



**PENGARUH KOMBINASI TERAPI BERMAIN PLAYDOUGH DAN
ORIGAMI DALAM PENINGKATAN TINGKAT KONSENTRASI
PADA ANAK HIPERAKTIF DI SLBN
PROF. DR. SRI SOEDEWI MASJCHUN SOFWAN, S**

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| <p>Info Article</p> <p>Received: 02 Februari 2026</p> <p>Revised: 04 Maret 2026</p> <p>Accepted: 02 April 2026</p> <p>Publication: 30 April 2026</p> <p>Keywords: Concentration, Hyperactivity, Play Therapy, Playdough, Origami</p> <p>Kata Kunci: Konsentrasi, Hiperaktif, Terapi Bermain, Playdough, Origami</p> <p><i>Licensed Under a Creative Commons Attribution 4.0 International License</i></p>  | <p>Abstract: <i>This study aims to determine the effect of a combination of play therapy using playdough and origami on learning concentration in hyperactive children. The research used a quasi-experimental method with a pretest-posttest control group design. The sample consisted of 30 children divided into an experimental group and a control group. The instrument used was the Digit Symbol Substitution Test (DSST). The results showed that before the intervention, all respondents were in the low concentration category. After the intervention, the experimental group showed a significant improvement with the mean score increasing from 37.53 to 48.12, while the control group showed no significant change. Statistical analysis using the Wilcoxon Signed Rank Test showed a p-value of 0.006 ($p < 0.05$), indicating a significant effect of the combined play therapy on concentration improvement. Therefore, playdough and origami therapy can be considered effective non-pharmacological interventions.</i></p> <p>Abstrak: Penelitian ini bertujuan untuk mengetahui pengaruh kombinasi terapi bermain playdough dan origami terhadap kemampuan konsentrasi belajar pada anak hiperaktif. Metode yang digunakan adalah kuasi eksperimen dengan desain pretest-posttest control group. Sampel penelitian berjumlah 30 anak yang dibagi menjadi kelompok intervensi dan kelompok kontrol. Instrumen yang digunakan adalah Digit Symbol Substitution Test (DSST). Hasil penelitian menunjukkan bahwa sebelum intervensi, seluruh responden berada pada kategori konsentrasi rendah. Setelah intervensi, kelompok eksperimen mengalami peningkatan signifikan dengan nilai rata-rata dari 37,53 menjadi 48,12, sedangkan kelompok kontrol tidak menunjukkan perubahan berarti. Hasil uji statistik Wilcoxon Signed Rank Test menunjukkan nilai p-value 0,006 ($p < 0,05$), yang berarti terdapat pengaruh signifikan dari kombinasi terapi bermain terhadap peningkatan konsentrasi. Dengan demikian, terapi bermain playdough dan origami efektif sebagai intervensi nonfarmakologis dalam meningkatkan konsentrasi anak hiperaktif.</p> |
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INTRODUCTION

Hyperactivity is defined as a condition characterized by continuously active behavior, difficulty remaining calm, and often experiencing obstacles in focusing attention or controlling impulses (Hartati, 2015). This condition is also known as ADHD (Attention Deficit Hyperactivity Disorder). According to the American Psychiatric Association in Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision, ADHD is characterized by disturbances in attention regulation and behavioral control that last for at least six months and impact children's academic and social functioning (American Psychiatric Association, 2022). According to Nurfadhillah, ADHD is a dysfunction in the brain that causes individuals to have difficulty controlling impulses (Nurfadhillah et al., 2021). The prevalence of hyperactivity according to the CDC (Center for Disease Control) in 2023 is around 12% or approximately 5.7 million children aged 3–17 years (Centers for Disease Control and Prevention, 2023). In Indonesia, the prevalence is not yet known with certainty due to variations in research locations (Kementerian Kesehatan RI, 2023), although studies show around 5% of elementary school children experience hyperactivity (Wimbarti & Kusrohmaniah, 2023) and up to 26.4% in Surakarta (Prasaja et al., 2022). Data from Jambi City shows 110 children with hyperactive symptoms, while at SLBN Prof. Dr. Sri Soedewi Masjchun Sofwan, S.H there are 40 autistic children with hyperactive symptoms.

