



Effect Traditional Games Motor Skills Autism Children

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Abstract

Autistic children have failures in reasoning or what is called systematic reasoning and have abnormalities in the cerebellum which functions to control motor activity and regulate attention and sensing. Almost all problems in all autistic children have disorders in controlling fine motor skills and gross motor skills, this is characterized by difficulty in carrying out activities by holding, holding or pressing, grasping, and pinching an object. This study aims to determine the effect of traditional games on motor skills in autistic children in Indonesia. The method in this study uses a pretest-posttest experimental design, this experimental study was conducted in groups with a control or comparison group. The sample in this study consisted of 8 autistic children with moderate categories who were in SLB, with the research instruments used in the pretest and posttest were TGMD consisting of horizontal jumps, jumps, and running/gliding, data analysis used independent sample t-test. The results of this study show the effect of traditional games on motor skills in autistic children with a Sig value (2-tailed) of 0.050. Traditional games serve as a medium for facilitating basic motor skills, which play a role in helping autistic children develop various basic motor skills. It is recommended that future research include several traditional game activities, in addition to jump rope and pole vault, to broaden the range of options and new approaches in this study.

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INTRODUCTION

Their growth, including that of children with special needs, who experience several developmental challenges, including motor, cognitive, social, emotional, and sensory development. Similarly, autistic children experience developmental limitations in communication, social interaction, and various activities related to their imagination. Some children show symptoms as early as age 3, and can even be detected in infancy.

Autistic children are also said to have a failure in reasoning, also known as systematic reasoning, and have abnormalities in the cerebellum (Indreswari et al., 2022), which controls motor activity and regulates attention and sensation (Fitriady et al., 2025; Hasnita & Hidayati, 2017). Almost all autistic children have problems controlling fine motor skills and gross motor skills (Sigit et al., 2024), this is characterized by difficulty in carrying out activities by holding, holding or pressing, gripping, and pinching an object, but the disorders that occur in motor skills are not permanent, and can be developed through routine and continuous muscle training and small muscle coordination activities. (Santrock, 2011).

It was recorded in 2015 that 656 children in Indonesia suffered from autism, and there was an increase worldwide with a total of 35 million from an average of 6 out of 1000 people in the world with autism according to UNESCO data in 2011 and the previous 10 years. (Soetjningsih, 2013), and in Bengkulu Province, autism was diagnosed in 4

clinics consisting of 26 children from the Lasipla clinic, 32 children from Mutiara Bunda, 30 children from the Autism Center and 31 children from the Mental Hospital with a total of 119 children with autism disorders. (Iskandar & Indaryani, 2019) .Based on the problems above, a method is needed to optimize the motor skills of autistic children according to their stage and development, based on research. (Juneja, 2016) explains that play therapy can be used to develop motor skills by optimizing and developing various new skills favored by autistic children. Through play, children learn to adapt, socialize, improve motor skills, and express themselves freely.

Motor skills play a crucial role in the motor activities of autistic children. In its classification, motor skills are divided into three categories: locomotor, non-locomotor, and manipulative skills. (Kurniawan, 2018) motor skills are divided into 2 categories consisting of non-locomotor (stability) and locomotor. (Argasmita, 2007) argues that basic fundamental movements are divided into 2 components, namely: (1) locomotor movements are movements that are carried out by moving from one place to another, for example: crawling, walking, running, jumping, and leaping. (2) non-locomotor movements are movements that have a center point in some or all of certain joints. For example: bending the elbow, swinging the arm, bending the knee, swinging the leg, bending the neck (Rahyubi, 2011) (a) Basic locomotor movement is a domain in the development of basic movements or what is called (fundamental basic movement). Basic locomotor movement can be interpreted as a movement or skill

that is done consciously by moving part or all of the body to move from one place to another, for example: crawling movements, walking movements, running movements and jumping movements, (b) basic non-locomotor movements are called movements that remain on the axis or joints, meaning that non-locomotor movements are movements that do not cause the body to move from one place to another. Examples: swinging movements, twisting movements, bending movements or others.

Something similar is explained by (Mukholid, 2007), Non-locomotor skills are movements that are performed without moving from one place to another. These movements rely on various joints in the body to create different movements while remaining in one place, such as twisting, bending, or similar movements (Afandi, 2019) Basic non-locomotor movements are movements without changing places but still making movements in the position and footing where you move forwards and backwards or vice versa. For example, walking in place, swinging your arms, tilting your neck and head and so on (Sari et al., 2019) gerak lokomotor merupakan dasar gerak a child to move to a place by moving the body from one point to another such as walking, running, jumping, sliding, jumping.

