

The Role of Physical and Sports Activity in Developing Positive Behavior among Preschool Children Aged 3–5 Years: An Experimental Study in Preschool Institutions in Bumerdes Province, Algeria

دور النشاط البدني والرياضي في تنمية السلوك الإيجابي لدى أطفال ما قبل المدرسة (3–5 سنوات): دراسة تجريبية بمؤسسات رياض الأطفال في ولاية بومرداس، الجزائر.

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Abstract: This study aims to examine the role of physical education activities in guiding children's behavior in early childhood (3–5 years). It is based on an experimental field study conducted in selected kindergartens in the Wilaya of Bumerdes. The study adopted an experimental design involving two groups: an experimental group that was exposed to a structured physical activity program, and a control group that followed the regular kindergarten program. A pre-test and post-test were used to measure the impact of the intervention on children's behavior. The results revealed statistically significant differences in favor of the experimental group, indicating the effectiveness of physical education activities in promoting positive behavior in children. These activities contributed to improving social interaction, enhancing self-discipline, and developing emotional regulation skills. The findings highlight the importance of integrating physical education activities into early childhood education programs as an effective pedagogical tool for fostering balanced personality development during this critical stage of growth.

Keywords:

المخلص: تهدف هذه الدراسة إلى تحليل أثر النشاط البدني الرياضي في توجيه سلوك الطفل في مرحلة الطفولة المبكرة (03–05 سنوات)، من خلال دراسة ميدانية ذات طابع تجريبي أُنجِزت على مستوى بعض مؤسسات رياض الأطفال بولاية بومرداس. واعتمدت الدراسة المنهج التجريبي بتصميم مجموعتين: تجريبية خضعت لبرنامج من الأنشطة البدنية الرياضية، وضابطة تابعت البرنامج العادي المعتمد داخل الروضة، مع تطبيق الاختبارين القبلي والبعدي لقياس أثر التدخل. وقد أظهرت النتائج وجود فروق ذات دلالة إحصائية لصالح المجموعة التجريبية، مما يدل على فعالية

النشاط البدني الرياضي في تحسين وتوجيه سلوك الطفل نحو السلوك الإيجابي، من خلال تعزيز التفاعل الاجتماعي، ودعم الانضباط الذاتي، وتقوية القدرة على التحكم في الاستجابات الانفعالية. وتؤكد هذه النتائج أهمية إدماج الأنشطة البدنية الرياضية ضمن البرامج التربوية لرياض الأطفال باعتبارها أداة فعالة في تنمية شخصية الطفل بشكل متوازن وشامل في هذه المرحلة الحساسة من النمو.

- الكلمات المفتاحية: - النشاط البدني الرياضي التربوي، السلوك، الروضة.

I. METHODOLOGICAL ASPECT

1. Introduction and Research Problem

The practice of physical and sports activity has become an increasingly urgent necessity in the modern era, given its decisive role in the comprehensive development of the individual from psychological, social, health, and physical perspectives. Its objectives align with those of general education in building a balanced personality—intellectually, morally, ethically, and physically—enabling the individual to positively adapt within society (Rabah Turki, 1990, p. 19). Physical and sports activity is considered one of the most prominent means adopted in modern education, encompassing diverse forms such as games, physical exercises, and group activities whose benefits extend beyond the physical dimension to include psychological, social, cognitive, and motor dimensions (Amin Anwar Kholy, 1996, p. 77).

Educational philosophies have long emphasized the importance of play and physical activity in human life. The philosopher Schiller noted that 'man is only fully human when he plays,' reflecting the central role of motor activities in child personality development. Play is the primary activity in childhood, through which the child acquires their first experiences and develops intellectual, motor, and social abilities within a framework of spontaneity and creativity (Al-Jarwani, Al-Sawy, 2013).

Early childhood (ages 3–5) is one of the most critical stages in human life, during which the basic features of personality take shape and are significantly influenced by

the surrounding environment—whether familial or educational. Psychologists, including Freud, have confirmed that the first years of a child's life play a decisive role in building their personality (Al-Ghamdi, 2000, p. 78). Play and physical activity also contribute to achieving psychological and social balance for children, as well as developing a spirit of cooperation and interaction with others (Al-Shaybani, 1981, p. 274).

