JUARA: Jurnal Olahraga
E-ISSN 2655-1896 ISSN 2443-1117
https://doi.org/10.33222/juara.v7i1.1564

Efforts to Improve Agility in Gobak Sodor Traditional Sports Through Essential Agility Drills

Dicky Reva Apriana Sanga Dwi[1], Citra Resita[2], Wahyu Erfandy[3], Moch.Asmawi[4], Heny Widyaningsih[5]

[1] Departemen of Physical Education, STKIP Muhammadiyah Kuningan, Street. Syeh Maulana Akbar, Kuningan Districts, West Java Province, 45511 Indonesia
[2] Physical Education, Health and Recreation Program , Universitas Singaperbangsa Karawang, Jl. HS.Ronggo Waluyo, Puseurjaya, Karawang Districts, West Java Province 41361, Indonesia
[3] Sport Science Program, Unversitas Muhammadiyah Cirebon, Jl. Tuparev No.70, Kedungjaya, Cirebon Districts, West Java Province 45153 Indonesia
[4, 5] Postgraduated Study Program , Universitas Negeri Jakarta, Jl. R.Mangun Muka Raya No.11, Rawamangun, East Jakarta City, Jakarta 13220, Indonesia
*e-mail: dickyreva@gmail.com, citra.resita@fkip.unsika.ac.id, wahyu.erfandy@umc.ac.id, moch.asmawi@unj.ac.id, heniwidyaningsih@unj.ac.id

Info Artikel

Article History:

Received 27 October 2021

Approved 25 January 2022

Published 31 January 2022

Keywords:

Traditional Sport, Gobak Sodor, Essential Agility Drills

Abstract

The purpose of this study was to examine the effects or benefits of increasing agility in the traditional sport of Gobak Sodor with the Essential Agility Drills method on STKIP Muhammadiyah Kuningan students. This study used a True Experiment Design with the division of the experimental group being given Treatment and the control group not being given any treatment. This study used a sample involving 60 students (30 experiments, 30 controls). The sampling technique used was purposive sampling. The test instrument used to measure agility was the zig-zag run test as a pre-test and post-test for the two groups to know the differences in their skill. The t-test analysis showed a Sig value of 0.00 <0.05, meaning that there was a significant difference in the two groups, but the experimental group was superior to the control group with a percentage increase of 9.76%, while the control group had a smaller percentage than the experimental group, namely 1 0.02% means 9.76%> 1.02%, which means that the experimental group has a higher rate of increase compared to the control group, meaning that the Essential Agility Drill training method is very influential on agility in the traditional sport of gobak sodor.

✉ Alamat korespondensi: Jl.Raya Murtasiah Supomo No.28 B Kuningan
E-mail: dickyreva@gmail.com

INTRODUCTION

The traditional sport of gobak sodor is a game inherited from our ancestors that must be preserved; in the past, this sport was used as a filler for leisure time or playing with children; the goal was to have fun. With the development of the times, this game is starting to be abandoned little by little because there has been a shift from traditional to modern, namely with gadgets or smartphones. However, the government is trying to preserve this sport through several traditional sporting events held in various regions as a form of effort to maintain this ancient tradition, because the sport has a deep meaning in addition to filling spare time it can also improve one's motor skills, improve fitness, and improve the ability to move agility.

Traditional games that are passed down from generation to generation have many benefits besides preserving culture and as a national character, as well as for playing pleasure for the players, then also beneficial for psychological development, increasing creativity, agility, motivation, and also as a means of exercise to improve physical fitness (Mudzakir, 2020). Traditional games are cheap games, meaning that everyone can play them without paying a very high price, just with the existing field and equipment that can be found around. Traditional games are a wealth of local cultural treasures, which should be used in physical education learning. If it is calculated, more than thousands of types of games have developed in our country, resulting from thought, creativity, trial and error, including the effects of the cultivation of our predecessors (Nuriman et al., 2016). The Gobak Sodor game aims to stimulate kinesthetic intelligence in children (Fantiro & Arifin, 2019). In the traditional game or sport of gobak Sodor, each player must have good motor coordination to win the match. Motor skills in exercise have an inseparable role because, in sports, the better a person's motor skills are, the better they will perform various physical activities without significant obstacles (Ramadan, 2018).