Hyperactive children commonly experience difficulties in concentration, excessive behavior, and frequently switching activities (Abidin, 2023). Barkley explains that children with ADHD have impairments in inhibitory control and attention regulation, making them easily distracted and unable to maintain focus (Barkley, 2020). Some children with autism also show hyperactive characteristics, while some hyperactive children exhibit mild autistic traits (Nafi, 2019). Concentration itself is defined as the ability to focus attention fully on a task (Rahmawati, 2024) and to direct attention to obtain a clear understanding (Yuniarti et al., 2023). Due to these challenges, hyperactive children often experience learning delays and require appropriate interventions.

Various therapies can be used to support hyperactive children, including remedial therapy, occupational therapy, speech therapy, and play therapy (Melani, 2024). Play therapy has been shown to be effective in improving concentration and reducing impulsivity. Playing with playdough helps children become calmer and more focused

(Lusiana, 2021), while origami improves visual-motor coordination, patience, and self-control (Sukini, 2019). A combination of both therapies has been shown to provide a synergistic effect in improving attention and concentration (Nafi, 2022). However, most previous studies have only used single interventions, not combining both types of play (Sukini, 2019).

Research combining playdough and origami is still limited, especially in special schools. Previous studies have not fully integrated tactile stimulation from playdough and visual-motor coordination from origami (Nafi, 2022). This study is conducted at SLBN Prof. Dr. Sri Soedewi Masjchun Sofwan, S.H in Jambi City, which provides novelty due to different social and learning environments compared to studies conducted in Java. The quasi-experimental pretest–posttest control group design allows comparison before and after intervention, making the results more objective. The combination of both therapies is expected to provide multisensory stimulation involving tactile, visual, and fine motor aspects simultaneously.

Observations show that hyperactive children often struggle to maintain focus even in conducive learning environments. They tend not to respond when spoken to, lose focus quickly, and have difficulty following instructions. These conditions impact academic performance, especially when combined with low motivation and self-confidence (Purwanto et al., 2021). Playdough activities help improve focus through tactile stimulation and relaxation (Case-Smith & Arbesman, 2019; Pfeiffer et al., 2022), while origami enhances precision and concentration (Ningrum et al., 2022). Preliminary observations in October 2024 involving 27 students showed that 70% had concentration difficulties. Existing school interventions are still limited, so the combination of playdough and origami therapy is proposed as an alternative. Therefore, this study aims to examine “The Effect of Combined Play Therapy Using Playdough and Origami on Improving Learning Concentration in Hyperactive Children at SLBN Prof. Dr. Sri Soedewi Masjchun Sofwan, S.H.”.

METHOD

This study uses a quantitative method with a Quasi Experimental design through a Pretest-Posttest Control Group Design, involving an experimental group and a control group to compare conditions before and after treatment (Sugiyono, 2024). The research was conducted at SLBN Prof. Dr. Sri Soedewi Masjchun Sofwan, S.H, Jambi City, located at Jln. Depati Purbo, RT 11, RW 0, Pematang Sulur Village, Telanaipura

District, Jambi City, from January 12 to January 14. The treatment given was a combination of play therapy using playdough and origami in the experimental group, while the control group did not receive any treatment. Measurements were carried out using pre-test and post-test to determine changes in the learning concentration level of hyperactive children. The population in this study consisted of all students of SLBN Prof. Dr. Sri Soedewi Masjchun Sofwan, S.H totaling 40 individuals (Adnyana, 2021). The sample was selected using a non probability sampling technique with a total sampling method, so that the entire population was used as the sample and then divided into two groups, namely 20 students as the experimental group and 20 students as the control group. The data used consisted of primary data obtained directly from the results of pre-test and post-test to measure changes in learning concentration, as well as secondary data obtained from school documents and relevant literature sources (Sugiyono, 2024). Data analysis was conducted to compare results before and after treatment and to examine differences between the two groups.