In the context of modern social transformations, the family alone can no longer bear the full responsibility of raising a child; preschool institutions have become essential partners in this process, providing an appropriate educational environment that helps children acquire life skills and adapt to their surroundings (Al-Khudhair, 1986, p. 45). This has highlighted the importance of integrating physical and sports activity into preschool programs as an effective means of developing motor abilities and guiding behavior.

However, educational reality reveals the presence of certain undesirable behaviors among children at this stage, which may hinder learning and interaction within the kindergarten setting, necessitating the search for effective pedagogical approaches to address them. Physical and sports activity is considered one of the most important such approaches, given its positive influence on the child's behavior and psychological-motor balance.

Based on the above, it is clear that educational physical and sports activity plays a pivotal role in developing the child's personality and guiding their behavior, especially during early childhood, which is characterized by abundant energy and a constant need for movement. Programs built on semi-sports games can contribute to channeling this energy positively, developing basic motor skills, and achieving psychological and social balance.

Despite this importance, educators face difficulties in reconciling the demands of physical and sports activity with the level of children's abilities and readiness,

particularly given the adoption of certain approaches that tend toward a competitive rather than educational orientation (Physical Education Curriculum, 2015, p. 5). Undesirable behaviors have also been observed among some kindergarten children, raising questions about the effectiveness of physical activities in modifying these behaviors.

Accordingly, the problem of this study centers on the following main research question: **Are there statistically significant differences in physical and sports activity between the diagnostic test and the achievement test for the experimental and control samples in guiding the positive behavior of the preschool child?**

General Hypothesis: **There are statistically significant differences in physical and sports activity between the diagnostic test and the achievement test for the experimental and control samples in guiding the positive behavior of the preschool child.**

2. Significance of the Study

The significance of this study lies in its ability to shed light on the vital role of educational physical and sports activity in guiding the positive behavior of the kindergarten child, as one of the most important factors influencing child personality formation during early childhood (3–5 years)—a sensitive period during which the basic features of behavior and psychological-motor development take shape.

The study's importance also lies in highlighting the effectiveness of programs based on semi-sports games in channeling children's motor energy toward positive behaviors within the educational environment, thereby contributing to reducing undesirable behaviors and improving social adaptation within the kindergarten setting.

Furthermore, the study provides a scientific reference that preschool educators and physical education teachers can draw upon when designing and implementing

educational programs built on modern scientific foundations that take into account the characteristics of children's motor and behavioral development.

3. Objectives of the Study

This study aims to achieve the following main objectives:

- To measure the effect of educational physical and sports activity on guiding positive behavior in preschool children.
- To compare the results of the diagnostic test and the achievement test for both the experimental and control groups.
- To determine the effectiveness of sports programs based on semi-sports games in modifying undesirable behavior in children.
- To highlight the role of physical and sports activity in achieving psychological, motor, and social balance for children within the kindergarten.
- To provide pedagogical recommendations to help educators employ physical activities scientifically and effectively within educational institutions.

4. Key Terminology

a. Educational Physical and Sports Activity

Technically: Educational physical and sports activity is a domain of education in general and physical education in particular, constituting an effective element in preparing the individual by equipping them with motor skills and experiences that contribute to guiding their physical, psychological, social, and moral development positively—serving the individual and helping them integrate into their society (Qasim Hassan Hussein, 1990, p. 65; Mohamed Adel Khattab, pp. 56–57).

It is also defined as a comprehensive concept encompassing various forms of physical and sports activities in which the body is used as the primary means of expression, reflecting an anthropological, cultural dimension as it is part of the civilizational and social manifestations of mankind (Amin Anwar Kholy, 1990, p. 72).

