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Original Article

Sports talent profile of 7-12 years old: Preliminary study of talent identification in Indonesia

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Abstract:
Talent is a superior ability possessed by a person, it is genetic in nature and is largely determined by the environment in the development process until it reaches the optimal stage. To discover a child's talents, a valid and reliable instrument is needed that is able to detect these talents. This research is the first step in studying children's talents by using an instrument consisting of Anthropometric variables, physical performance (PP), and motor coordination (MC) to obtain profiles of these three performance features. Furthermore, through analysis we will also find out children's talents in sports and reveal the differences between students who have not practiced sports and students who have been trained in sports. This research involved 1001 children (boys= 518, girls= 483) in Pekanbaru City aged 7-12 years and consisted of 2 sample groups, namely students who had participate and had not participate a sports club. The results of this research provide information that there is no difference in anthropometry between students who have participate and those who have not participated a sports club. It turns out that student participation in a sports club has no effect on the anthropometric variables ($p=0.278>0.05$), as well as gender groups (boys, girls) which do not show any significant differences ($p=0.997>0.000$). In terms of motor coordination ability and physical performance, significant differences were found between children who participate and those who did not participate a sports club ($p=0.000<0.05$). However, in the gender group (boys, girls) there was no significant difference in these two abilities ($p=0.997>0.000$). Furthermore, there was also no interaction found between children's participation groups in sports and gender on anthropometry, motor coordination and physical performance. Apart from that, using Sekora-SportKompas is also able to predict which sports are suitable for children based on the test results obtained, here are the 3 sports that appear the most; rhythmic gymnastics (total=263; boys=88, girls=175), golf (total=200; boys=104, girls=96) and horse riding (total=179; boys=99, girls=80). In the future, the results of this research will be used as a reference in recruiting athletes and developing long-term athletes.
Key Words: **anthropometry, motor coordination, physical performance, talent identification**

Introduction

Indonesia has committed to becoming a country with high competitiveness in the field of sports, occupying the top ten positions at the 2044 Olympics, DBON (*Desain Besar Olahraga Nasional*; Kemenpora 2022). This effort can be realized through the LTAD program (Balyi et al., 2013) which is planned comprehensively, and systematically by ensuring that the four sectors of sports development: society, education, sports industry, and sports achievements, receive proper attention. To achieve high achievements in sports, coaching must start early in order to produce optimal results (Nadia et al., 2023). Sports Education is the foundation for achieving DBON's goals.

Physical education is an educational undertaking integrated into a continuous and regular learning process aimed at acquiring knowledge, personality development, skills, as well as promoting health and physical fitness. (Johnson & Turner, 2016) (Andrieieva et al., 2020). Physical education combined with talent identification and development programs will provide coaches and parents with an idea of the athletes' weaknesses and strengths, so that coaches can provide feedback or suggestions that are relevant to the conditions experienced by the child (Fernández-Rio & Méndez-Giménez, 2012). In the world, this talent identification and development program began in the 1950s by conducting various studies and research in large groups ranging from children, teenagers to adults to help practitioners find talented young athletes and produce policies related to this.

By using a talent detection system in the form of assessing anthropometric aspects, physical performance and movement skills, it can help children who don't even have a sport yet to start actively exercising in the potential

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sport of potential athletes. Increasing the number of groups of children who are detected as talented (talent pool) is the main target of implementing talent detection, in accordance with the main problem of Indonesian sports, namely the level of participation of children in sports which is still small. The more children who participate in a sport, the more competitive the competition in that sport will be.

Individuals who have distinct physical and psychological circumstances at different periods of life and have a greater degree of future sports accomplishment than they should be are called gifted in a specific sport, according to Gabler and Ruoff (Budhiarto et al., 2022). Athletic talent is individual and consists of physical, psychological, anthropometric, motor, social, and other qualities that, with the right development processes, could guarantee a high degree of success in the future (Harsányi, 1992). Conversely, the growth of sports accomplishments stems from a confluence of players' technical, tactical, mental, and physical skills acquired by effective coaching.

Motor coordination and fundamental motor skills are important components that prospective talented athletes must have in the coaching process. These abilities and skills must be taught (Bakhtiar et al., 2020)(Goodway et al., 2014) and developed according to the development stages from the ages of 0-6 years (active start), 6-9 years (FUNdamental), and 9-12 years (train to train) (Balyi et al., 2013). Not only does sports participation have a positive impact on anthropometric measurements such as body weight and body composition (Opstoel et al., 2015), children's health also improves in terms of physical fitness (Fisher et al., 2005)(Hands, 2008) which can be considered one of the most important markers of health (Ortega et al., 2008).

