



Analysis of the Correlation Relationship and Statistical Differences Between Levels of Motor Skills and Participation in Physical Activity Among Primary School Pupils According to Gender and Age

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Abstract

The interdependent relationship between the kinetic skills and levels of physical activity in early childhood plays a central role in shaping children's health and developmental trajectories. Despite this importance, the nature of this relationship is often influenced by diverse cultural and educational environments. The objectives of this study were to examine the relationship between basic motor skills and levels of physical activity among elementary school students in Jordan, as well as to identify statistically significant differences in these variables according to gender (male and female), and to evaluate the effect of chronological age, measured in months, on skill development and activity levels. The researcher employed a descriptive correlational approach on a sample of 133 students (68 females, 65 males) aged 8 to 11 years. Data were collected using the Test of Gross Motor Development, Third Edition (TGMD-3), to assess motor skills, and the Physical Activity Questionnaire for Older Children (PAQ-C) to assess levels of physical activity. The results revealed a positive and statistically significant relationship between motor skills and physical activity levels ($p = 0.306$, $p < 0.001$). The analysis also indicated statistically significant gender differences in motor skills, with boys performing better than girls ($p = 0.038$), whereas girls demonstrated higher overall levels of physical activity than boys ($p = 0.008$). Furthermore, the findings showed that although skills develop with age as a result of biological maturation, levels of physical activity showed a marked decline at age 11. The study recommends the need to design school-based interventions focused on structured motor learning to ensure the sustainability of physical activity throughout childhood.



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تحليل العلاقة الارتباطية والفروق الإحصائية بين مستويات المهارات الحركية والمشاركة في النشاط البدني لدى تلاميذ المرحلة الابتدائية تبعاً لمتغير الجنس والعمر الباحثان:

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المعلومات الارشفة	المخلص
تاريخ الاستلام: ٢٠٢٦ / ٤ / ١	تعد العلاقة المترابطة بين المهارات الحركية ومستويات النشاط البدني في مرحلة الطفولة المبكرة ركيزة أساسية في تحديد مسارات صحة الأطفال ونموهم. وعلى الرغم من هذه الأهمية، غالباً ما تتأثر طبيعة هذه العلاقة بالبيئات الثقافية والتعليمية المتنوعة.
تاريخ القبول: ٢٠٢٦ / ٥ / ٢٤	يهدف البحث الى دراسة العلاقة بين المهارات الحركية الأساسية ومستويات النشاط البدني لدى طلاب المدارس الابتدائية في الأردن. تحليل الاختلافات ذات الدلالة الإحصائية في هذه المتغيرات حسب الجنس (ذكور وإناث). تقييم تأثير العمر الزمني، المقاس بالشهور، على تطور المهارات ومستويات النشاط. استخدم الباحث نهجاً وصفيًا ارتباطيًا على عينة من ١٣٣ طالباً (٦٨ أنثى، ٦٥ ذكراً) تتراوح أعمارهم بين ٨ و ١١ عاماً.
تاريخ النشر الالكتروني: ٢٠٢٦ / ١٠ / ١٥	تم جمع البيانات باستخدام اختبار TGMD-3 لقياس المهارات الحركية واستبيان PAQ-C لقياس النشاط البدني. وأظهرت النتائج وجود ارتباط إيجابي وذو دلالة إحصائية ($\rho = 0.306, p < 0.001$) بين المهارات الحركية والنشاط البدني. كما كشف التحليل أن أداء الأولاد كان أفضل بشكل ملحوظ في المهارات الحركية ($p = 0.038$)، في حين سجلت الفتيات مستويات أعلى من النشاط البدني العام ($p = 0.008$). علاوة على ذلك، تبين أنه على الرغم من أن المهارات تتطور مع تقدم العمر نتيجة للنضج البيولوجي، إلا أن مستويات النشاط البدني أظهرت انخفاضاً ملحوظاً في سن ١١ عاماً. توصي الدراسة بضرورة تصميم تدخلات مدرسية تركز على التعلم الحركي المنظم لضمان استدامة النشاط البدني طوال مرحلة الطفولة.
الكلمات المفتاحية:	
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1- Introduction

1-1 Introduction and Significance of the Research:

Recently, school-aged children have been increasingly exposed to dangers such as obesity, diabetes, and other determinants associated with cardiovascular disease. Children's Levels of physical activity participation are affected by a range of interrelated factors that go beyond individual characteristics. Educational and social environments, as well as surrounding conditions, are key factors in promoting or limiting the opportunities for exercise during the school years. In addition, there are no guidelines on how to implement this, and training is limited. [1]

Physical activity is any bodily movement produced by skeletal muscles that requires energy expenditure [2]. Closely related is motor competence: the degree of ability for an individual to perform a wide range of motor activities that are mastered, coordinated and predictable [3]. It is not an endowment that one possesses; it becomes a learned behaviour with routine exposure. The need for structured PE in the initial stages was emphasized [4]. Recent Guide suggests that a concerning trend of declining physical activity levels as children enter adolescence [5], [6]. Consequently, Development of Fundamental Motor Skills (FMS) has been recognized as an important approach to enhance and maintain Physical Activity Levels Among Preschool Children. [7] .

Although physical activity is significant for strengthening children's physical and mental health, as well as their motor growth, there is a notable deficiency of in-depth exploration addressing this matter at the elementary school level in Jordan. This lack of research restricts our comprehension of how participation in physical education may be improved in elementary schools and how children's motor skill development can be effectively supported.

Fine and coarse motor skills refer to an individual's capability to execute a wide range of movements efficiently. Motor competence is the knowledge, skills, and attitudes that an individual needs to perform motor tasks effectively; together, they make up the abilities necessary for successful athletic performance.

Given the importance of motor skills in promoting health and active living patterns among children, it is necessary to evaluate and monitor motor competence during the early-to-middle childhood period [8]. The growth of motor skills is a dynamic process that has been shown to progress at varying rates during childhood, depending on environmental and biological factors [4]. This development is linked to the concept of the "positive-negative spiral of engagement," which suggests Motor skills are positively correlated with physical activity performance. [9].

According to recent evidence, when there is limited motor development, it leads to decreased activity, which in turn hinders skill acquisition physical [3], [10], [11]. For instance Dana [8]. through a review of 23 studies involving children aged 3 to 18 years, demonstrated a positive correlation between basic Motor skills and levels of physical activity, along with stronger correlations observed in girls compared to boys. Supporting these findings, Prinsloo and Binar [12].reported that children with motor coordination disorder appear to

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have less self-confidence when performing physical activities and participate less in organized play activities.

In that context, this research aims to explore, identify, and understand the relationship between motor skill levels and the participation of elementary school pupils in Jordan in physical activities; to analyze this relationship; and to provide practical recommendations for promoting participation in physical activities within the school setting.

1-2 Research Problem:

The research question addressed by this study is the significant gap between the theoretical importance of motor skills and the lack of consistent empirical evidence regarding their association with physical activity levels among elementary school students. While motor proficiency is recognized as a cornerstone of development, there remains a scarcity of contemporary studies investigating how these skills influence long-term physical development within this specific age group. Neglecting this relationship is increasingly linked to persistent motor deficits and a decrease in physical activity as children transition into adolescence. In light of recent evidence demonstrating a robust and reciprocal link The Relationship Between the engine Skills and Health-Related corporeal Outcomes [4], [3], the current study aims to address this ambiguity in the literature. By doing so, it seeks to effectively explain how motor skill interventions can be leveraged to promote sustained engagement in physical activity.

1-3 Research Objectives:

This study aims to:

Outcome report - Investigate the Relationship Between Motor Skill Levels (TGMD-3) and Physical Activity (PAQ-C) Among Elementary School Students in Jordan. Identifying Gender Differences in Motor Skills and Physical Activity. Determine differences in movement skills and physical activity participation associated with ages 8–12 years. Recommendations to encourage physical activity participation in a school setting based on the data.

1-4 Research Hypotheses:

The study hypothesizes that:

1. There is a statistically significant correlation between motor skill levels and physical activity participation levels among primary school pupils.
2. There are statistically significant differences in Motor Skills and Levels of Physical Activity attributable to the gender variable.
3. There are statistically significant variations in Motor Skills and Levels of Physical Activity attributable to the age variable.