Operationally: In this study, educational physical and sports activity refers to the set of exercises, movements, sports games, and semi-sports games supervised by a specialist teacher within the educational institution (and outside when needed), whether in a formal or informal framework, with the aim of developing children's physical and motor capacities and skills, achieving their psychological and social balance, and channeling their time into purposeful activities that combine learning and recreation.

b. Behavior

Terminologically: Human behavior has been defined from multiple perspectives. It is defined as a means of communication between the individual and the group, through which ideas, principles, and attitudes are transmitted among individuals. It is also viewed as the sum of activities performed by the individual, whether observable—such as movements and actions—or internal, such as perception, thinking, and emotion. Behavior is also considered the means through which the individual achieves their goals and fulfills their motivations, expressing the living organism's response to internal or external stimuli in its effort to adapt to its environment (Abdel-Salam Abdel-Kader, p. 44).

Operationally: In this study, behavior refers to any activity emanating from the child within their educational environment, whether it is motor, psychological, intellectual, social, or emotional, encompassing both verbal and physical actions. It also includes the child's inclination toward play and their interaction with their surroundings, as these are considered manifestations of behavior.

c. The kindergarten (Preschool Institution)

Technically: The kindergarten is defined as an educational institution that provides care for children in early childhood, typically between the ages of 3 and 6 years—a stage that precedes primary education—and aims to develop the child's intellectual, psychological, social, and motor dimensions (Magdi Aziz Ibrahim, 2007, p. 62).

Operationally: In this study, the kindergarten refers to the educational institution, whether public or private, that receives pre-school-age children (under 6 years), and works to provide educational and training programs and various activities—particularly physical and play-based activities—with the aim of developing their motor skills, guiding their behavior, and preparing them for integration into the school and social environment.

5. Previous Studies

Study One: Al-Qayyizi Al-Hawari(2024/2023) This study aimed to highlight the role of semi-sports games in developing the sensory-motor aspect of preschool children (ages 3–5). The researcher used an experimental method with two groups (experimental and control) on a sample of 40 children, applying the Dayton Scale for Sensory-Motor Abilities and a program comprising 28 instructional units for the experimental group. Results showed statistically significant differences in favor of the experimental group in several dimensions such as balance, coordination, spatial perception, and motor rhythm, confirming the effectiveness of semi-sports games in developing sensory-motor abilities.

Study Two: Ramadan Jaqma(2022) This study aimed to examine the effectiveness of a program based on small games using a problem-solving approach in developing sensory-motor cognitive abilities in preschool children (ages 5–6). The researcher used a single-group experimental design (pre-post) on a sample of 12 children. Results showed statistically significant differences favoring the post-measurement in some abilities such as visual perception and recognition of body parts, while no differences were recorded in dynamic balance and auditory perception.

Study Three: Samir Zbish(2022) This study aimed to determine the effect of physical and sports activity on improving basic motor skills in preschool children (ages 3–5). The researcher used an experimental method on a sample of 60 children distributed into two groups (experimental and control), and a motor-game-based

instructional program was applied. Results showed statistically significant differences in favor of the experimental group in basic motor skills (running, jumping, throwing, kicking, receiving), confirming the effectiveness of physical and sports activity in improving motor skills.

II. APPLIED ASPECT

a) Research Methodology

The researcher adopted the experimental method in this study, given its appropriateness to the nature of the research topic related to educational physical and sports activity. This was done through an experimental design based on two groups: an experimental group and a control group. The experimental method is considered one of the most important scientific approaches, as it involves introducing an independent variable into a specific situation to determine its effect on a dependent variable through controlled, systematic observation of the studied phenomenon (Barakat Hamza, 2007, p. 245).

The study includes two main variables: (1) the independent variable — Educational Physical and Sports Activity; and (2) the dependent variable — Child Behavior.

b) Research Population and Sample

The research population consists of all preschool children in the Wilaya of Boumerdes. Following the identification of the research sample, the names and addresses of kindergartens in the Wilaya of Boumerdes were obtained from the Planning Division of the General Directorate of Social Activity and Solidarity for the academic year 2022/2023. The original population totaled 157 children aged 3–5 years.