In anticipating future success during early stages of life, understanding the stability of anthropometric and physical performance measures over the long term is crucial. This pertains to the constancy of an individual's position or ranking within a group relative to others (Mostaert et al., 2022). Hence, it is recommended for children to actively engage in diverse sports activities. Moreover, involvement in sports at an early age positively contributes to the enhancement of children's motor coordination. This is because participating in physical activities offers more opportunities for learning and mastering the execution of motor skills (Fisher et al., 2005)(Okely et al., 2001). Beyond its positive impact on a child's overall physical well-being, participation in sports is also linked to the cultivation of distinct sports-related traits. Comparisons among adolescent athletes from various sports, well-documented in the literature, highlight that each sport possesses unique physical requirements to some extent.(John & Paul, 2013)(Vandorpe, Vandendriessche, Vaeyens, et al., 2011)(Duncan et al., 2006).

Motor coordination has been described as the capacity to efficiently control the degrees of freedom of the different body segments that are involved in the motion. It also determines to what extent and during what period someone can fully learn a skill (Vandendriessche et al., 2011) and it is the result of a combination of performance from the quality of muscles, bones, and participatets to produce an effective and efficient movement (Faber et al., 2018). Motor coordination skills are considered to have a strong correlation with cognitive development, a physically active lifestyle, fostering sports performance and other health benefits (Matarma et al., 2020). In other research, it is stated that motor coordination is a general construct that underlies the development of fundamental motor skills and specific movement skills (Vandorpe et al., 2012). It has been stated in several studies that motor coordination has a significant influence on mastery in various sports, including table tennis, field tennis, football, basketball and many other sports (Yubing, 2023)(Pion, 2015)(Robertson et al., 2018)(Vandorpe, Vandendriessche, Vaeyens, et al., 2011).

This research aims to reveal differences in anthropometry, physical performance, and motor coordination between children who participate sports clubs and children who do not participate sports clubs. We hypothesise that children affiliated in sports clubs outperform their peers that are not affiliated. This research will also reveal potential sports for children based on the results of anthropometric, physical performance and motor coordination component tests using Sekora-SportKompas.

Material & methods

Participants This research involved 1001 children from Pekanbaru, Riau Province consisting of two groups, namely; children who participate sports clubs (boys=168, girls=104) and children who did not participate sports clubs (boys=349, girls=380) aged 7 to 12 years. Data was obtained from physical education teachers and sports coaches in Pekanbaru.

Measurements The measurements for the participants were conducted between 2021-2022, during which they underwent two anthropometric tests, seven physical performance tests, and four motor coordination tests. Throughout the testing period, instructions and demonstrations were consistently standardized in accordance with the test guidelines (Harriss et al., 2022). The participants carried out all tests without wearing shoes, except for the sprints, the standing broad jump, and the endurance shuttle run test, for which they wore running shoes.

Anthropometry. Height, body weight, and body fat percentage were assessed according to to previously described procedures and manufacturer guidelines.

Physical performance. Hamstring and lower back flexibility were assessed by the sit-and-reach test of the European Test of Physical Fitness. The shoulder rotation test was used to evaluate shoulder flexibility

(Matthys et al., 2013) with an accuracy of 0.5 cm. To evaluate explosive leg power, participants engaged in standing broad jumps. Each participant performed two individual standing broad jumps without utilizing an arm swing. The highest result from three jumps was selected for further analysis (to the nearest 0.1 cm). Speed and agility were gauged through a 10 × 5 m shuttle run test and two maximal 30 m sprints, with split times recorded at 5 m and 30 m. A recovery time of 2 minutes was implemented between each sprint. The analysis focused on the fastest time recorded for covering the respective distances (Matthys et al., 2013). Upper-body strength endurance was measured by a knee pushups and curl-ups test, requiring the sample to execute as many repetitions as possible in 30 seconds. Finally, the cardiorespiratory endurance was measured using the endurance shuttle run test with an accuracy of 0.5 min (Syahputra et al., 2021).

Motor coordination. Gross motor coordination was evaluated by means of three subtests of the "Körperkoordinations Test für Kinder" (Kiphard & Shilling, 2007; Dieter N. Deprez et al., 2015); (1) backward For assessing balance, participants walked backward along balance beams of decreasing width (6 cm, 4.5 cm, and 3 cm, respectively). In the jumping sideways test, participants engaged in two-legged jumping over a wooden slat (2 × 15 s), with the total number of jumps recorded across the two trials. The moving sideways test involved lateral movement on wooden platforms (2 × 20 s), with the total number of relocations tallied over the two trials. Additionally, an overhead-throwing test utilized an official badminton shuttle to evaluate overarm throwing skills (Pion, Segers, et al., 2015). The goal of this test was to throw the shuttle as far and accurately (straightforward) as possible, holding the shuttle between thumb and index. The throwing distance of five trials was used for further analysis.