1-5 Scope of the Research:

- Human Scope: Primary school pupils (boys and girls) aged 8 to 12 years.
- Temporal Scope: Academic year 2024–2025.
- Spatial Scope: Primary schools in Karak Governorate, Jordan.

2- Previous Studies:

2-1 Study (Holfelder & Schutt, 2014): Relationship of fundamental movement skills and physical activity in children and adolescents. [13]

The authors also conducted a detailed review, identifying 23 studies on the relationship between basic motor skills and physical activity levels in children aged 3 to 18 years. Of the 23 studies, 10 were conducted in Australia, 5 in the United States, 3 in Finland, and one each in Greece, Belgium, Scotland, Portugal, and Germany, respectively. Twelve studies showed a relationship between basic motor skills and organized physical activity. Strong associations were found between moderate physical activity and object control (six studies), as well as between physical activity and motor skills (four studies). Stronger associations were also found among girls compared to boys.

2-2 study (van Niekerk et al, 2016). The correlation between motor proficiency and physical activity in Senior Phase learners in the Potchefstroom area. [14]

In 2016, van Niekerk et al. conducted a study titled “The Relationship Between Motor Proficiency and Physical Activity Levels Among High School Students in the Potchefstroom Area,” which aimed to determine the relationship between motor proficiency and physical activity levels among high school students in Potchefstroom, South Africa. No studies have addressed the relationship between motor proficiency and physical activity levels among adolescents in South Africa. The study was conducted on 239 students aged 13–14, and the researchers found that body coordination skills—as measured by the standing jump test—and strength tests were closely associated with physical activity across all groups.

2-3 study (Schembri et al, 2019). The relationship between the practice of physical activity and sport and the level of motor competence in primary school children. [15]

This study examines the development of gross motor skills in 120 children aged 6 to 11 from three different schools in Sicily. The results showed that boys, children in lower grade levels, and those who participate in sports are more likely to have a high level of motor competence compared to their respective reference groups (i.e., girls, higher grade levels, and students with low motor competence, respectively).

2-4 study (Dana et al, 2023). Association between physical activity and motor proficiency among primary school children. [8]

This study aimed to examine the relationship between objectively measured physical activity (using an accelerometer) and motor proficiency in children. The study was conducted on 384 children (192 boys and 192 girls) aged 7 to 9 years in elementary schools in Tehran, Iran. The results showed that the children did not meet the World Health Organization’s guidelines, which recommend 60 minutes of moderate-to-vigorous physical activity daily. The study also showed that sedentary time was significantly inversely related to both gross and fine motor skills. The results also showed that physical activity

measured using an accelerometer was directly and positively associated with gross motor skills, but there was no effect on fine motor skills

3. Research Procedures:

3-1 Research Methodology:

This study uses a descriptive research design with correlational and comparative research methods. A correlational approach was chosen to explore the type and degree of linkage between motor skill level and physical activity involvement of primary school students. The comparative approach was also used to find statistically significant gender and age differences in these variables. This quantitative methodology lends itself very nicely to conducting this study, as this approach, with its ability to accumulate numerical data, allows one to precisely establish relationships among variables and do number crunching through objective statistical analyses.

3-2 Research Population and Sample:

3-2-1 Research Population:

The study sample comprised 133 boys (65) and girls (68) aged 8-12 from Jordanian schools in Karak Governorate. The sampling is random so that gender differences are minimized

3-2-2 Study Instruments:

3-2-2-1 Motor Skill Level

To evaluate the motor skills of elementary school pupils, the “Total General Motor Development Test—Third Edition” (TGMD-3) was used. The TGMD-3 is a standardized assessment tool developed by (Ulrich, 2020) and is supported by strong evidence of its validity and Reliability. [16]

Gross Motor Skills Development Third Edition of the Test (TGMD-3, Ulrich, 2020) was utilised to measure proficiency in basic motor skills. The TGMD-3 is a practical, competency-based assessment that evaluates the components of a skill, rather than its final outcome. As previously mentioned, the TGMD-3 consists of subtests for motor skills (running, jumping, sprinting, sliding, leaping, and horizontal jumping skills) and Object manipulation skills (catching a ball, over-the-shoulder throwing, under-the-shoulder throwing, kicking, two-handed striking, one-handed striking, and stationary dribbling) [16]. The TGMD-3 scale has been widely utilized in research and has been shown to have high validity. [17]

3-2-2-2 Physical activity participation scale

The Physical Activity Questionnaire for Children (PAQ-C), a tool that measures physical activity over a seven-day period, was used to assess physical activity. The PAQ-C was initially created to evaluate physical activity levels in children aged 8 to 14 years. However, subsequent psychometric evaluations have confirmed the PAQ-C's validity and reliability for diverse populations in today's society [18].