RESULTS AND DISCUSSION

Overview of Research Location

This research was conducted from January 12, 2026 to January 14, 2026 at SLBN Prof. Dr. Sri Soedewi Masjchun Sofwan, S.H, Jambi City. The study used the Digit Symbol Substitution Test (DSST) instrument as well as an intervention in the form of a combination of playdough & origami play therapy on hyperactive children aged 7-12.

Overview of Respondent Characteristics

Table 1. Frequency Distribution of Respondents Based on Age and Gender Characteristics of Hyperactive Children at SLBN Prof. Dr. Sri Soedewi Masjchun Sofwan, S.H. (n=30)

| Characteristics | Experimental Group | | Control Group | |
|-----------------|--------------------|----------------|---------------|----------------|
| | Frequency (f) | Percentage (%) | Frequency (f) | Percentage (%) |
| Agw | | | | |
| 7 Tahun | 3 | 17,6 | 2 | 15,4 |
| 8 Tahun | 1 | 5,9 | 1 | 7,7 |
| 9 Tahun | 4 | 23,5 | 2 | 15,4 |
| 10 Tahun | 2 | 11,8 | 2 | 15,4 |
| 11 Tahun | 3 | 17,6 | 3 | 23,1 |
| 12 Tahun | 4 | 23,5 | 3 | 23,1 |
| Total | 17 | 100 | 13 | 100 |
| Gender | | | | |
| Laki-Laki | 12 | 70,6 | 9 | 69,2 |
| Perempuan | 5 | 29,4 | 4 | 30,8 |
| Total | 17 | 100 | 13 | 100 |

Based on Table 1, in the experimental group, the majority of respondents were aged 9 years and 12 years, each totaling 4 people (23.5%). Meanwhile, in the control group, the majority of respondents were aged 11 years and 12 years, each totaling 3 people (23.1%). Based on gender, in the experimental group the majority of respondents were male, totaling 12 people (70.6%), and similarly in the control group where the majority were male, totaling 9 people (69.2%).

Overview of Hyperactive Children’s Concentration Ability Before Intervention

Based on the results of research on 30 respondents, the concentration ability of hyperactive children before the intervention is as follows:

Table 2. Frequency Distribution of Hyperactive Children’s Concentration Ability Before Intervention at SLBN Prof. Dr. Sri Soedewi Masjchun Sofwan, S.H. (n=30)

| | Concentration Ability | | | | Total | |
|---------------------|-----------------------|-----|----------|---|-----------|-----|
| | Low | | High | | | |
| | n | % | n | % | n | % |
| Intervention | 17 | 100 | 0 | 0 | 17 | 100 |
| Control | 13 | 100 | 0 | 0 | 13 | 100 |
| Total | 30 | | 0 | | 30 | |

Based on Table 2, in the intervention group all respondents had low concentration ability, totaling 17 people (100%). Likewise, in the control group, all respondents had low concentration ability totaling 13 people (100%). Thus, overall, from a total of 30 respondents, none had high concentration ability before the intervention.