Children's talents. Potential sports for each child are obtained using Sekora-SportKompas after measuring anthropometry, physical performance and motor coordination.

Statistical analysis

Initial data analysis was carried out to determine the average value and standard deviation of the 14 test items carried out, which consisted of measurements; a) body height, b) body weight, c) balance beam, d) jumping sideways, e) moving sideway, f) shuttle throw, g) eye-hand coordination, h) knee push-up, i) shuttle run, j) curl-up, k) endurance shuttle run, l) sit and reach, m) standing broad jump and n) shoulder flexibility. After that, a normality test was carried out with QQ Plot (Quantile-Quantile Plot) and homogeneity with Levene's Test of Equality of Error Variance (if the Sig value > 0.05 then it is homogeneous, if the Sig value < 0.05 then the data is not homogeneous) as a research prerequisite test and continued with Multivariate testing (MANOVA) to determine significance values and differences based on gender groups and sample participation in sports clubs. All data were analyzed using SPSS version 26. Data on children's talents is obtained based on the results of anthropometric, PP and MC tests whose validity and reliability have been tested by competent experts in their fields.

Results

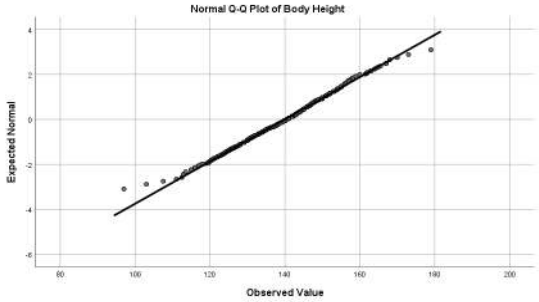
The data description aims to describe the research data obtained by displaying the results obtained by all samples for each test item tested. Table 1 shows the average value and standard deviation of research results by grouping by gender and sample participation in sports clubs.

Tabel 1. Descriptive statistics of gender and sport groups on Anthropometry, PP and MC characteristics (Mean ± Standard Deviation)

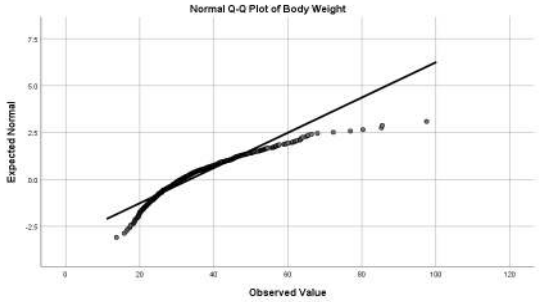
	Did not participation in sports clubs				**Participation in sports clubs**			
	Male (n=349)		Female (380)		Male (n=168)		Female (104)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Anthropometry								
Body Weight (kg)	33.10	10.32	32.54	9.33	35.138	12.381	35.789	12.641
Body Height (cm)	139.99	9.36	138.56	9.62	140.49	13.082	139.54	13.703
Motor Coordination								
Balance Beam	60.60	12.67	60.61	12.22	63.976	8.865	61.000	12.064
Jumping Sideways	52.95	15.46	50.44	13.10	55.982	13.206	51.433	13.739
Moving Sideways	40.95	9.37	36.54	7.79	44.137	8.933	38.519	10.019
Shuttle Throw (m_1)	2744.60	478.64	2166.34	380.91	2755.429	492.151	2267.038	536.871
Eye-hand Coordination	12.90	6.94	8.42	6.45	16.702	8.033	10.865	8.459
Physical Performance								
Knee Push-Ups	20.16	6.24	16.97	6.14	19.524	5.503	19.404	5.056
Shuttle Run (s)	24.03	4.80	25.00	2.97	23.235	2.456	24.763	2.665
Curl-Ups	22.53	7.07	19.76	7.13	25.530	9.132	23.260	7.391
Endurance Shuttle Run (m_2)	2.37	1.33	1.91	0.93	4.155	1.884	3.479	1.544
Sit and Reach	17.99	5.91	18.07	5.24	19.988	6.722	21.692	7.118
Standing Broad jump	130.05	25.81	113.15	23.32	148.845	25.021	129.221	24.826
Shoulder Flexibility	80.57	15.23	79.84	15.75	82.554	16.932	76.038	14.645