In contrast to other instruments previously designed to assess levels of physical activity among youth, PAQ-C has been shown to have high suitability with

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both typically developing children and children with a wide range of functional requirements [19], affirming its high acceptability in pediatric contexts. Several studies using the PAQ-C to estimate physical activity levels have been observed to be conducted within the context of childhood obesity and physical impairments [20], [21]. For the objective of this study, the Arabic version of the PAQ-C was used. This version was cross-culturally adapted and validated by "Sirajuddin". [22]. They validated that the Arabic PAQ-C had sufficient validity and reliability for school-aged children and published the measure in Peer J following a psychometric evaluation of primary school children from the Al-Majma'ah region of Saudi Arabia.

3-2-3 Study Instruments:

This study was carried out in the context of scheduled school exercises approved by the Jordanian Ministry of Education. Approval from the school administration and parents of the participating pupils was obtained. Participation was entirely voluntary, and all pupils could withdraw at any time with no repercussions. Before data collection, the study's objectives and methods were clearly explained to teachers and parents, and the written consent of all parents was obtained. Ethical research standards were adhered to in all procedures involving children.

In accordance with a well-established protocol, the TGMD-3 assessment was administered individually to each student in the school gymnasium. As these pupils were very young and could not understand the questionnaire items by themselves, the PAQ-C was done with the assistance of the teachers and their parents, under the researcher's supervision. Only by interpreting the statements were the teachers allowed to participate in the questionnaires; they did not influence responses to their questions in any way.

3-2-4 Statistical Analysis

Data were analyzed using SPSS version 25. The normality of the data was assessed using the Shapiro-Wilk test. It was found that the data were not normally distributed, so nonparametric statistical tests were conducted. For example, the Mann-Whitney U test was used to compare two groups (males and females). The Kruskal-Wallis test was used to compare more than two groups. For the analysis of differences between study groups, the Mann-Whitney U test was used to compare two groups, such as males and females. The Kruskal-Wallis test was used to compare more than one group—such as differences between different age groups. Follow-up tests were performed to determine the groups responsible for this variation when significant differences were observed. For the investigation of the relationship of variables, the study used Pearson's rank correlations as a measure of the strength and direction of the relationship between the level of basic motor skills (TGMD-3) and physical activity (PAQ-C).

The threshold for statistical significance was set at $p < 0.05$. The findings revealed a moderate positive association between motor skills and physical

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activity levels.. Statistically significant differences were also observed across gender and age in both motor skills and physical activity levels.

4- Presentation, Analysis and Discussion of the Results:

Thus, nonparametric statistics were considered for the rest of the analyses to give better insight into what the results represent in reality.

Table 1: Normality test results (Shapiro–Wilk)

Variable	Shapiro–Wilk Statistic	Statistic Significance (p)
Total PAQ-C	0.963	0.001
Total TGMD-3	0.960	0.001
Height	0.959	0.000
Weight	0.957	0.000

The samples were determined stochastically using the Shapiro-Wilk test. The variables' P-values (total score on the PAQ-C and TGMD-3) were less than 0.05, indicating that the data is not normally distributed.

Table(2): Descriptive statistics for the study variables (Mean, Standard Deviation, Range)

Variable	N	Mean	SD	Min	Max
Height (cm)	133	145.41	14.88	125.00	185.00
Weight (kg)	133	39.71	9.07	25.00	69.00
Age (years)	133	9.94	1.10	8.00	11.00
PAQ-C	133	3.48	0.05	2.05	4.41
TGMD-3	133	47.05	6.78	30.00	62.00

Table The demographic variables clearly affect the data in (2)with the average age of pupils being 4-9 years, average height was 141-145cm and mean weight was 39-71kg. This data included the following biographical variables (gender, age, height, weight, in addition to the sum of the scores of .(scale ٣-C) and the TGMD-Activity Scale for Children (PAQ the Physical

Table(3) Differences in Total TGMD-3 Scores by Gender

Gender	N	Mean	SD
Female	68	44.50	6.44
Male	65	49.77	6.43

Males greatly outperformed females (Mean: 49,77 vs 44,50, $p = 0.038$). Such inconsistency could also be due to local culture and the way of life in Jordan, where boys are motivated to play outdoor games of various kinds, e.g., football, to exercise their object-control skills. Girls' activities tend, however, to be inside or less planned.