Overview of Hyperactive Children’s Concentration Ability After Intervention

Based on the results of research on 30 respondents, the concentration ability of hyperactive children after the intervention is as follows:

Table 3. Frequency Distribution of Hyperactive Children’s Concentration Ability After Intervention at SLBN Prof. Dr. Sri Soedewi Masjchun Sofwan, S.H. (n=30)

| | Concentration Ability | | | | Total | |
|---------------------|-----------------------|------|----------|------|-----------|-----|
| | Low | | High | | | |
| | n | % | n | % | n | % |
| Intervention | 11 | 64,7 | 6 | 35,3 | 17 | 100 |
| Control | 11 | 84,6 | 2 | 15,4 | 13 | 100 |
| Total | 22 | | 8 | | 30 | |

Based on Table 3, in the intervention group the majority of respondents had low concentration ability totaling 11 people (64.7%), while respondents with high concentration ability totaled 6 people (35.3%). Meanwhile, in the control group the

majority also remained in the low category totaling 11 people (84.6%), and only 2 people (15.4%) had high concentration ability.

Results of Analysis of the Effect of Playdough and Origami Games on the Concentration Ability of Adolescents with Autism

This analysis used the Wilcoxon Signed Rank Test to determine the magnitude of the difference in average concentration ability after being given playdough and origami games on the concentration ability of hyperactive children at SLBN Prof. Dr. Sri Soedewi Masjchun Sofwan, S.H.

Table 4. Results of the Wilcoxon Signed Rank Test

| | | Min-Max | Mean | SD | p-value |
|-------------------|------------------|----------------|-------------|-----------|----------------|
| Experiment | <i>Pre-test</i> | 6 - 68 | 37,53 | 20,956 | 0,006* |
| | <i>Post-test</i> | 10 - 80 | 48,12 | 27,011 | |
| Control | <i>Pre-test</i> | 12 - 65 | 41,00 | 19,562 | 0,806 |
| | <i>Post-test</i> | 10 - 78 | 41,77 | 20,693 | |

Based on Table 4, the results of bivariate analysis using the Wilcoxon Signed Rank Test show a change between pre-test and post-test scores in the experimental group. This is seen from the increase in the mean value from 37.53 to 48.12. The p-value of 0.006 is less than 0.05, indicating that there is an effect of playdough and origami games on concentration ability in the experimental group. Meanwhile, in the control group, there was no significant change between pre-test and post-test. This is seen from the mean value which only slightly increased from 41.00 to 41.77 and the p-value of 0.806 (greater than 0.05).

Discussion

Respondent Characteristics

Age

The characteristics of respondents in this study indicate that hyperactive children at SLBN Prof. Dr. Sri Soedewi Masjchun Sofwan, S.H are mostly within the elementary school age range, from lower to upper grades. The results show that learning concentration ability tends to increase with age, where children in higher grades have better concentration ability compared to those in lower grades. Learning concentration is influenced by various factors, including age, gender, learning experience, and level of knowledge. Age is an important factor because the development of cognitive abilities and attention capacity occurs gradually with

increasing age. Older elementary school children generally have better control of attention and focus compared to younger children (Fatahilah & Firlando, 2022). This study is in line with previous research stating that age affects learning concentration ability, where increasing age leads to better concentration in following learning activities (Kurniawati & Rahmawati, 2023). Other studies also mention that increased age is associated with improved ability to focus attention due to cognitive development and maturation of the nervous system (Elsanti, 2024). In children with special needs, especially those with autism accompanied by hyperactive symptoms, increasing age is associated with the maturation of physiological and cognitive functions, making children more capable of focusing attention in learning activities. The older hyperactive children become, the better their ability to adapt and concentrate in structured learning environments (Suwanti, 2020). In addition, increasing age is also related to improved learning experience and habituation to school activities, which supports children's concentration ability. Thus, older elementary school children tend to show better concentration levels compared to younger ones, in line with cognitive development, learning experience, and adaptation ability to the school environment.