kg = kilograms, cm = centimetres, m1 = metres, m2 = minute

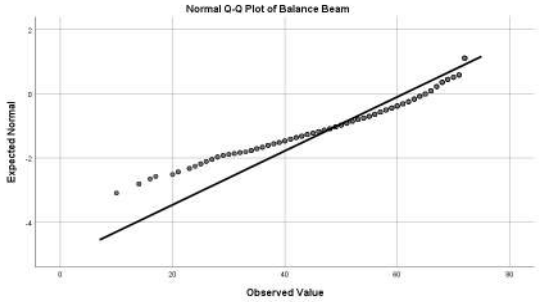
Table 1 shows that in almost every test item tested, boys in the group who did not participate a sports club outperformed girls, except for the shoulder flexibility test item where girls had better flexibility than boys. In the group that participate a sports club on 12 of the 14 test items assessed, boys outperformed girls. Meanwhile, for the other 2 test items, namely shuttle run and shoulder flexibility, girls' abilities are better than boys. Before carrying out data analysis, a normality test was first carried out using the visual method, QQ Plot (Quantile-Quantile Plot). Figure 1 below shows the results of the normality test.



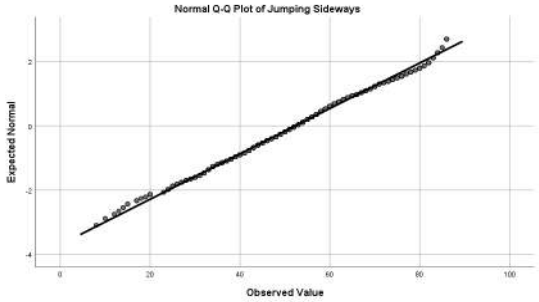
a)



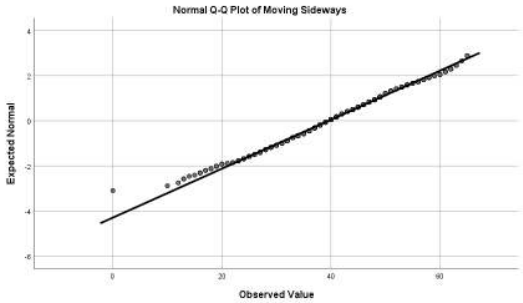
b)



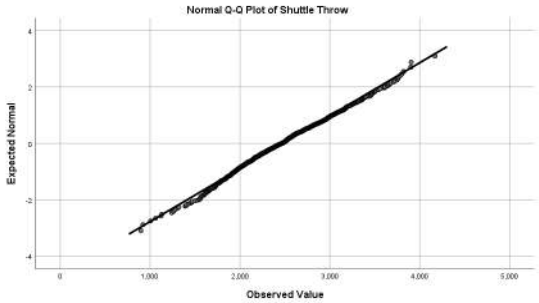
c)



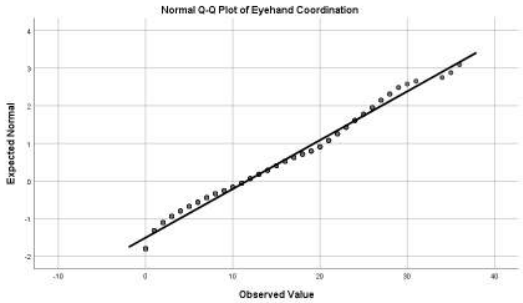
d)



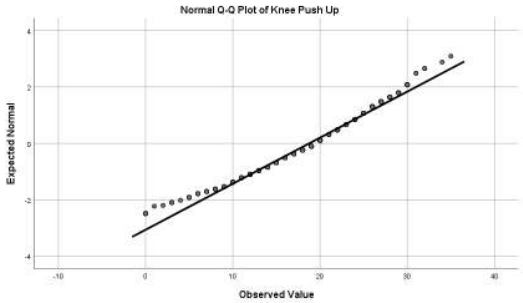
e)