Table 4. Total TGMD-3 Scores by Age

Age (years)	N	Mean	SD
8	29	43.10	5.37
9	40	45.48	6.78
10	34	47.93	7.02
11	30	50.31	6.47

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In Table 4, the results show that motor abilities increased linearly in line with age to levels observed at 11 years (132+ months). This mimics the students' intrinsic biological maturation and motor practice over time. Given that the study examined developmental differences within the same birth year using 'Total Age in Months', it confirms that older pupils demonstrate higher motor competence due to their advanced physical growth and practice.

Table 5. Total TGMD-3 Scores by Age and Gender

Age	Gender	N	Mean	SD
8	Female	15	42.13	4.19
8	Male	14	44.14	6.48
9	Female	20	43.30	5.75
9	Male	20	47.65	7.37
10	Female	18	46.17	6.84
10	Male	16	49.94	6.83
11	Female	15	46.40	6.64
11	Male	15	54.27	4.88

There is an overall difference between the arithmetic mean of TGMD-3 test scores, and in general age and sex distribution of performance with respect to motor performance, the level of motor performance was found to be as highest as the average of male score of 54.27 at eleven and lowest for female score of 42.13 at eight years of age.

Table 6. Differences in Total PAQ-C Scores by Gender

Gender	N	Mean	SD
Female	68	3.65	0.44
Male	65	3.33	0.50

Remarkably, females scored above males (Mean: 3.65 vs 3.33, $p = 0.008$). Males had higher structured skill scores, with lower PAQ-C frequency. This might be due to the PAQ-C containing more informal play, dancing, and household tasks—all of which Jordanian primary school girls exhibit better consistency and frequency of activities throughout the day.

Table 7. Total PAQ-C Scores by Age

Age	N	Mean	SD
8	29	3.69	0.39
9	40	3.51	0.52
10	34	3.42	0.52
11	30	3.36	0.51

Table 7 shows that physical activity levels experienced a gradual decline as children grew older, decreasing from a mean of 3.69 at age 8 to 3.36 at age 11. This 'Inactivity Gap' in older pupils is likely due to increased academic workloads and higher exposure to sedentary digital entertainment and screens. This suggests that while older pupils possess better motor skills, they have less time or interest in participating in daily physical activity compared to younger pupils.

Table 8. Total PAQ-C Scores by Age and Gender

Age	Gender	N	Mean	SD
8	Female	15	3.73	0.40
8	Male	14	3.65	0.38
9	Female	20	3.69	0.39
9	Male	20	3.33	0.58
10	Female	18	3.54	0.49
10	Male	16	3.28	0.53
11	Female	15	3.63	0.38
11	Male	15	3.09	0.51

Age and sex-based descriptive scores reflect the PAQ-C mean. The highest mean value was for 8-year-old girls (mean = 3.73) and the lowest mean for 11-year-old boys (mean = 3.09).

Table 9. Correlation Analysis Between TGMD-3 and PAQ-C Scores

Variables	Test Type	Correlation Coefficient	Significance (p)
Total TGMD-3 & Total PAQ-C	Spearman (rho)	0.306	0.000

The statistical analysis indicated a moderate positive correlation ($\rho = 0.306$, $p < 0.001$) between motor skill proficiency (TGMD-3) and physical activity levels (PAQ-C). This indicates that children with greater motor competence are more likely to participate in physical activity. This is attributed to the “Self-Efficacy” concept, whereby children who become proficient in basic movement abilities are more confident and feel capable, alleviating the social anxiety associated with failure and stimulating participation in group sports.