Gender

The results of the respondents' characteristics show that most hyperactive children at SLBN Prof. Dr. Sri Soedewi Masjchun Sofwan, S.H are male, namely 12 people (70.6%) of the total respondents in the experimental group and 9 people (69.2%) in the control group. These results are in line with research stating that hyperactivity occurs more often in boys with a ratio of 4:1 compared to girls (Baron-Cohen, 2011). Other studies show that males suffer from hyperactivity more frequently with a ratio of 3:1 compared to females (Sari & P., 2019), this is also consistent with other studies stating that the gender comparison of hyperactive children occurs more in males with a ratio of 3:1 (Mandy et al., 2017). This study shows that in general, boys have better concentration abilities than girls during playdough and origami activities. Males and females have different concentration abilities, where males are superior in concentrating on detailed tasks while females are better at concentrating on doing several tasks simultaneously. In this study, the concentration ability of males is superior due to their detailed concentration ability (Baron-Cohen, 2009), especially in working on the DSST. The results of this study are contrary to research which states that females have better concentration abilities than males (Dhiyaus et al., 2023).

Concentration Ability of Hyperactive Children Before the Playdough and Origami Intervention

The results of the univariate analysis show that in the initial assessment (pre-test), most respondents in the experimental group were in the low concentration ability category, totaling 17 people (100%). Likewise, in the control group, all respondents had low concentration ability totaling 13 people (100%). Based on the researcher's observations of the research subjects, data showed that before the intervention was given, most hyperactive children demonstrated the main problem of maintaining concentration. This is in line with findings that state hyperactive children experience disturbances in concentration ability (Hendrifika, 2016). These results are also consistent with studies stating that concentration difficulties in hyperactive children are multidimensional, influenced by internal and external factors (Ibrahimi, 2024).

This is also in line with findings explaining that hyperactive children, especially at the adolescent level, often face significant challenges related to executive functions which include skills such as planning, organizing, and maintaining attention. The lack of executive function in children with autism makes individuals have difficulty directing focus and shifting attention from one task to another (set-shifting), as well as difficulty in maintaining sustained attention on topics that are less interesting to them. These difficulties in cognitive integration worsen the respondents' low concentration condition (Kouklari et al., 2023). The low concentration ability is also consistent with findings stating that hyperactive children experience disturbances in the cerebellum, particularly lobes VI and VII, which play an important role in processing sensory stimuli, memory, thinking ability, language learning, and focusing attention (Lusiana, 2019). These factors can contribute to the concentration ability of hyperactive children.

Concentration Ability of Hyperactive Children After the Playdough and Origami Intervention

After the playdough and origami intervention (post-test), a significant change was found in the concentration ability of respondents in the experimental group. The measurement results showed that in the intervention group, 6 people (35.3%) had reached the high concentration ability category, while 11 people (64.7%) were still in the low category. Meanwhile, in the control group, the majority of respondents remained in the low category, namely 11 people (84.6%), and only 2 people (15.4%) reached the high category. These results are in line with the theory stating that age

influences concentration ability, where the higher the age, the higher the level of concentration until it peaks at the age of 30–40 years and then decreases consistently until the age of 90 years (Iris et al., 2019). This shows that the intervention provided successfully addressed the concentration problems experienced by most respondents before the intervention.

The playdough and origami intervention was carried out for three consecutive days, with one session each day, adjusted to the school learning schedule. All participants, who were elementary school children with hyperactivity, participated in activities according to the procedures in the research SOP, accompanied by assistant teachers, research assistants, and the researcher. After three days of intervention, the measurement results showed an increase in concentration ability in the experimental group. This improvement was seen from changes in scores on the Digit Symbol Substitution Test (DSST), where most respondents shifted from the low category to the high category. This is in line with research showing an increase in concentration ability in hyperactive elementary school children through games using motor and cognitive aspects (Service et al., 2025). In line with research conducted by Suryana (2016), activities involving sensory manipulation and fine motor skills through playdough and origami media are proven effective in stimulating cognitive areas responsible for attention focus and self-control in children with developmental disorders. This is evidenced by the increase in the mean concentration ability score in the experimental group from 37.53 to 48.12 after the intervention. In addition, the results of the Wilcoxon Signed Rank Test showed a p-value of 0.006 ($p < 0.05$), confirming that this game had a real effect on the respondents' concentration ability. This finding is supported by the fact that 6 respondents (35.3%) in the intervention group successfully reached the high concentration ability category after the game sessions ended.