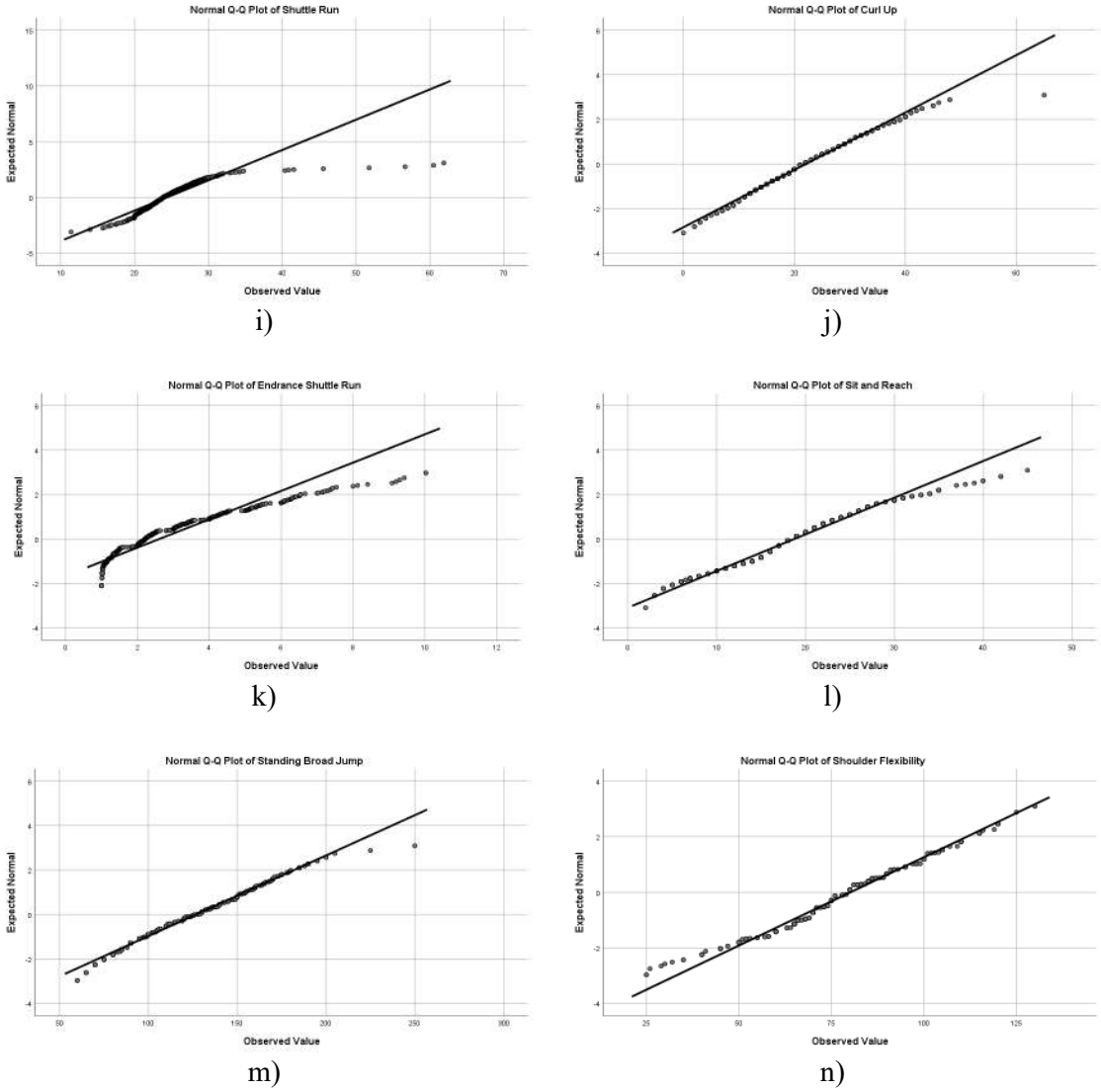
f)



g)



h)



i) j) k) l) m) n)

Figure 1. a) Normality body height test, b) body weight, c) balance beam, d) jumping sideways, e) moving sideway, f) shuttle throw, g) eye-hand coordination, h) knee push-up, i) shuttle run, j) curl-up, k) endurance shuttle run, l) sit and reach, m) standing broad jump and n) shoulder flexibility

Tabel 1. Testing the Homogeneity of Research Data

Anthropometry	**Sig**	**α = 0.05**	***Motor Coordination***	**Sig**	**α = 0.05**	***Physical Peformance***	**Sig**	**α = 0.05**
Body Weight	0.312	0.05	Balance Beam	0.118	0.05	Knee Push-Ups	0.511	0.05
Body Height	0.328	0.05	Jumping Sideways	0.505	0.05	Shuttle Run	0.193	0.05
			Moving Sideways	0.429	0.05	Curl-Ups	0.237	0.05
			Shuttle Throw	0.178	0.05	Endurance Shuttle Run	0.149	0.05
			Eye-hand Coordination	0.294	0.05	Sit and Reach	0.225	0.05
						Standing Broad jump	0.684	0.05
						Shoulder Flexibility	0.847	0.05

The analysis prerequisite test carried out in addition to the normality test with QQ Plots is a homogeneity test by looking at the Sig value on Levene's Test of Equality of Error Variance. Data is said to be homogeneous if the Sig value is > 0.05. In the table above, it can be seen that the Sig value for each variable is greater than 0.05, so it can be concluded that all anthropometric, physical performance and motor coordination data used in this study are homogeneous.

