HAN University

MoU

Hogeschool van Arnhem en Nijmegen
HAN University of Applied Sciences

MEMORANDUM OF UNDERSTANDING

Between

UNIVERSITAS NEGERI PADANG

and

HAN UNIVERSITY OF APPLIED SCIENCES

The parties:

UNIVERSITAS NEGERI PADANG, having its registered office and place of business on Jl. Prof. Dr. Hamka, Air Tawar Barat, Padang Utara, Kota Padang, Sumatera Barat 25131, legally represented in this matter by Prof. Ganefri, Ph.D, Rector.

and

Stichting Hogeschool van Arnhem en Nijmegen , HAN University of Applied Sciences, having its registered office and place of business on Ruitenberglaan 31, 6826 CC Arnhem, legally represented in this matter by Dr. Kees Boele, PhD, President.

Are wishing to strengthen bilateral relation in academic, research and cultural exchange with a view to strengthening the relationship and cooperation between two organizations, have agreed to sign this Memorandum of Understanding (MOU).

The areas of cooperation shall include any program initiated by either institution, which is desirable and feasible for the development and strengthening of cooperative relationships between the two institutions. However, all programs shall be subject to mutual consent and availability of funding.

Such programs may include, but not limited to, the following.

- Exchange of students
- Exchange and training of faculty and staff
- Joint research activities,
- Participation in seminars and academic meetings,
- Exchange of academic materials and other information,

Hogeschool van Arnhem en Nijmegen
HAN University of Applied Sciences

Details of each specific cooperative program shall be further discussed and mutually agreed upon concretized in writing.

This MOU shall be effective upon exchange of signature by both institutions and remain valid for five years. It may be, however, renewed by mutual agreement expressed by a written document.

The MOU is made in English in two (2) Copies, one of which is kept by each institution.

Universitas Negeri Padang

Prof. Ganefri, Ph.D
President

Date: _____

HAN-University of Applied Sciences

i.o.

Dr. Kees Boele
President

Date: 13 / 11 / 2018

SK Tim Kerjasama

KEPUTUSAN
KUASA PENGGUNA ANGGARAN
UNIVERSITAS NEGERI PADANG
Nomor : 0020/ UN35.3/AK/2021

Tentang
Penunjukan Tim Gugus Realisasi Kerjasama Dalam dan Luar Negeri Periode Januari - Juni 2021
Fakultas Ilmu Keolahragaan Universitas Negeri Padang

KUASA PENGGUNA ANGGARAN

Menimbang :

a. Bahwa dalam rangka peningkatan mutu di bidang olahraga yang berkembang sesuai kebutuhan Merdeka Belajar dan Kampus Merdeka, dipandang perlu dilaksanakan kerjasama antara Fakultas Ilmu Keolahragaan Universitas Negeri Padang dengan Badan, Lembaga, Perguruan Tinggi serta pihak lain di Dalam dan Luar Negeri.
b. Bahwa sesuai dengan butir ''a'' diatas, untuk lancarnya kegiatan dan komunikasi kerjasama tersebut maka perlu ditunjuk TIM Gugus Realisasi Kerjasama Dalam dan Luar Negeri Periode Januari - Juni Tahun 2021 Fakultas Ilmu Keolahragaan Universitas Negeri Padang.
c. Bahwa sesuai dengan point ''a dan b'' tersebut perlu ditetapkan Tim Gugus Realisasi Kerjasama Periode Januari - Juni 2021 Fakultas Ilmu Keolahragaan Universitas Negeri Padang, dengan surat keputusan Kuasa Pengguna Anggaran UNP.

Mengingat :

1. Undang-undang RI Nomor 20 Tahun 2003 tentang Pendidikan Nasional.
2. Undang-undang RI Nomor 12 Tahun 2012 tentang Pendidikan Tinggi.
3. Peraturan Pemerintah RI Nomor 4 Tahun 2014 tentang Penyelenggaraan Pendidikan Tinggi dan Pengelolaan Perguruan Tinggi.
4. Keputusan Presiden RI Nomor 93 Tahun 1999 tentang Perubahan IKIP Padang menjadi Universitas Negeri Padang.
5. Peraturan Menteri Riset, Teknologi dan Pendidikan Tinggi Nomor 10 Tahun 2010 tentang Organisasi dan Tata Kerja UNP.
6. Peraturan Menteri Riset, Teknologi dan Pendidikan Tinggi Nomor 67 Tahun 2016 tentang Statuta Universitas Negeri Padang.
7. Peraturan Menteri Pendidikan dan Kebudayaan RI Nomor 3 Tahun 2020 tentang Standar Nasional Pendidikan Tinggi.
8. Peraturan Pemerintah (PP) Pemerintah Pusat Nomor 114 Tahun 2021 tentang Peraturan Pemerintah (PP) tentang Perguruan Tinggi Negeri Badan Hukum Universitas Negeri Padang

MEMUTUSKAN

Menetapkan :

Pertama : Menunjuk Tim Gugus Realisasi Kerjasama Dalam dan Luar Negeri Periode Januari-Juni 2021 Fakultas Ilmu Keolahragaan Universitas Negeri Padang, seperti tercantum pada lampiran surat keputusan ini.