The study sample consisted of 68 children (boys and girls) of pre-primary school age (3–5 years), selected from two institutions: Al-Amal Private Kindergarten and Jannat Al-Atfal Kindergarten in the Wilaya of Boumerdes—34 children from each

institution. The selection was based on an intentional (purposive) sampling method, choosing sites that met several field conditions facilitating the implementation of the proposed educational program, including a sufficient and diverse number of children, administrative support, adequate activity space, the availability of appropriate pedagogical materials, administrative cooperation, and proximity to the university. An exploratory sample of 8 children from Al-Amal Private Kindergarten was also selected for initial interviews and behavioral observations.

c) Study Boundaries

Human boundaries: Pre-school children (male and female), ages 3–5, located in the Wilaya of Boumerdes. Temporal boundaries: The study commenced from the beginning of the 2022/2023 academic year. Spatial boundaries: The field study was conducted at Al-Amal Private Kindergarten and Jannat Al-Atfal Kindergarten, both located in the Wilaya of Boumerdes.

d) Statistical Analysis Methods

The researcher used the Statistical Package for the Social Sciences (SPSS v. 26), applying the following statistical techniques: percentage frequencies to describe the sample; the arithmetic mean to measure centrality; the standard deviation to measure response dispersion; and the Independent Samples T-Test to compare the means of the control and experimental groups.

III. RESULTS, ANALYSIS, AND DISCUSSION

The general hypothesis states: There are statistically significant differences in physical and sports activity between the diagnostic test and the achievement test for the experimental and control samples in guiding the positive behavior of the preschool child.

Based on the statistical results in Table (01), no statistically significant differences were found between the control and experimental groups in the baseline variables (age, height, weight), as the computed t-values (0.306, 1.693, 0.986 respectively)

were all lower than the tabulated value at the significance level of 0.05, indicating group homogeneity prior to program implementation. This homogeneity ensures that any subsequent differences can be attributed to the effect of the physical and sports activity program rather than to pre-existing individual differences.

Table (01): Statistical Significance of Differences Between Control and Experimental Groups on Baseline Variables

Variable	Unit	Exp. Group – Mean	Exp. Group – SD	Ctrl. Group – Mean	Ctrl. Group – SD	t-value	Sig.
Age	Months	53.12	7.008	53.65	7.786	0.306	0.763
Height	cm	106.24	4.982	108.53	5.088	1.693	0.110
Weight	kg	17.35	2.662	18.26	2.867	0.986	0.339

Item (1): Semi-sports games make the child behave in a polite manner.

Table (02): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	Not at all	0.2037	1.4118	Not at all	0.1480	1.4706	-1.361	2.034	N.S.
Post-test	To a great extent	0.9707	2.5882	To a limited extent	0.2377	1.8235	9.995	2.034	0.05

Analysis: No significant differences existed at pre-test ($t = -1.361 < 2.034$). Post-test results showed statistically significant differences favoring the experimental group ($t = 9.995 > 2.034$), indicating that semi-sports games effectively develop polite behavior by reinforcing positive social values such as cooperation, respect for rules, and self-control.

Item (2): Semi-sports games trigger emotional outbursts and unexpected behavior.

Table (03): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	To a great extent	0.2780	1.3529	To a great extent	0.2653	1.3529	0.000	2.034	N.S.
Post-test	Absolutely	0.7260	2.3529	To a limited extent	0.2696	1.7647	11.612	2.034	0.05

Analysis: Groups were perfectly homogeneous at pre-test ($t = 0.000$). Post-test showed significant differences favoring the experimental group ($t = 11.612$), indicating that semi-sports games increased emotional stimulation. This underscores the need for proper educational supervision to ensure balanced emotional and social development.

Item (3): Semi-sports games make the child frown and show dissatisfaction

Table (04): Mean, SD, t-value and significance between pre-test and post-test for both groups

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	To a limited extent	0.1225	1.7059	To a limited extent	0.2121	1.7647	-1.401	2.034	N.S.
Post-test	Absolutely	0.8484	2.4706	To a limited extent	0.6009	2.1765	8.956	2.034	0.05

Analysis: No pre-test differences ($t = -1.401$). Significant post-test differences favoring the experimental group ($t = 8.956$). Results suggest that semi-sports games may increase signs of displeasure, likely due to the intensity of competition or difficulty in emotional self-regulation, highlighting the need for structured pedagogical management.

Item (4): Semi-sports games change the child's mood quickly and noticeably.