Following the completion of prerequisite analysis tests on the research sample, the study then proceeded with a multivariate analysis encompassing various aspects, including anthropometry (body height, body weight), physical performance (knee push-ups, shuttle run, curl-ups, endurance shuttle run, sit and reach, standing broad jump, and shoulder flexibility), and motor coordination (balance beam, jumping sideways, moving sideways,

shuttle throw, and eye-hand coordination). The analysis involved categorizing children into groups based on their participation in sports clubs, as well as groups of children who did not participate in sports clubs, and considering gender as a factor.

Tabel 2. Significance values and effect sizes of interaction, sex, and group comparisons.

	Group x Sex			Group			Sex		
	F	P	η^2p	F	P	η^2p	F	P	η^2p
Anthropometry	**0.001**	**0.979**	**0.000**	**1.17**	**0.278**	**0.001**	**0.000**	**0.997**	**0.000**
Body Weight	0.612	0.434	0.001	11.74	< 0.001	0.012	0.593	0.442	0.001
Body Height	0.916	0.339	0.001	2.03	0.154	0.002	0.118	0.731	0.000
Motor Coordination	**0.782**	**0.377**	**0.001**	**37.17**	**< 0.000**	**0.036**	**0.000**	**0.997**	**0.000**
Balance Beam	2.995	0.084	0.003	6.99	< 0.008	0.007	1.782	0.182	0.002
Jumping Sideways	1.002	0.317	0.001	6.72	< 0.001	0.007	13.588	< 0.000	0.013
Moving Sideways	0.903	0.342	0.001	26.64	< 0.000	0.026	79.788	< 0.000	0.074
Shuttle Throw	1.886	0.172	0.002	11.09	< 0.001	0.011	380.927	< 0.000	0.276
Eye-hand Coordination	1.716	0.190	0.002	53.37	< 0.000	0.051	127.461	< 0.000	0.113
Physical Performance	**0.201**	**0.645**	**0.000**	**17.07**	**< 0.000**	**0.017**	**0.000**	**0.997**	**0.000**
Knee Push-Ups	12.57	< 0.000*	0.012	5.07	< 0.025	0.005	41.964	< 0.000	0.040
Shuttle Run	1.088	0.297	0.002	7.56	< 0.006	0.008	26.511	< 0.000	0.026
Curl-Ups	0.210	0.647	0.000	43.67	< 0.000	0.042	38.411	< 0.000	0.037
Endurance Shuttle Run	1.303	0.254	0.001	334.48	< 0.000	0.251	52.045	< 0.000	0.050
Sit and Reach	3.566	0.059	0.004	37.93	< 0.000	0.037	0.282	0.596	0.000
Standing Broad jump	0.577	0.448	0.001	117.12	< 0.000	0.105	143.223	< 0.000	0.125
Shoulder Flexibility	6.457	< 0.011*	0.006	0.013	0.910	0.000	4.887	< 0.027	0.005

Tabel 3. Data on the Distribution of Children's Talents

Sport	Male	Female	Sport	Male	Female	Sport	Male	Female
Rhytmic Gymnastic	88	175	Judo	8	3	Triathlon	1	1
Golf	104	96	Climbing	4	4	Artistic Gymnastics	2	0
Horse riding	99	80	Throwing Athletics	7	1	Jumping Athletics	0	1
Volleyball	70	17	Rowing	5	1	Tennis	0	1
Dance	9	49	Sailing wagon	6	0	Rugby	1	0
Soccer	36	10	Taekwondo	2	3	Inline skating	1	0
Basketball	15	11	Power Ball	5	0	Handball	1	0
Figure Skating	13	9	Baseball / Softball	4	0	Krachtbal	1	0
Athletics long distance	7	12	Rope Skipping	1	2	Atletiek Springen	1	0
Cycling	15	3	Korfball	3	0			
Swimming	8	3	Jumping Athletics	2	0			

Tabel 4. Profile of Children's Potential in Pekanbaru

Category	Did not participation in sports clubs		Participation in sports clubs	
	Freq	%	Freq	%
Not Potential	0	0%	0	0%
Less Potential	11	1.51%	8	2.94%
Fairly Potential	418	57.34%	85	31.25%
Potential	295	40.47%	146	53.68%
Very Potential	5	0.69%	33	12.13%
	729	**100%**	**272**	**100%**

Anthropometry

MANOVA revealed nonsignificant main effects of sports club participation group x gender, gender, and sports club participation group for anthropometry (F = 0.001, p = <0.979, η2 p = 0.000). BW and BB in the groups participating in sports clubs and gender did not have significant differences (Table 3).