5. Conclusions and Recommendations:

5-1 Conclusions:

The association between total TGMD-3 and total PAQ-C (physical activity level) scores, as well as gender and age, were analyzed and interpreted. The findings were also compared with the literature of similar studies. This study analyzed the relationship between the total score on the TGMD-3 scale and the total score on the PAQ-C scale, as well as differences based on gender and age. Results revealed that:

- Motor Skills and Physical Exercise: There is a statistically significant positive relationship between mastery of motor skills (TGMD-3) and levels of physical activity (PAQ-C). This suggests Children with better motor skills engage in Greater Levels of Physical Activity, as measured by their own reports.

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This conclusion aligns with the “positive spiral of engagement” paradigm, which recent findings from.[3], support through a global meta-analysis of the strong Relationship Between Motor Skills and Physical Activity. Furthermore, [8] demonstrated that self-reported and accelerometer-measured physical activity are positively related to fundamental motor skills.[11] also found evidence from longitudinal data that early motor proficiency is a key predictor of long-term sustained physical activity throughout childhood development.

- Gender Differences

The research results revealed that there were Gender Differences in Motor Abilities and Physical Activity levels in this study (Tables 3 & 6). Differences on the TGMD-3 scale: Male pupils demonstrate superior performance in gross motor skills, especially in object-control components. Gouldway et al. (2019) found that opportunities for practice and environmental influences are important factors in these differences, as boys were more likely to engage in sports or games such as soccer and basketball (based on the role they play in sports and games that require motor skills and hand-eye coordination), whereas girls tended to focus on tasks or activities centred on indoor movement. Gender Activity Gap: Female pupils exhibit higher overall participation in daily physical activities as measured by the PAQ-C. While this contrasts with some traditional literature, it supports the observations of Hollfelder and Schott [13]. regarding the high frequency of informal and recreational play among girls in certain cultural contexts. Age-Related Decline: While motor skills improve with age due to biological maturation, physical activity levels significantly decrease as pupils get older. This "Inactivity Gap" is supported by Van Niekerk [14]. who identified a global pattern of diminishing physical activity during the transition into late childhood.

- Age-Related Differences

Statistical analyses were conducted on PAQ-C and motor skills (TGMD-3) scores. While motor skills improve with age due to biological maturation, physical activity levels significantly decrease as pupils get older. The drop rate is likely a consequence of numerous social and technological factors, with a large part of the factor coming from workload and longer schooling schedules, and the explosion of becoming a consumer of technology and digital games that curtail time for free play. This is consistent with the findings obtained by Van Nierk et al. (2016), who focused on the overall pattern of diminished physical activity in the general age group.

5-2 Recommendations:

- This is a huge part of a child doing certain forms of physical activity in itself; therefore, it is recommended to emphasise the development of children's basic motor skills since childhood. Their engagement in physical activities through these activities encourages their motor skills, thus contributing to lifelong physical activity participation.

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- It is recommended to develop scientific curricula for physical education and curricula that focus on physical education, not limited to "learning movement" alone, but including diverse activities designed to encourage movement and control, as well as balance and motor coordination.
- It is also recommended to create physical exercise and educational programs that take into account differences between the sexes and offer equal opportunities to develop different types of activity, especially for girls, to develop their abilities in using equipment and participating in structured and unstructured physical activities.
- Measures that reduce the slow and gradual decline of physical activity with age, such as reducing sedentary behavior and supplying and managing school and extracurricular sports programs targeted at older age groups should be implemented.
- Furthermore, a long-term study is suggested to identify the causal link between motor skills and exercise and the consequences of environmental and social issues, with a focus on the Jordanian case in a more dynamic manner.

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Appendix (1)

Test of Gross Motor Development – Third Edition (TGMD-3) Protocol

This appendix outlines the standardized procedures and performance criteria used to evaluate the motor competence of the participants. The TGMD-3 assesses the quality of movement rather than the numerical outcome.

Part A: Locomotor Skills Subtest

Each pupil is given two trials for each skill. A score of (1) is awarded if the criterion is met, and (0) if it is not.