Traditional games are passed down from generation to generation orally, in writing or inaction. They use simple tools in playing for entertainment or fun and contain positive values . Many traditional games are played together, and even almost all classic games teach the meaning of togetherness seen from the way they are played (Listyaningrum, 2018). For now, the game of Gobak Sodor has been loved by the general public; this cannot be separated from the role of the government, which often holds traditional sports championships to preserve the Indonesian cultural heritage of Lugur.

Speaking of the achievement, of course, several coaches or teachers have to take it seriously to be able to achieve positive results when facing traditional sporting events that are competed, and this cannot be separated from the role of the coach to be able to develop agility training, for this reason, the researchers chose the Essential Agility Drills training method to To improve agility in gobak sodor

players, this training method has five types of exercises, namely: 1. Deceleration shuttles, 2. Shuttles, 3. Lateral shuffle, 4. Crosshairs, 5. Diagonal Square. Performance in agility training is often used to improve an athlete's ability to change direction quickly and explosively (McGinnis et al., 2017). Moreover, speed is an essential ability in this traditional game of gobak sodor; speed is a process of moving places with a concise duration of time (Dwi et al., 2018). In addition to training movement coordination, this essential agility drill exercise also trains the muscles To reduce the risk of injury because it is readied for its flexibility. Flexibility is a movement where the forces are bent (extended) with maximum joint motion without significant pain. In aerobic exercise, flexibility is needed for training and to avoid the risk of injury (Dwi, 2019).

An essential agility drill is an exercise that can boost performance; performing agility is vital for many sports and other physical tasks that require speed. Some traditional games have the same movements as some physical activities usually carried out by individuals (Zubaida, 2017). Changes in body direction. Measuring agility skills remains a challenge for measurement. It is difficult to change direction quickly and measure the agility from height, do it in a way that mimics an actual task game situation (Zaferiou et al., 2017). Skill is based on maximum muscle strength, and muscular explosive power is the quality that enables muscles to perform explosive physical work. Thus the explosive power of the forces, especially the leg muscles in the running, is needed to do maximum repulsion in the start and when running (Raffly Henjilito, 2019).

Most of the literature focused on agility training uses tests that involve a predetermined pattern, walking as well as a planned change of direction (Holmberg, 2015). Agility training is essential in the gobak sodor because it can win a match. This needs to be trained considering that each individual is not the same level of agility; if one of his agility is below average, this will affect the performance or results of the game.

The level of agility of each athlete varies; not all athletes have the same ability. Factors that affect speed include: biomotor components, abilities that include strength, speed, power, flexibility, balance and coordination; body type, people who have a mesomorph body type are more athletic than exomorphs and endomorphs; age, agility will increase from childhood to adulthood and then decrease from majority to old age; gender, men will be more athletic than women; body weight, someone who is overweight will have less ability than someone who has an ideal body or is thinner; Fatigue, in this condition the muscles experience a decreased ability to contract (Pratama et al., 2017).

Moreover, agility in the gobak sodor or fun is the dominant physical aspect of traditional sports. In the hit game, the study results show that the dominant physical elements in this game include reaction speed, sprint speed, and agility. In addition to these

material elements, there are also other elements, namely cooperative elements, including teamwork, playing strategies, and coordination between team members (Safari, 2010).