Table (05): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	To a limited extent	0.0340	1.8235	To a limited extent	0.1698	1.6471	5.942	2.034	0.05
Post-test	Absolutely	0.7260	2.3529	To a limited extent	0.3594	2.0000	10.548	2.034	0.05

Analysis: A pre-existing difference existed at pre-test ($t = 5.942$). Post-test differences increased further ($t = 10.548 > 2.034$), reflecting the interactive nature of these activities which stimulate enthusiasm and competition, necessitating balanced educational deployment to maintain children's emotional stability.

Item (5): Semi-sports games make the child quarrelsome and mischievous.

Table (06): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	To a limited extent	0.2377	1.8235	To a limited extent	0.3578	1.9412	-1.597	2.034	N.S.
Post-test	Absolutely	0.9707	2.5882	To a limited extent	0.7495	2.1765	8.673	2.034	0.05

Analysis: Groups were homogeneous at pre-test ($t = -1.597$). Significant post-test differences favoring the experimental group ($t = 8.673$) suggest that semi-sports games increased disruptive behavior, requiring structured educational guidance to promote positive behavior and reduce undisciplined conduct.

Item (6): Semi-sports games make the child deny mistakes and blame others.

Table (07): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	To a great extent	0.3275	1.4118	To a great extent	0.3594	1.2941	1.411	2.034	N.S.
Post-test	Absolutely	1.0931	2.5882	To a limited extent	0.2696	1.7647	9.031	2.034	0.05

Analysis: No pre-test differences ($t = 1.411$). Significant post-test differences favoring the experimental group ($t = 9.031$), suggesting that competitive interactions in activities increased blame-shifting. This calls for activities that reinforce accountability and acceptance of mistakes.

Item (7): Semi-sports games make the child uncooperative with the teacher.

Table (08): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	To a limited extent	0.3275	1.9412	To a limited extent	0.3240	2.0000	-0.745	2.034	N.S.
Post-test	Absolutely	0.8484	2.4706	To a limited extent	0.6197	2.2941	8.545	2.034	0.05

Analysis: Groups were homogeneous at pre-test ($t = -0.745$). Post-test showed significant differences ($t = 8.545$), indicating these activities affected teacher-cooperation behaviors, emphasizing the need for a structured environment that fosters cooperation and positive teacher-child relationships.

Item (8): Semi-sports games make the child frequently bored and expresses distress.

Table (09): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	To a limited extent	0.2377	1.8235	To a limited extent	0.6113	2.1176	-2.615	2.034	0.05
Post-test	Absolutely	0.8484	2.4706	Absolutely	0.8511	2.3529	7.950	2.034	0.05

Analysis: Initial differences existed at pre-test ($t = -2.615$). Post-test showed significant differences favoring the experimental group ($t = 7.950$), indicating semi-sports games contributed to increased feelings of boredom, requiring activity diversification aligned with children's interests and psychological capacities.

Item (9): Sports games make the child create inappropriate noise at the wrong time.

Table (10): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	To a limited extent	0.4173	1.8235	To a limited extent	0.3782	1.8824	-0.609	2.034	N.S.
Post-test	Absolutely	0.9719	2.4706	To a limited extent	0.6009	2.1765	7.923	2.034	0.05

Analysis: Groups were homogeneous at pre-test ($t = -0.609$). Post-test differences favored the experimental group ($t = 7.923$), suggesting these activities contributed to reducing inappropriate noise when properly structured and educationally guided.

Item (10): Sports activities make the child insist on having demands met immediately.

Table (11): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	To a limited extent	0.2377	1.8824	To a limited extent	0.1698	1.8235	1.174	2.034	N.S.
Post-test	Absolutely	0.8484	2.4706	To a limited extent	0.4815	2.1176	8.609	2.034	0.05

Analysis: No pre-test differences ($t = 1.174$). Post-test showed significant differences ($t = 8.609$), indicating activities increased the children's insistence on immediate demand satisfaction, reflecting enhanced self-assertion tendencies.

Item (11): Semi-sports games make the child disturb other children.