Skill	Task Description	Performance Criteria (Score 1 or 0)
Run	Run as fast as possible from the starting cone to the finish line (20m).	1. Arms move in opposition to legs. 2. Brief period where both feet are off the ground. 3. Foot placement is on the toes/midfoot (not flat-footed).
Gallop	Move forward in a galloping motion for 10 meters.	1. A step forward followed by a trailing step (lead foot stays ahead). 2. A brief flight phase between steps. 3. Arms are bent and used for balance.
Hop	Hop on the dominant leg three consecutive times.	1. Non-hopping leg swings forward to produce momentum. 2. Arms are used to maintain balance and lift. 3. Clear take-off and landing on the same foot.
Horizontal Jump	Jump as far as possible starting from a stationary position.	1. Arms swing back behind the body before take-off. 2. Full extension of hips, knees, and ankles during flight. 3. Balanced landing on both feet simultaneously.

Part B: Ball Skills Subtest (Object Control)

Skill	Task Description	Performance Criteria (Score 1 or 0)
Two-Handed Strike	Hit a stationary ball off a batting tee using a plastic bat.	1. Dominant hand grips above the non-dominant hand. 2. Side-on stance toward the target. 3. Trunk and shoulder rotation during the swing.
Stationary Dribble	Dribble a basketball in place using one hand.	1. Contacting the ball with fingertips (not the palm). 2. Ball height stays at or below waist level. 3. Maintaining control without looking at the ball constantly.
Overhand	Throw a tennis ball hard against a wall from a	1. Wind-up phase with arm

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Throw	distance.	moving back and up. 2. Stepping with the foot opposite to the throwing hand. 3. Arm follows through toward the target.
Kick	Run and kick a stationary soccer ball toward a target.	1. Rapid approach with consistent strides. 2. Non-kicking foot placed firmly beside the ball. 3. Contact made with the instep or laces of the shoe.

Appendix (2):

Physical Activity Questionnaire for Children (PAQ-C) – Arabic Version

The PAQ-C is a 7-day recall instrument used to assess general physical activity levels during the school year.

Scoring Guide:

The questionnaire consists of 9 items scored on a 5-point Likert scale (1 = Low activity, 5 = High activity).

Final Score Calculation: The total score is the mean of the 9 items.

Interpreting the Mean Score:

1.0 – 2.3: Low Physical Activity.

2.4 – 3.7: Moderate Physical Activity.

3.8 – 5.0: High Physical Activity.

Supplementary File – Arabic Version of Physical Activity Questionnaire for Older Children (PAQ-C)

استبيان النشاط البدني للأطفال الأكبر سناً (PAQ-C)

الاسم : السن :
النوع : ذكر أنثى المستوى :
المدرس :

نحن نحاول معرفة مستوى نشاطك البدني من آخر 7 أيام (في الأسبوع الأخير). وهذا يشمل الرياضة أو الرقص الذي يجعلك تعرق أو تجعل ساقيك تشعران بالتعب ، أو الألعاب التي تجعلك تتنفس بصعوبة ، مثل القفز والجري والتسلق وغيرها.

تذكر

1. لا توجد إجابات صحيحة أو خاطئة - هذا ليس اختبار.
2. يرجى الإجابة على جميع الأسئلة بصدق ودقة بقدر ما تستطيع - وهذا مهم جداً.

1. النشاط البدني في وقت فراغك: هل قمت بأي من الأنشطة التالية خلال الـ 7 أيام الماضية (الأسبوع الماضي)؟ إذا كان الجواب نعم، كم مرة؟ (ضع علامة ✓ فقط لكل صف).

نوع النشاط	لاشيئاً	1-2	3-4	5-6	7 أو أكثر
الوثب بالحبل					
التزلج بالمجالات					
لعبة المسنكة					
المشي للتمرين					
ركوب الدرجات					
الركض أو الجري					
التسريحات الهوائية أو الغزاة					
السباحة					
التنس					
الرقص					
كرة القدم					
تنس الريشة					
التزلج بالبيورد					
الهوكي					
كرة السلة					
فنون الدفاع عن النفس والكاراته					
أخرى :					

2. في الأيام السبعة الأخيرة ، أثناء فصول (حصة) التربية البدنية (الالعاب) ، كم عدد المرات التي كنت فيها نشيطاً للغاية (اللعب بقوة ، الجري ، القفز ، الرمي)؟ (أختار واحد فقط).