Kedua : Tim Gugus Realisasi Kerjasama bertanggung jawab kapada Kuasa Pengguna Anggaran Universitas Negeri Padang sesuai dengan ketentuan.

Ketiga : Biaya yang ditimbulkan akibat surat keputusan ini dibebankan kepada Dana DIPA Nomor SP DIPA 023.17.2.677514/2021 tangal 23 November 2020, Mak 525111

Keempat : Keputusan ini berlaku mulai tanggal ditetapkan dengan ketentuan jika dikemudian hari terdapat kekeliruan dalam keputusan ini, akan diperbaiki sebagaimana mestinya.

Djtetapkan di : Padang
Pada Tanggal : 4 Januari 2021
Kuasa Pengguna Anggaran UNP
Pejabat Pembuat Komitmen FIK UNP,

Prof. Dr. Almedral, M. Pd
NIP. 196004301986021001

Tembusan:
- *Mendikbud RI*

LAMPIRAN : SURAT KUASA PENGGUNA ANGGARAN UNP
Nomor : 0020/UN35.3/AK/2021
Tanggal : 4 Januari 2021.
Tentang : Penunjukan Tim Gugus Realisasi Kerjasama Dalam dan Luar Negeri Periode Januari - Juni 2021 Fakultas Ilmu Keolahragaan Universitas Negeri Padang

No	Nama	Jabatan	Ket
1	Prof. Dr. Alnedral, M. Pd NIP. 196004301986021001	Penanggung Jawab	
2	Dr. Umar, MS, AIFO NIP. 196106151987031003	Koord. Bidang I	
3	Prof. Dr. Wilda Welis, SP, M.Kes NIP. 197005121999032001	Koord. Bidang II	
4	Prof. Dr. Nurul Ihsan, S.Pd, M.Pd NIP. 198205152009121005	Koord. Bidang III	
5	Dr. Masrun, M.Kes NIP. 196311041987031002	Ketua	
6	Yuni Astuti, S.Pd., M.Pd NIP. 198806082019032012	Anggota	
7	Irfan Oktavianus, M. Pd NIP. 199110182019031011	Anggota	
8	Alimuddin, S.Or., M.Or NIP. 199104152019031015	Anggota	
9	Jeki Haryanto, S. Si., M. Pd NIP. 199203052020121010	Anggota	
10	Desi Purnama Sari, S.Pd., M.Pd NIP. 198408252019032013	Anggota	
11	Dr. Zulbahri, S.Pd., M.Pd NIP. 199006082019031011	Anggota	
12	Nissa Aldani, S.Pd., M.Pd	Anggota	
13	Dodi Yandri, S.Kom, M.Kom NIP. 197601092000031001	Koord. Sekretariat	
14	Hayatun Nupus, A.Md	Anggota	
15	Oktavijrina, S.Hum	Anggota	

Kuasa Pengguna Anggaran UNP
Pejabat Pembuat Komitmen FIK UNP

Prof. Dr. Alnedral, M. Pd
NIP. 196004301986021001

KERJASAMA PENELITIAN

Journal of Physical Education and Sport ® (JPES), Vol. 23 (issue 12), Art 361, pp. 3167- 3177, December 2023
online ISSN: 2247 - 806X; p-ISSN: 2247 – 8051; ISSN - L = 2247 - 8051 © JPES

Original Article

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

SYAHRIAL BAKHTIAR[1*], RISKY SYAHPUTRA[2], LUCY PRATAMA PUTRI[3], ARISCHO MARDIANSYAH[4], ATRADINAL[5], AFDAL ADE HENDRAYANA[6], HERU AFRIAN[7], ROMI MARDELA[8], JOHAN PION[9]
[1.2.4.5.7]Physical Education Department, Universitas Negeri Padang, INDONESIA
[3]Health and Recreation Department, Universitas Negeri Padang, INDONESIA
[8]Sport Coaching Department, Universitas Negeri Padang, INDONESIA
[6]Universitas Negeri Padang, INDONESIA
[9]Talent Identification and Development Departmet, HAN University of Applied Sciences, NETHERLANDS