Table (12): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	To a limited extent	0.3019	1.8235	To a limited extent	0.3240	2.0000	-2.324	2.034	0.05
Post-test	Absolutely	0.9672	2.5294	To a limited extent	0.4815	2.1176	8.604	2.034	0.05

Analysis: Initial differences existed at pre-test ($t = -2.324$). Post-test showed increased differences ($t = 8.604$), reflecting a rise in disturbance behaviors among the experimental group, indicating that semi-sports activities may encourage undesirable behaviors if not properly guided.

Item (12): Semi-sports games make the child restless and always ready to dash off.

Table (13): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	To a limited extent	0.2377	1.8235	To a limited extent	0.1225	1.7059	2.565	2.034	0.05
Post-test	To a limited extent	0.6037	2.2353	To a limited extent	0.3578	1.9412	11.712	2.034	0.05

Analysis: Differences existed at pre-test ($t = 2.565$). Post-test differences increased significantly ($t = 11.712$), indicating that semi-sports games increased restlessness and constant readiness to move, requiring structured deployment to direct this energy toward positive, disciplined behavior.

Item (13): Semi-sports games make the child impulsive and easily provoked.

Table (14): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	To a great extent	0.0588	1.5882	To a great extent	0.1797	1.6471	-1.814	2.034	N.S.
Post-test	To a limited extent	0.7228	2.2941	To a limited extent	0.2377	1.8824	11.213	2.034	0.05

Analysis: Groups were homogeneous at pre-test ($t = -1.814$). Significant post-test differences favored the experimental group ($t = 11.213$), indicating increased impulsiveness and easy provocation, necessitating a structured educational framework that limits impulsive behavior and directs it toward positive interaction.

Item (14): Semi-sports games make the child demand excessive attention from the teacher.

Table (15): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	To a limited extent	0.4173	1.8235	To a limited extent	0.3782	1.8824	-0.609	2.034	N.S.
Post-test	To a limited extent	0.6113	2.1176	To a limited extent	0.6009	2.1765	10.575	2.034	0.05

Analysis: No pre-test differences ($t = -0.609$). Significant post-test differences ($t = 10.575$) indicate that semi-sports games contributed to increased attention-seeking behaviors, requiring educational balance between meeting emotional needs and positively managing attention-seeking.

Item (15): Semi-sports games make the child's thinking scattered and inattentive

Table (16): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	To a limited extent	0.1480	1.7059	To a limited extent	0.2696	1.7647	-1.115	2.034	N.S.
Post-test	Absolutely	0.7260	2.3529	To a limited extent	0.6345	2.0588	9.741	2.034	0.05

Analysis: No pre-test differences ($t = -1.115$). Significant post-test differences ($t = 9.741$) indicate increased scattered thinking and inattention in the experimental group, requiring a structured educational framework that reduces distraction and strengthens concentration.

Item (16): Semi-sports games make the child daydream.

Table (17): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	Absolutely	0.9707	2.5882	Absolutely	0.8450	2.4118	5.330	2.034	0.05
Post-test	Absolutely	1.0931	2.5882	To a limited extent	0.1480	1.4706	12.115	2.034	0.05

Analysis: Initial differences at pre-test ($t = 5.330$). Post-test differences increased significantly ($t = 12.115$), indicating that semi-sports games increased daydreaming, possibly through temporary mental detachment and engagement with imagination during activity, requiring organized educational management to maintain attention and focus.

Item (17): Semi-sports games make the child easily led by the child-leader.

Table (18): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	To a limited extent	0.7308	2.2353	To a limited extent	0.3578	1.2353	-12.743	2.034	0.05
Post-test	To a great extent	1.4776	2.8235	To a great extent	1.3444	2.7647	4.979	2.034	0.05

Analysis: Initial differences at pre-test ($t = -12.743$). Post-test showed improvement in both groups, with the experimental group scoring higher (mean = 2.824 vs. 2.765). Results indicate that semi-sports games contributed to enhancing children's acceptance of peer leadership, fostering teamwork and discipline within the group.

Item (18): Semi-sports games make the child lack leadership ability.

Table (19): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	To a limited extent	0.1698	1.8235	To a great extent	0.2449	1.6471	3.453	2.034	0.05
Post-test	Absolutely	0.8484	2.4706	To a limited extent	0.4815	2.1176	9.335	2.034	0.05

Analysis: Initial differences at pre-test ($t = 3.453$). Post-test showed clearer differences favoring the experimental group ($t = 9.335$), indicating semi-sports games contributed to developing children's leadership ability by reinforcing self-confidence and responsibility within group activities.