Motor Coordination

MANOVA revealed that the interaction between sports club participation group x gender was not significant (p= <0.337, η2 p = 0.001), as well as child group and gender on overall motor coordination abilities. Follow-up univariate analysis also showed insignificant interaction effects of all motor coordination components. If we look at the groups of children who are and are not members of sports clubs, significant differences are found in their motor coordination abilities. Children who participate a sports club had better motor coordination skills compared to children who did not participate (p= <0.000, η2 p = 0.036). However, in one of the motor coordination test items, namely eye-hand coordination, there was no difference between children who participate a sports club and those who did not (p= <0.000, η2 p = 0.051). In the gender group, the overall count was also not found to be a significant difference between men and women (p= <0.997, η2 p = 0.000). However, if we look at the calculation results for each test item, only the balance beam balance test is not significantly different (p= <0.182, η2 p = 0.002).

Physical Performance

A MANOVA revealed no significant sports club x gender participation group interaction effect (p = <0.645, η2 p = 0.000). The between-subject effect test revealed that there was a significant difference between the groups who participate a sports club and those who did not (p = <0.000, η2 p = 0.017), but not between genders (Table 3). Univariate analysis identified a significant effect of gender on physical performance components (men had better physical performance scores than women), except sit and reach. Meanwhile, for the group that participated in sports clubs, univariate analysis identified a significant effect on physical performance components (the group that participated in sports had better physical performance scores than those who did not participate), except for shoulder flexibility (see Table 3).

Children's Talents

Apart from measuring aspects of anthropometry, physical performance and motor coordination, this research is also able to predict relevant sports based on the test results of these three aspects using the Sekora-SportKompas tool. By knowing potential sports, it is hoped that children can learn which sports are most suitable for them. The results showed that of the 1001 children who took part in this research, 31 different sports were obtained. (Table 4), and the 7 sports that appeared the most were; rhythmic gymnastics (total=263; boys=88, girls=175), golf (total=200; boys=104, girls=96), horse riding (total=179; boys=99, girls=80), volley ball (total=87; boys=70, girls=17), dance (total=58; boys=9, girls=49), soccer (total=46; boys=36, girls=10) and basketball (total=26; boys=15, girls=11). Apart from that, research findings show that groups of children who join sports clubs have greater potential in the sports they play. There are more children with the fairly potential category in the group who have not joined a sports club (57.34%) compared to children who have joined a sports club (31.25%). For the potential category, there are fewer children who do not join a sports club (40.47%) than children who join a sports club (53.68%)(see Table 5).

Dicussion

This research aims to determine the average anthropometric, motor coordination, and physical performance scores of boys and girls who participate and do not participate sports clubs. Furthermore, the study aims to investigate whether children aged 7 to 12 who are already engaged in sports exhibit sport-specific traits concerning anthropometry, physical fitness, and motor coordination. Existing research indicates that, generally, young children do not manifest sport-specific physical characteristics unless they undergo extensive training. While the findings presented in this study may not yet enable the prediction of individual success in their respective sports in the future, understanding their capabilities in terms of anthropometry, physical performance, and motor coordination remains crucial in the Talent Identification Development (TID) pathway (Craig & Swinton, 2021).

For anthropometry, boys who did not participate a sports club had a smaller average BW (33.10 Kg) compared to boys who participate a sports club (35.13 Kg). The bras owned by boys who did not participate a sports club were also lower (139.99 cm) compared to children who participate a sports club (140.49 cm). Girls who did not participate a sports club also had a smaller average BW (32.54 Kg) compared to girls who participate a sports club (35.78 Kg). For the BH variable, girls who did not participate a sports club had a lower average BH value (138.56 cm) compared to girls who participate a sports club (139.54 cm) (Table I). The findings in this study are in line with studies that experts have conducted some time ago, that children who participate sports clubs will have higher BH values compared to children who do not participate in sports clubs (Mortatti & Arruda, 1980). This difference is thought to be related to the intensity of exercise that children undergo, which stimulates BH growth (McIntyre, 2005). Proportional BH and BW help children participate better in the sports activities they participate in (D. Deprez et al., 2015). It is said in a study that children with tall posture have an advantage because they can reach a higher and wider playing area, while children with shorter posture have a smaller chance of success in playing sports, including tennis and badminton (Vaverka & Cernosek, 2013). Apart from that, it was also found that there was a positive relationship between BH and BW on the muscle strength tests performed (Lago-Peñas et al., 2014).

