) on the school adjustment of ADHD pupils is evidenced by the notable improvement in scores in experimental group 1 compared to the control group and also between experimental group 1 and 2 and control group 1 and 2. This result is consistent with previous related studies on the effectiveness of play therapy on school adjustment of ADHD students (Ashori & Bidgoli 2018; Pearson 2007). This result is consistent with previous related studies on the effectiveness of play therapy of behavioral problems like social skills, (Ashori & Bidgoli 2018; Heshmati, Onari & Shokrallah 2016; Khodabakhshi-koolae, Falsafinejad & Rezaei 2018; Movallali et al. 2015) social adjustment and social adaptation, (Barimani, Asadi & Khajevand 2018; Kaboodi 2023; Ghadampour Amirian & Radpour 2018). Rointan et al., 2021) socio-emotional competence and assets (Blalock et al., 2019; Chinekesh et al., 2014; Wilson, & Ray 2018) aggression (Akbari & Rahmati 2015; Parker et al. 2021), shyness and social withdrawal (Jafari et al., 2011; Ghyasizadeh 2013).

Result from this study clearly reveals that toy and object and role play techniques of play therapy is effective on improving the school adjustment of pupils with ADHD. This is so as play therapy (toy and object and role play techniques) often includes social interaction components. Engaging in play activities that require cooperation and communication do contribute to the development and improvement of social skills among ADHD pupils. Enhanced social skills can facilitate better peer relationships and social integration, thereby positively impacting school adjustment. Similarly, play therapy sessions, with their

relaxed and non-threatening atmosphere, can contribute to improved emotional regulation among ADHD pupils. Better emotional control can lead to a more stable and adaptive emotional state, making it easier for students to navigate the social and emotional challenges of the school environment. That is play therapy offers a safe and supportive environment for expressing and regulating emotions. ADHD pupils may face challenges related to emotional regulation, and play therapy allows them to develop and practice coping mechanisms. Enhanced emotional regulation can lead to better adaptation and adjustment to the social and emotional demands of the school environment. Furthermore, the non-directive and enjoyable nature of play therapy can contribute to stress reduction and anxiety management. School environments can be stressful for ADHD pupils, and engaging in playful activities may serve as a natural stress-reliever. Reduced stress levels positively impact school adjustment by creating a more relaxed and conducive atmosphere for learning. This can contribute to a more positive emotional state, enhancing overall school adjustment.

In addition, play therapy activities that involve problem-solving and creative thinking can enhance cognitive flexibility and adaptability. These cognitive skills are valuable for navigating the complexities of the school environment, where students need to shift between tasks, follow instructions, and adapt to changing situations. Equally, play therapy often incorporates sensory activities that promote sensory integration and regulation. ADHD pupils may have sensory processing difficulties, and play therapy provides a structured and supportive context for sensory exploration. Improved sensory regulation can lead to better focus, attention, and overall adjustment in the classroom. Success in play therapy activities can contribute to increased confidence and self-efficacy among ADHD pupils. As they overcome challenges and accomplish tasks during play sessions, students may develop a more positive self-perception. This increased confidence can positively influence how they approach academic tasks and social interactions in school. Likewise, play activities in therapy sessions provide opportunities for building positive relationships with peers. Positive peer interactions contribute to a sense of belonging and acceptance within the school community. Improved relationships with classmates can positively influence social adjustment, leading to a more positive overall school experience. The intrinsic motivation that often accompanies play therapy can extend to the academic realm. When students experience the joy of learning through play, it can foster a positive attitude towards learning and school activities. This positive attitude may translate into increased engagement with school activities, leading to better school adjustment. That is, positive interactions during play therapy sessions can translate into improved peer relationships and social skills, as ADHD pupils who via play therapy are able to have develop improved communication skills, cooperation, and the ability to navigate social situations more effectively. These positive interactions also lead to reduction in social isolation and create a sense of belonging within the school community. Thus, play therapy interventions positively impact how ADHD pupils perceive themselves in the school context, leading to enhanced self-esteem. A more positive self-perception contributes to a healthier and more confident approach to learning and social interactions.

Thus, from the foregoing, what this improved school adjustment as a result of play therapy result suggests is that the improvement in school adjustment scores implies that play therapy can contribute to enhanced social integration and adjustment for ADHD pupils.

Implication to Research and Practice

Identified pupils who exhibit signs of difficulty adjusting to school and provide them with access to play therapy sessions. Tailoring interventions to those in need can enhance their emotional and social development.

Schools should consider incorporating play therapy as a regular component of their mental health and support services. This could involve training school counsellors or psychologists in play therapy techniques.

There should parental involvement by way of educating parents about the benefits of play therapy and encourage their involvement. Workshops or informational sessions can help parents understand how to support their child's school adjustment at home.

Fostering collaboration between educators, mental health professionals, and parents to create a holistic support system. Regular communication can help monitor student progress and adjust interventions as needed.

Implement a system for regularly assessing the impact of play therapy on students' school adjustment. Use standardized measures and gather feedback from teachers, parents, and the students themselves.

Provide training for teachers on the principles of play therapy and how to create a supportive classroom environment. Understanding the benefits of play can help educators better facilitate students' social and emotional learning.

Create play-friendly environments by designating spaces in schools where play therapy can occur and where children can engage in play during breaks. This can help foster a sense of safety and encourage peer interactions.

CONCLUSION

The findings show that there were significant effects of play therapy on the school adjustment as measured by the difference in the mean scores of pupils in the groups in the experimental group and control groups. The researcher concludes that most pupils living with attention deficit hyperactivity disorder showed improvement in their adjustment to school.

Future Research

It is suggested that this study be replicated using a true experimental design with pupils with specific learning difficulties

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