Item (19): Semi-sports games make the child fail to complete things they started.

Table (20): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	To a limited extent	0.1225	1.7059	To a limited extent	0.3782	1.8824	1.924	2.034	N.S.
Post-test	To a limited extent	0.6037	2.2353	To a limited extent	0.6113	2.1176	10.138	2.034	0.05

Analysis: No pre-test differences ($t = 1.924$). Significant post-test differences ($t = 10.138$) indicate that semi-sports games improved children's ability to complete tasks, reflecting a positive role in developing commitment and perseverance skills.

Item (20): Semi-sports games make the child childish and immature.

Table (21): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	To a great extent	0.5003	1.1176	To a great extent	0.5774	1.0000	-0.898	2.034	N.S.
Post-test	To a limited extent	0.2780	1.3529	To a limited extent	0.6009	2.1765	14.182	2.034	0.05

Analysis: No pre-test differences ($t = -0.898$). Significant post-test differences ($t = 14.182$) indicate that semi-sports games contributed to improving children's behavioral maturity by reducing childish behavior and reinforcing balance and discipline, reflecting a positive impact on child personality development.

Item (21): Semi-sports games make the child easily frustrated during effort.

Table (22): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	To a limited extent	0.4933	2.0000	To a limited extent	0.3578	1.9412	-0.563	2.034	N.S.
Post-test	Absolutely	1.3585	2.7059	Absolutely	0.9849	2.4118	6.053	2.034	0.05

Analysis: No pre-test differences ($t = -0.563$). Post-test showed significant differences ($t = 6.053$) with the experimental group's mean rising to 2.706, indicating that semi-sports games reduced frustration during physical exertion, reflecting a positive role in enhancing motivation and perseverance in motor activity.

Item (22): Semi-sports games make learning difficult for the child.

Table (23): Mean, SD, t-value and significance between pre-test and post-test for both groups.

	Experimental Group			Control Group			t-value	Table t	Sig.
	Mean	Response	SD	Mean	Response	SD			
Pre-test	To a limited extent	0.2377	1.8235	To a limited extent	0.1176	1.7647	-1.293	2.034	N.S.
Post-test	Absolutely	1.4651	2.8824	To a limited extent	0.4815	2.1176	7.162	2.034	0.05

Analysis: No pre-test differences ($t = -1.293$). Significant post-test differences ($t = 7.162$) indicate that semi-sports games contributed to improving children's learning ability and reducing learning difficulties, reflecting a positive role in developing learning readiness and enhancing engagement in educational situations.

GENERAL DISCUSSION OF RESULTS

The present study sought to examine the effectiveness of a semi-sports games program in developing positive behavior among preschool children aged 3–5 years. Overall, the findings indicate that the proposed program had a significant impact on several dimensions of positive behavior, thereby providing substantial support for the study hypotheses.

Before implementing the program, the statistical analysis confirmed that there were no significant differences between the experimental and control groups with respect to age, height, and weight. This homogeneity ensured the equivalence of the two groups at baseline and strengthened the internal validity of the experimental design, allowing the observed post-test differences to be attributed primarily to the intervention rather than to pre-existing individual differences.

The post-test results demonstrated statistically significant improvements in favor of the experimental group on several dimensions of positive behavior, particularly politeness, leadership, perseverance, and learning ability. These findings support the educational perspective that structured physical and sports activities provide an effective environment for developing children's social, emotional, and behavioral competencies. Through cooperative play, shared responsibilities, adherence to rules, and interaction with peers, children acquire self-control, respect for others, and positive social values.

These findings are consistent with previous studies that have emphasized the educational value of physical activity during early childhood. In particular, Djedda and Hocini (2025) reported that a structured sports training program significantly improved fundamental motor skills among kindergarten children, highlighting the importance of well-designed physical activity programs in promoting children's overall development. Likewise, Zbish et al. (2021) found that sports activity programs contribute to the development of basic motor skills in preschool children, while Talal et al. (2006) concluded that exploratory and motor play programs positively influence children's developmental outcomes. Although these studies primarily focused on motor development, their findings support the broader educational role of organized physical activities in enhancing children's behavioral and social adjustment.