For motor coordination, Boys who did not participate a sports club had an average motor coordination ability that was lower than those who participate a sports club, as did the sample of women where women who did not participate a sports club had lower motor coordination abilities. Motor coordination is described as a general, relatively stable physical construct that encompasses various aspects of motor ability (Vandorpe et al., 2012)(Vandorpe, Vandendriessche, Lefevre, et al., 2011)(Jaakkola et al., 2017). Coordination abilities are said to be the basis for the development of FMS and specific motor skills (Chaddock-Heyman et al., 2013)(Mardiansyah et al., 2023). By developing coordination skills, you will be able to have a positive influence on student's academic, cognitive, social, mental health, quality of life, and fitness achievements (Iivonen & Sääkslahti, 2014). Coordination skills must be introduced and taught from an early age to reach maximum levels through ongoing intervention at the early ages of students' development (Cohen et al., 2015). The intervention provided will not only contribute to technical development, but also improve the quality of movement and technique as well as making decisions when competing (Faber et al., 2018).

The significance of motor coordination has been illustrated in predicting performance outcomes (Pion, Fransen, et al., 2015). Additionally, the utilization of a standardized test battery indicates the feasibility of guiding athletes toward various sports (Pion, Segers, et al., 2015) as well as sports that share some similarities, like martial arts, karate, judo, and taekwondo (Pion, Fransen, et al., 2015). Motor coordination must be introduced and taught from an early age to reach maximum levels through continuous intervention at the early ages of students' growth and development (Vandorpe, Vandendriessche, Vaeyens, et al., 2011).

For physical performance, Boys who did not participate a sports club had an average physical performance ability that was lower than those who participate a sports club, except for the knee push up and shoulder flexibility components; Meanwhile, women who did not participate a sports club had a lower average of all physical performance components compared to those who participate a sports club. Differences During the growth process, the relationship between anthropometric variables and physical performance has a higher level of complexity (Syahputra et al., 2022). It is known that biological growth and maturity will also mutually influence physical performance abilities (Guimarães et al., 2019). Good physical performance is also said to help children participate more freely in various sports activities (Syahputra et al., 2022). One of the strengths of the current study lies in its extensive sample size, allowing for the exploration of a broad spectrum of sports. Additionally, the study concentrated on the anthropometric, physical performance, and motor coordination characteristics of both participating and non-participating children across a diverse array of sports, irrespective of their level of involvement. Despite the substantial sample size, certain sports were not adequately represented. As a result, the authors opted to combine sports based on shared characteristics. From the perspective of talent identification and development, it is advantageous to emphasize an individual sport rather than groupings of sports. This research was only conducted in Pekanbaru City, Riau Province, involving only a sample of 1001 boys and girls. In the future, it is hoped that research can be carried out again with the same theme involving more samples so that it can provide a broad picture of the condition of anthropometry, motor coordination ability and physical performance of children in Riau Province, and Indonesia more broadly so that it can be used as a benchmark in developing athletes. long term in Indonesia.

Conclusions

This research is the first research in Pekanbaru City using the anthropometric variables, physical performance, and motor coordination instrument. This research involved 1001 children aged 7-12 years in Pekanbaru City who were divided into two groups, namely: children who participated in sports clubs and those who did not participate in sports clubs. The results of the research show that there is no effect of children's participation in sports clubs on anthropometry, children who participate sports clubs and children who do not participate, as well as gender. In terms of motor coordination abilities, differences in abilities were found between children who participate sports clubs and those who did not, where children who participate sports clubs had better motor coordination abilities on all test items. Likewise with the gender of the child, where boys have better motor coordination abilities than girls, except for the balance test items. In terms of physical performance, children who participate sports clubs are better than children who do not participate sports clubs. Meanwhile, for gender, if described one by one based on the test items, differences in physical performance abilities were found between boys and girls except for the sit and reach test items. This research also provides information that of the 729 children who did not join sports clubs, it was found that 418 or 57.34% of children had potential, 295 or 40.47% of children had potential and 5 children or 0.69% had potential. high potential in some areas. Sport. Then, of the 272 children who took part in sports clubs, it was found that 146 or 53.68% of children had potential and 33 or 12.13% of children had great potential in several sports. Also using the Sekora-SportKompas tool through anthropometric, physical performance and motor coordination measurements, 31 different sports were also found from 1001 children who participated in this research. Through the data that has been collected in this research, we will be able to build a collection of information and categorize children's anthropometric, physical performance, motor coordination abilities and distribution of talent in children's sports so that in the future a model can be designed that can be used to predict children's success in the sport they are involved in and continue to be updated with new data every year.

Conflicts of interest

There is no conflict of interest in writing this research article.

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