- أ) لا اخذ هذا الفصل
- ب) بالكاد
- ج) في بعض الأحيان
- د) في كثير من الأحيان
- هـ) دائماً

3. في الأيام السبعة الماضية ، ماذا فعلت معظم الوقت في العطلة؟ (أختار واحد فقط).

- أ) جلست (للتحدث وللقراءة وللقيام بالواجب المدرسي)
- ب) قمت بالمشي
- ج) لعبت وركضت قليلاً جداً
- د) لعبت وركضت بعض الوقت
- هـ) لعبت وركضت كثيراً

4. في الأيام السبعة الماضية ، ماذا كنت تفعل عادة في الغداء (بالإضافة إلى تناول الغداء)؟ (أختار من واحد فقط).

- أ) جلست (للتحدث وللقراءة وللقيام بالواجب المدرسي)
- ب) قمت بالمشي
- ج) لعبت وركضت قليلاً جداً
- د) لعبت وركضت بعض الوقت
- هـ) لعبت وركضت كثيراً

5. في الأيام السبعة الأخيرة ، كم عدد الأيام بعد المدرسة مباشرة قمت بممارسة الرياضة أو الرقص أو ممارسة الألعاب التي كنت فيها نشيطاً للغاية؟ (أختار واحد فقط).

- أ) ولا مرة
- ب) مرة واحدة خلال الأسبوع السابق
- ج) مرتين أو ثلاث مرات خلال الأسبوع السابق
- د) أربع مرات خلال الأسبوع السابق
- هـ) خمس مرات خلال الأسبوع السابق

6. في الأيام السبعة الأخيرة ، كم عدد المرات قمت فيها بالرياضة في المساء ، أو الرقص ، أو ممارسة الألعاب التي كنت فيها نشيطاً للغاية؟ (أختار واحد فقط).

- (أ) ولا مرة
 (ب) مرة واحدة خلال الأسبوع السابق
 (ج) مرتين أو ثلاث مرات خلال الأسبوع السابق
 (د) أربع أو خمس مرات خلال الأسبوع السابق
 (هـ) ستة أو سبعة مرات خلال الأسبوع السابق

7. في عطلة نهاية الأسبوع الماضي ، كم عدد المرات التي مارست فيها الرياضة ، أو الرقص ، أو ممارسة الألعاب التي كنت فيها نشيطاً للغاية؟ (أختار واحد فقط).

- (أ) ولا مرة
 (ب) مرة واحدة
 (ج) مرتين أو ثلاث مرات
 (د) أربع أو خمس مرات
 (هـ) ستة أو أكثر

8. أي مما يلي يصف لك أفضل شيء خلال السبعة أيام الماضية؟ اقرأ جميع العبارات الخمس قبل أن تقرر الإجابة الوحيدة التي تصفك

- (أ) أفضى كل أو معظم وقت فراغي في عمل أشياء تتطلب علي جهد بدني قليل.
 (ب) في بعض الأحيان من 1 - 2 مرات في الأسبوع الماضي فعلت أشياء تعتمد عل مجهود بدني في وقت فراغي .
 (ج) في بعض الأحيان من 3 - 4 مرات في الأسبوع الماضي فعلت أشياء تعتمد عل مجهود بدني في وقت فراغي .
 (د) في بعض الأحيان من 5 - 6 مرات في الأسبوع الماضي فعلت أشياء تعتمد عل مجهود بدني في وقت فراغي .
 (د) في كثير من الأحيان من 7 مرات أو أكثر في الأسبوع الماضي فعلت أشياء تعتمد عل مجهود بدني في وقت فراغي .

9. اوصف عدد المرات التي مارست فيها النشاط البدني (مثل ممارسة الألعاب الرياضية أو الألعاب أو الرقص أو أي نشاط بدني آخر) لكل يوم في الأسبوع الماضي.

اليوم	أحد	ثلاثاء	متوسطة	عليا	بشعير
الجمعة					
السبت					
الأحد					
الاثنين					
الثلاثاء					
الأربعاء					
الخميس					

10 . هل كنت مريض / مريضة في الأسبوع الماضي ، أو هل منعك أي شيء من القيام بالنشاط البدني الطبيعية؟ (ضع علامة على واحدة).

نعم لا

في حالة الإجابة بنعم ، أذكر السبب الذي منعك