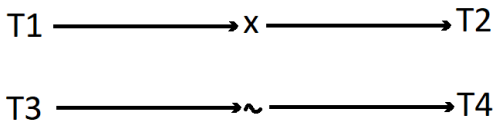
METHODS

The method used in this research is a quantitative experiment. In quantitative analysis, variables are defined operationally and are generally divided into independent variables (active or attribute), dependent variables, and foreign variables (Morgan et al., 2019; Ramadan & Juniarti, 2020). The sample used in this study was students of Physical Education, Health and Recreation (PJKR) STKIP Muhammadiyah Kuningan, totalling 60 men. The sampling technique used the purposive sampling technique, where this method is a sampling technique of data sources with specific considerations (Sugiyono, 2016).

The training program is carried out for 16 meetings because exercise is a form of physical exercise that can improve physical fitness if it is carried out with the right and appropriate frequency and intensity (Habibie et al., 2020). therefore, the previous exercise program has been arranged to adjust with the expected results. Researchers use this technique because of specific considerations to support this research because the sample is the right person to be the subject of this study. The method used in this research is experimental.

The research design applied in this study is True Experimental Design. This design is relatively close to perfect, considering that there are groups that are treated (experimental) and groups that are not treated (control). There are pre-test and post-test to ensure the effectiveness of the Treatment given (Maksum, 2012). The research design can be seen in the image below:

Figure 1. Research Design



Based on the picture above, there are two research groups: the experimental group (given Treatment using the Essential Agility Drills training method) and the control group (not given Treatment).

For the experimental group, the Treatment used was the Essential Agility Run exercise program for 16 meetings to improve agility in the traditional sport of gobak sodor. It can be used to increase achievement in terms of the traditional sport of the gobak sodor game. The test used in this study using the Agility Run test called the Illinois agility run test.

RESULTS AND DISCUSSION

Results

The first step in this research is to test the normality and homogeneity of the data that has been obtained from the test results, then proceed to parametric or non-parametric test tests. This test uses the SPSS Version 26 application (Kadir, 2015). The following table shows the normality and homogeneity of the data in each group:

Table 1. Normality Test One-Sample Kolmogorov-Smirnov Test

		Pretest Experiment	Posttest Experiment	Pretest Control	Postest Control
N		30	30	30	30
Normal Parameters[a,b]	Mean	17.7233	15.9933	18.6233	18.4367
	Std. Deviation	1.24338	.70218	.95147	.92083
Most Extreme Differences	Absolute	.120	.118	.095	.153
	Positive	.120	.118	.085	.112
	Negative	-.088	-.079	-.095	-.153
Test Statistic		.120	.118	.095	.153
Asymp. Sig (2-Tailed)		.200[c,d]	.200[c,d]	.200[c,d]	.069[c]

A normality test is conducted to test whether, in a regression model, an independent variable and a dependent variable or both have a standard or abnormal distribution. The statistical test results will decrease if a variable is not normally distributed. The normality test of the data can be done by using the One-Sample Kolmogorov Smirnov test, with the condition that if the significance value is above 5% or 0.05, then the data has a normal distribution. Meanwhile, if the Kolmogorov Smirnov One Sample test results produce a significant value below 5% or 0.05, the information does not have a normal distribution (Ghozali, 2016).

For the normality test in the table above using the Kolmogorov-Smirnov formula with the results showing the value of Sig. of each group is more significant than 0.05 (Sig.> 0.05), meaning that it can be concluded that all samples studied were usually distributed.

After testing for normality, proceed to the homogeneity test; this homogeneity test uses the Levene statistics formula. The homogeneity test is intended to show that two or more sample data groups come from populations with the same variance (Riadi, 2014). The results of these tests are presented in the following table:

Table 2. Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Pre-test	Based on Mean	4.204	1	58	.045
	Based on Median	3.848	1	58	.055

	Based on Median and with adjusted df	3.848	1	57.137	.055
	Based on trimmed mean	4.214	1	58	.045
Posttest	Based on Mean	3.184	1	58	.080
	Based on Median	2.770	1	58	.101
	Based on Median and with adjusted df	2.770	1	55.233	.102
	Based on trimmed mean	3.214	1	58	.078