Traditional games are games that provide benefits and positive impacts on children's development (Iswinarti, 2005), and child growth and development (Krisdyatmiko, 1999) and based on the results of studies conducted (Iswinarti, 2005) Various traditional children's games have a close relationship in optimizing the intellectual, social, emotional and

personality development of children, in addition to traditional games (Prasetyo et al., 2026), in addition to the traditional game of engklek, it has a significant influence on several indicators, including body balance, body strength and agility (Darmawati & Widyasari, 2022).

Traditional games are classified into 3 characteristics (1) playing and singing, (2) playing and thinking, (3) playing and competing (Iswinarti, 2017). In providing good values and benefits for children's growth and development, traditional games provide various benefits, including: learning sportsmanship, training physical abilities, sharpening intelligence, providing social experience, being creative, being able to work together, learning to process emotions, increasing self-confidence, mutual respect, being democratic, active tendencies, learning to be responsible (Bangsawan, 2019).

Traditional games are very helpful in enhancing and facilitating children's growth and development and movement. Some forms of play that can develop motor skills include hopscotch, gobak sodor, forts, jump rope, and gobak sodor. These games can train children in stimulating movement through running, walking, targeting, and agility. Through play therapy with traditional games, it is hoped that autistic children can develop better motor skills. Based on this description, researchers conducted a study on the effect of traditional games on the motor skills of autistic children in Indonesia. Furthermore, existing studies generally do not provide a comprehensive explanation of the effects of traditional games on motor skills.

METHODS

Method in this study uses a randomized control group pretest-posttest design experimental research, this experimental research was conducted on a group with a control or comparison group. Experimental study used a test before the pre-test O1 and a test after the post-test O2 to determine the effectiveness of treatment X on the results of the administration before the pre-test and after the post-test, the following design can be described:

Tabel 1. Randomized Control Group Pretest-Posttest

Variabel	Pre test	Treatment	Post Test
Intervensi	O1	X	O2
Control	O1	-	O2

Participants

Research subjects consisted of 8 children with autism in the moderate category, 8 children were divided into 4 children for the intervention group or group that was given treatment in traditional games, while the other 4 children were not given intervention.

Sampling Procedures

Research subjects taken in this study were based on the involvement of students who have special needs for autism in the moderate category, so the sampling technique in this study used purposive sampling.

Materials and Apparatus

Research instrument used in the pre-test and post-test was the TGMD test which consisted of (1) horizontal jump, (2) hopping, (3) galloping/slides. The

explanation of the indicators related to the TGMD instrument is as follows: (1) horizontal jump consists of (a) preparation of movement, (b) arms swung as hard as possible forward and upward with full extension above the head, (c) jumping and landing with both feet simultaneously, (d) arms pushed down when landing, (2) hopping consists of (a) the non-supporting leg is bent backwards, (b) the non-supporting leg remains behind the body, (c) arms are bent and swung forward to produce a pushing force, (d) jumping and landing three to four times in a row with the dominant strong leg, (e) jumping and landing three to four times in a row with the non-dominant leg, (3) Slides which consist of (a) the body sideways so that the shoulders are parallel to the floor line, (b) the front leg steps sideways and is followed by the back leg until the foot stops beside the front leg, (c) at least 4-5 steps to the right continuously to the right side, (d) at least 4-5 steps to the right continuous to the left side.

Procedures

Research instrument used in the pre-test and post-test was the TGMD test consisting of (1) horizontal jump, (2) hopping, (3) galloping/slides. This test was used and conducted on autistic children to obtain motor skill results before and after treatment. The research was conducted with autistic children as subjects, 10 times, while the intervention in this study was carried out with traditional games consisting of hopscotch and jump rope.

Design or Data Analysis

Data analysis used in this study using independent sample t-test with

randomized control group pre-test-post-test design, this test is used to compare changes in motor skills between the intervention group and the control group.