Published online: December 31, 2023
(Accepted for publication : December 15, 2023)
DOI:10.7752/jpes.2023.12361

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

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

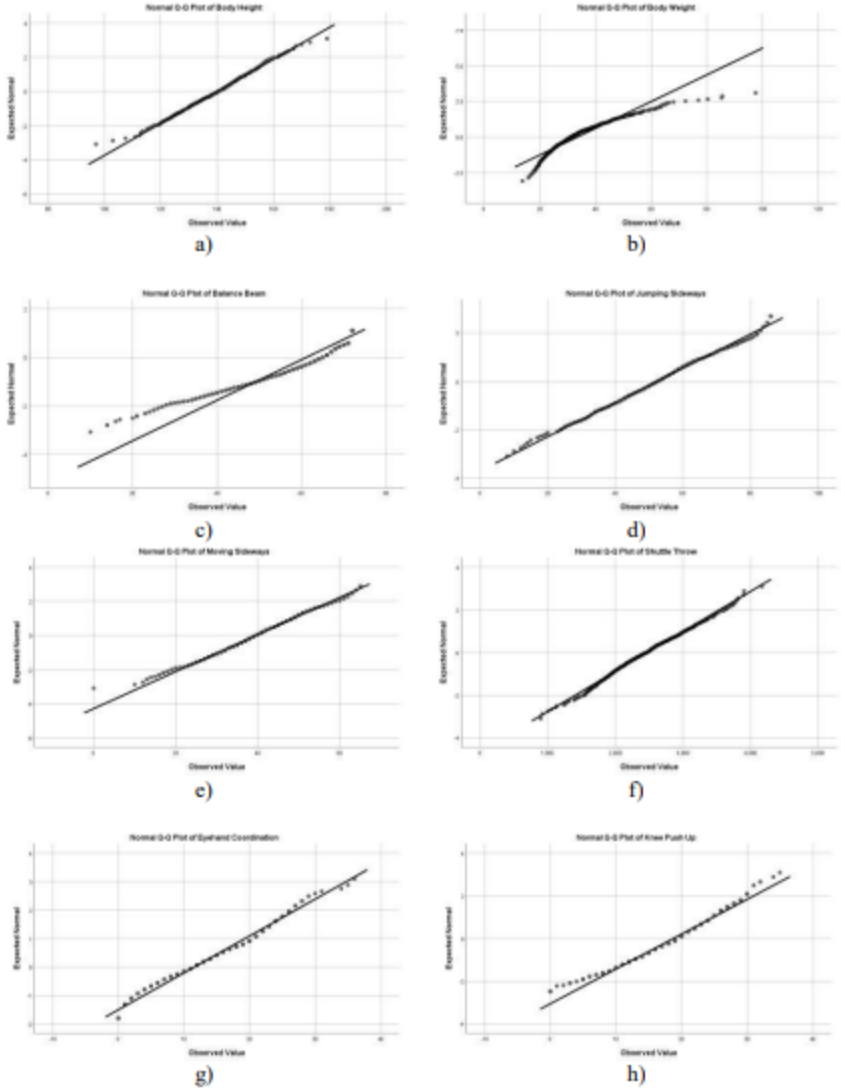
The data description aims to describe the research data obtained by displaying the results obtained by all samples for each test item tested. Table 1 shows the average value and standard deviation of research results by grouping by gender and sample participation in sports clubs.