The Effect of Playdough and Origami Games on the Concentration Ability of Hyperactive Children

Based on the results of the Wilcoxon Signed Rank Test, a p-value of 0.006 was obtained, which means there is a significant effect on the increase in concentration ability before and after the playdough and origami intervention in hyperactive children. The concentration ability in the intervention group before the intervention was entirely in the low category (100%), and after the intervention, it increased where 6 people (35.3%) reached the high category. In the intervention group, the increase in mean

value from 37.53 to 48.12 showed more effective results compared to the control group which only experienced a slight increase from 41.00 to 41.77. The improvement in concentration ability through play therapy in the experimental group can enhance cognitive ability in hyperactive children which contributes to improving concentration ability (Fadilla, 2014). In playdough games, the improvement in concentration in hyperactive children is due to sudden instructions that stimulate children to remain focused on the given instructions (Hilmi et al., 2018). This is in line with findings showing longer concentration ability after playing the Simon Says game (Asari & Amir, 2025).

The increase in concentration in origami games is because hyperactive children are required to follow systematic and precise folding stages. This stimulus through gradual folding activities requires children to focus on observing examples and coordinating hand movements with vision (Sukini, 2019). This is supported by research showing that paper art activities or origami can improve accuracy and concentration ability in children with developmental disorders (Sari & Wahyuni, 2021). The effect of playdough and origami games in improving concentration is in line with the attention and effort theory which explains that a moderate level of arousal forms physiological characteristics of focus, alertness, and enthusiasm. Too high arousal levels can cause attention disturbances, while low arousal levels make interventions boring (Kahneman, 1973). The results of this study are in line with findings by Widiawati (2020), which show that before creative media intervention was applied, respondents often experienced obstacles in maintaining focus on assigned tasks. However, after intensive play therapy was given, there was a significant increase in attention duration where respondents were able to complete fine motor activities more consistently.

This is evidenced in this study through the increase in the mean value of the intervention group from 37.53 to 48.12. In addition, research by Pratiwi (2019) shows that paper folding activities or origami can optimally stimulate calmness and focus in children with developmental disorders. These findings are supported by the data in this study which show that after the intervention, 6 respondents (35.3%) in the experimental group reached the high concentration ability category. During the implementation of the study, the researcher observed that hyperactive children showed improved responses to instructions and reduced distractive behavior, such as looking away during activities. Children appeared more diligent in completing playdough shapes and origami folds until completion. This shows that games involving creativity and

precision train children to focus attention consistently. Based on observation results and statistical analysis with a p-value of 0.006, it can be concluded that playdough and origami games have a significant effect on improving the concentration ability of hyperactive children.

CONCLUSION

Based on the results of the study regarding the effect of a combination of play therapy using playdough and origami on the concentration level of hyperactive children at SLBN Prof. Dr. Sri Soedewi Masjchun Sofwan, S.H, Jambi City, it can be concluded that most respondents were hyperactive children aged 7–12 years, with the majority being male at the elementary school level. Before the intervention was given, the concentration ability in both the intervention group and the control group was entirely in the low category, with mean scores of 37.53 and 41.00, respectively. After the therapy was administered, the intervention group showed a significant improvement in concentration ability, where some respondents reached the high category with the mean score increasing to 48.12.

Meanwhile, the control group did not show a significant change, with the mean score only increasing from 41.00 to 41.77, and most respondents remaining in the low category. The results of the statistical test using the Wilcoxon Signed Rank Test showed a p-value of 0.006 ($p < 0.05$), indicating that there is a significant effect of the combination of playdough and origami play therapy on improving learning concentration in hyperactive children. Therefore, this play therapy can be considered an effective alternative intervention to enhance concentration in hyperactive children.

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