RESULT

Results and discussion section contains the research findings and their discussion. Write down the findings obtained from the research that has been conducted and must be supported by adequate data. The research results and findings must be able to answer the research questions or hypotheses in the introduction. Generally, research data can be presented using tables. An example of its use is shown in Table 1. Based on the implementation of the pre-test and post-test on the intervention group and the control group, the researcher conducted calculations using an independent sample t-test to determine the extent of the influence of traditional games on motor skills. The results can be explained in the table below:

Tabel 2. Group Statistics

Group Statistics			
Class	N	Mean	Std. Deviation
Intervensi	4	12.00	1.414
Control	4	9.00	2.000

Values shown in the independent sample t-test calculation for the category with an average/mean of 12.00 in the intervention group and 9.00 in the control group, thus it can be concluded that there is a difference. To determine whether the difference is significant or not, it will be explained in the table below:

Tabel 3. Independent Samples Test

Independent Samples Test				
Sig.	t	df	Sig. (2-tailed)	Mean Difference
.468	2.449	6	.050	3.000

Based on the results shown in table 2, the Sig. Levene's Test for Equality of Variances value is $0.468 > 0.05$, which means that the data variance between the intervention group and the control group is homogeneous or the same, so that the interpretation of the output table above is guided by the values contained in the equal variances assumed table. With the explanation in the independent t-test output table in the equal variances assumed section, it is known that Sig (2-tailed) is $0.050 < 0.05$ so that a decision can be taken that in the independent sample t-test, it can be concluded that H_0 is rejected and H_a is accepted, thus the results of this study concluded that there is a significant difference in the final test results of motor skills between the intervention group and the control group.

DISCUSSION

The use of traditional games as a medium to facilitate basic motor skills plays a role in helping autistic children learn various basic motor movements (Haes et al., 2019; Karlina et al., 2025). Furthermore, traditional games are a form of motor activity design integrated with various games that support gross motor development (Devi Catur Winata, Eka Abdurrahman, Aidilla Pratiwi Siregar, Dewi Maya Sary, Kayla Ananda Prasetyo, 2026). Autistic children tend to have limitations in implementing desired

movements, such as jumping, hopping, picking up objects, and even holding objects.

Weaknesses in autistic children include impairments in the cerebellum, which controls motor activity and regulates attention and sensation (Hasnita & Hidayati, 2017), as well as difficulties with interaction and communication, and limited interests (Association, 2000). These limitations make it difficult for autistic children to engage in various motor activities.

The need for teacher or parent support is still very necessary for autistic children to realize movement, based on the Indonesian Ministry of National Education Regulation Number 70 of 2009 Article 1 explains that the role of guidance and counseling and in various schools there needs to be cooperation between class teachers, guidance and counseling teachers, psychologists, and related parties, the involvement of the role of parents, teachers and companions is a part that needs to be given an understanding of various movement activities, so that the implementation given to the motor skills of autistic children can be trained, because in their movements autistic children still tend to imitate the movements of others, Grecucci et al., (2013) explains that autistic children are able to perform movements performed by other people or what is called the action resonance mechanism.

Game activities given to autistic children can be one way to facilitate and optimize the motor skills (Fitriyah et al., 2019; Gi & Husin, 2025; Sugiarto et al., 2023) of autistic children, such as traditional games that are packaged in an

interesting way, with the interest in new games, creating curiosity in carrying out movement activities, playing for autistic children (Taftazani & Kurniawan, 2024) basically has a therapeutic element so that it is able to form a new behavior (Delphi, 2005). This research is in line with previous literature showing that physical activity, including movement-based play, plays an important role in children's motor development. For example, a study by (Goodway et al., 2019) found that active play involving the whole body can help improve gross motor skills, such as balance and coordination (Darmawan et al., 2024). This is also supported by research showing that physical activity contributes to muscle development and coordination skills at an early age (Pangrazi & Beighle, 2013)

Implications of this research are significant, particularly in the context of inclusive education in elementary schools. Traditional games can be integrated into the curriculum to effectively improve children's motor skills. This not only supports physical development but also social development, given that traditional games are played in groups and can encourage social interaction. Therefore, the results of this study support the importance of maintaining traditional games as part of children's education.

Overall, this research makes a significant contribution to the field of education and child development. By demonstrating that traditional games can improve motor skills, this study adds to the empirical evidence on the benefits of culturally based physical activity. It also

enhances the understanding of how physical activity-based learning approaches can play a vital role in supporting the holistic development of autistic children in schools.

CONCLUSION

Conclusion of this study show the influence of traditional games on the motor skills of autistic children with a Sig value (2-tailed) of 0.050, the involvement of traditional games as a medium in facilitating basic motor movement activities plays a role in helping autistic children introduce various basic motor movements, it is recommended that future research needs to add several traditional game activities, besides hopscotch and jump rope, so that new options and views on this research are broader.

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