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

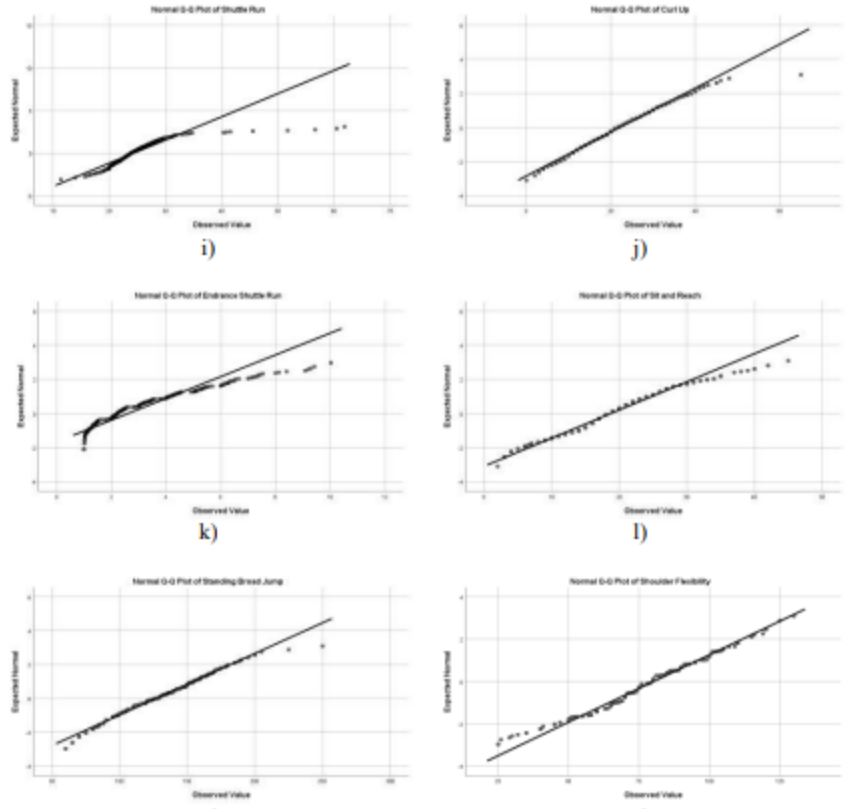
	Did not participation in sports clubs				**Participation in sports clubs**			
	Male (n=349)		Female (380)		Male (n=168)		Female (104)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Anthropometry								
Body Weight (kg)	33.10	10.32	32.54	9.33	35.138	12.381	35.789	12.641
Body Height (cm)	139.99	9.36	138.56	9.62	140.49	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

Conflicts of interest

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

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Prof. Syahrial Bakhtiar Latihan SPORTCompass di HAN University of Applied Science Belanda

mimbarsumbar
22 Oktober 2019

Padang, Mimbar — Sebagai dosen dan peniliti olahraga, ternyata Prof Syahrial Bakhtiar, guru besar olahraga Universitas Negeri Padang (UNP) memiliki perhatian serius dalam mempelajari bagaimana cara mengidentifikasi bakat olahraga sejak dini.

Perhatian dan minat meneliti tersebut, saat ini mengantarkan Prof Syahrial Bakhtiar di Negara Belanda. Sejak mendarat Minggu (20/10) lalu di Bandara Schipol Amsterdam, Belanda bersama dosen muda UNP lainya yakni Risky Syahputra, M.Pd, Arischo Mardiansyah, SPd (mahasiswa S2) 1 orang staf Afdel Ade Hendrayana M, Pd, disibukan aktivitas ilmiahnya.

Dalam pesan singkatnya dijelaskan, kedatangan empat orang perwakilan UNP itu cuaca dingin dengan suhu sekitar 70C. Setelah menempuh perjalanan panjang sekitar 12 jam 40 menit dengan Pesawat KLM nomor penerbangan KL 0810, dari Bandara KLIA, Kuala Lumpur. Kemudian dilanjutkan perjalanan ke de Zaven Heuvelen Hotel & Bungalow Park di kota Nijmegen.

“Kedatangan kami Ke Belanda ini adalan untuk memenuhi undangan Prof. Johan Pion, dosen HAN University of Applied Science dan Ghent University yang juga perancang sistem identifikasi bakat olahraga Eropa untuk mengikuti International Course of Sport Talent Identification,” jelas Prof Syahrial Bakhtiar.

Dikatakannya, UNP dan HAN University of Applied Science telah melakukan kerja sama dan penandatanganan MoU sejak tahun 2018. Dengan kehadiran perwakilan UNP ini tentunya bertujuan untuk mempelajari bagaimana cara mengidentifikasi bakat olahraga sejak dini.

“Pada pelatihan ini juga akan dipelajari bagaimana cara untuk memprediksi dan menyelidiki perkembangan anak usia dini dalam usaha untuk menghasilkan generasi emas dalam bidang olahraga,”rincinya.

Menurut Syahrial Bakhtiar, yang pernah mengurusi olahraga prestasi di Sumbar mengatakan, dalam usaha untuk menghasilkan atlet-atlet profesional, Prof Johan Pion melalui hasil penelitiannya menghasilkan sebuah model yang disebut SPORTcompass.

“Model ini sudah digunakan di beberapa sekolah di Eropa dan sudah diintegrasikan dalam sistem pendidikan sekolah dengan mengikuti langkah-langkah seperti deteksi, identifikasi, dan pengembangan bakat anak usia dini,” jelasnya

Pelatihan ini akan berlangsung selama 10 hari dengan dihadiri oleh pelatih, akademisi, dan praktisi olahraga dari berbagai negara. (ms/age)