Based on the homogeneity test results above using the Levene statistic, the data or the value of Sig. from both groups at pre-test 0.045 and post-test 0.080. The pre-test criteria value is more significant than 0.05 (0.045> 0.05), meaning that the group is homogeneous, as well as the post-test results whose weight is more critical than 0.05 (0.080> 0.05), meaning the group is homogeneous. It can be concluded that the sample used in each group is homogeneous. The next test is the t-test or the t-paired sample test, which is used to determine how much influence the Essential Agility Drill exercise produced by each group has on the agility of PJKR STKIP Muhammadiyah Kuningan students. The t-test is known as the partial test, which tests how the influence of each independent variable individually on the dependent variable. This test can be done by comparing t count with t table or looking at the significance column in each t count (Hidayat, 2013). The following tablet-paired test for each group:

Table 3. T-Test Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Pre-test	1	30	17.7233	1.24338	.22701
	2	30	18.6233	.95147	.17371
Posttest	1	30	15.9933	.70218	.12820
	2	30	18.4367	.92083	.16812

From the table data above, the average pre-test result of the experimental group is 17.23 seconds, while the control group is 18.62 seconds. The post-test result is 15.99 seconds for the experimental and control groups, 18.43 seconds. Both groups showed a significant increase in time, but the experimental group given Essential Agility Drills was better than the control group that was not given any treatment. The results of the T-test or paired sample T-Test can be seen in the table below:

Table 4. Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Pre-test	Equal variances assumed	4.204	.045	-3.149	58	.003
	Equal variances not assumed			-3.149	54.291	.003
Postes	Equal variances assumed	3.184	.080	-11.557	58	.000
	Equal variances not assumed			-11.557	54.204	.000

Based on the results of the calculation table above using the t-test, the Sig value of 0.00 <0.05 means that there is a significant difference in the two groups, but the experimental group is superior to the control group, for the presentation of the percentage increase from each group can be seen in the following table this :

Table 5. Increase percentage training methods

Group	Pre-test (second)	Posttest (second)	Different (Second)	Increase percentage (%)
Experiment	17,72	15,99	1,73	9,76
Control	18,62	18,43	0,19	1,02

From the table above, it can be concluded that the experimental group is superior to the control group, with a percentage increase of 9.76%. In contrast, the control group has a smaller percentage than the experimental group, namely 1.02%, meaning 9.76%> 1.02%, which means the experimental group has a higher rate of increase compared to the control group, meaning that the Essential Agility Drill training method significantly affects agility in the traditional sport of gobak sodor.

Discussion

This research is based on a previous study entitled The Influence of Hadang Traditional Game on Agility. The sample students are class XI students of SMAN 1 Pasundan Bandung. This study showed the average results of the pre-test 19,283 and the post-test 17,916, for 4.258 and 2.064, and the difference in the results of the

Illinois agility test of 1.367. With these results, it can be concluded that there is a significant effect of the traditional game of Hadang on the agility of class XI MIPA 2 students at SMA Pasundan 1 Bandung (Bernhardin, 2021).

Following research about the effect of traditional games on the agility of elementary school students with a focus on the extent to which classic games contribute to student mastery. The research method used is an experimental method with a sample of 22 students of class V SDN Cimahi Mandiri 1 consisting of 12 male students. Students and ten female students with the target sample. Data collection tool in the form of back e. 4x5 meters advanced exam. The data processing procedure uses SPSS.

The mean pre-exam result is 16.52 and post-test well 15.41 with an increase of 1.12. The non-parametric statistical test for the calculated Wilcoxon Signed Position Test. Then the Z value is -3.101 with a p-value of 0.002, more minor than the study limit of 0.05 so that H1 is accepted or present—the difference between the decisions before and after the exam.