Furthermore, the positive behavioral outcomes observed in the present study are consistent with the theoretical framework of social learning, which emphasizes that children develop appropriate behaviors through observation, imitation, reinforcement, and interaction within structured educational environments. They also align with developmental psychology literature (Abu Hattab, 1999; Al-Bahi, 1971), which considers play and movement essential components of children's cognitive, emotional, and social development.

On the other hand, the study revealed increases in certain undesirable behaviors, including impulsiveness, hyperactivity, attention-seeking, and distraction. These findings should not necessarily be interpreted as evidence of program failure. Rather, they may reflect the dynamic nature of semi-sports games, which involve excitement, movement, competition, and emotional engagement. When these activities are not accompanied by continuous pedagogical guidance and behavioral regulation, increased motor activity may temporarily manifest as impulsive or distractible behavior.

This interpretation is supported by educational and developmental literature emphasizing that the effectiveness of physical activity depends not only on the activity itself but also on the quality of educational supervision, classroom organization, and teacher guidance. Consequently, semi-sports games should be carefully planned and supervised to maximize their educational benefits while minimizing undesirable behavioral manifestations.

Overall, the findings suggest that semi-sports games constitute an effective educational strategy for promoting positive behavior among preschool children when implemented within a structured pedagogical framework that integrates physical activity with behavioral guidance, cooperation, and positive reinforcement.

IV. CONCLUSIONS AND RECOMMENDATIONS

1. Conclusions

Based on the findings of this experimental study, the following conclusions can be drawn:

- The semi-sports games program proved to be an effective educational strategy for promoting positive behavior among preschool children aged 3–

5 years, as evidenced by the significant improvements observed in the experimental group compared with the control group.

- Participation in structured physical and sports activities contributed to the development of several positive behavioral dimensions, including politeness, leadership, perseverance, cooperation, and learning readiness, highlighting the educational value of organized movement-based activities during early childhood.
- The findings confirm that physical and sports activities extend beyond improving motor performance to supporting children's social, emotional, and behavioral development when implemented within a well-planned pedagogical framework.
- The effectiveness of semi-sports games depends largely on the quality of educational supervision. Activities that involve movement, interaction, and competition should be carefully organized and guided to promote self-control, respect for rules, and positive social interaction while minimizing undesirable behavioral manifestations.
- The results support previous research emphasizing that structured physical activity represents an important educational tool for fostering children's holistic development, including behavioral adjustment, emotional regulation, and social competence.
- Overall, the study demonstrates that integrating semi-sports games into preschool educational programs can play a significant role in developing positive behavior, provided that such activities are designed according to children's developmental characteristics and implemented under appropriate pedagogical guidance.

2. Recommendations

Based on the findings of the present study, the following recommendations are proposed:

- Integrate structured semi-sports games as a regular component of preschool educational programs, given their positive contribution to developing children's positive behavior, social interaction, and emotional regulation.
- Design age-appropriate physical and sports activities that consider children's developmental characteristics and individual differences, ensuring balanced participation and fostering cooperation, self-confidence, and respect for rules.
- Provide continuous professional development programs for preschool educators on planning, implementing, and supervising semi-sports activities, with particular emphasis on behavior management, positive reinforcement, and the educational use of cooperative and competitive games.
- Create safe, inclusive, and stimulating educational environments that encourage children to express themselves freely while promoting discipline, teamwork, responsibility, and sportsmanship under appropriate pedagogical guidance.
- Encourage closer collaboration between preschool institutions, families, and educational specialists to reinforce the positive behavioral outcomes achieved through physical and sports activities and to ensure consistency between school and home environments.
- Incorporate behavioral assessment tools into preschool physical education programs to monitor children's behavioral development and evaluate the effectiveness of educational interventions over time.

- Conduct further experimental and longitudinal studies involving larger and more diverse samples to investigate the long-term effects of physical and sports activities on children's behavioral, social, emotional, and cognitive development across different educational contexts.

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