Based on the results of data processing and analysis on the effect of traditional games on the skill, it is concluded that classic games significantly impact dexterity students because traditional games can motivate and influence students' motor development. That's why the author wants to develop a method to improve agility in the game gobak sodor.

CONCLUSION

Based on the discussion above, it can be concluded that the Essential Agility Drills training method for 16 meetings arranged with a structured training program can improve the agility of PJKR STKIP Muhammadiyah Kuningan students in the traditional sport of gobak sodor. So that the proposed hypothesis, namely Essential Agility Drills training, can increase agility in PJKR STKIP Muhammadiyah Kuningan students is accepted.

This research can be developed according to the author's needs, by the theory put forward by borg and gall, namely development (R&D) is the process used to develop and validate products, which consists of studying research findings and testing them in the field.

REFERENCES

Bernhardin, D. (2021). Pengaruh Olahraga Permainan Tradisional Hadang terhadap Kelincahan Siswa The Influence of Traditional Game Sports Barriers on Student Agility. *Journal of Physical and Outdoor Education*, *3*(1), 79–85.

Dwi, D. R. A. S. (2019). Efektivitas Latihan Bridge With Leg Reach Terhadap Fleksibilitas Otot Perut Dan Pinggul. *Journal of Physical Education and Sport Science*, *1*(2), 7.

Dwi, D. R. A. S., Asmawi, M., Wasan, A., & Widiastuti, W. (2018). Pengaruh Metode Latihan Dan Power Tungkai Terhadap Peningkatan Kecepatan Akselerasi Sprint. *JUARA : Jurnal Olahraga*, *3*(2),

62. https://doi.org/10.33222/juara.v3i2.236

Fantiro, F. A., & Arifin, B. (2019). Pembelajaran Permaian Kinestetik Gobak Sodor untuk Siswa Sekolah Dasar. *Edumaspul: Jurnal Pendidikan*, *3*(2), 58–63. https://doi.org/10.33487/edumaspul.v3i2.135

Ghozali, I. (2016). *Aplikasi Analisis Multivariete Dengan Program IBM SPSS 23* (8th ed.). Badan Penerbit Universitas Diponegoro.

Habibie, Z. F., Santoso, D. A., & Candra, A. T. (2020). Variation Analysis of Body Position Angle of the Race Athlete on Sprint. *JUARA : Jurnal Olahraga*, *6*(1), 22–29. https://doi.org/10.33222/juara.v6i1.993

Henjilito, R. (2019). Correlation of Muscular Leg Explosion Power Toward Short Distance Running Speed 100 Meters. *JUARA : Jurnal Olahraga*, *4*(2), 99-106. https://doi.org/10.33222/juara.v4i2.540

Hidayat, A. (2013). *Uji F dan Uji T*. https://www.statistikian.com/2013/01/uji-f-dan-uji-t.html

Holmberg, P. M. (2015). Agility training for experienced athletes: A dynamical systems approach. *Strength and Conditioning Journal*, *37*(3), 93–98. https://doi.org/10.1519/SSC.0000000000000145

Kadir. (2015). *Statistika Terapan: Konsep, Contoh dan Analisis Data dengan Program SPSS/Lisrel dalam Penelitian*. Rajawali.

Listyaningrum, D. (2018). Pengaruh Permainan radisional Gobak Sodor Terhadap Sikap Sosial Siswa Kelas III SDN 01 Manguharjo Kota Madiun. *Gulawentah:Jurnal Studi Sosial*, *3*(2), 108. https://doi.org/10.25273/gulawentah.v3i2.3463

Maksum, A. (2012). *Metodologi penelitian dalam olahraga*. Unesa University Press.

McGinnis, R. S., Cain, S. M., Davidson, S. P., Vitali, R. V., McLean, S. G., & Perkins, N. C. (2017). Inertial sensor and cluster analysis for discriminating agility run technique and quantifying changes across load. *Biomedical Signal Processing and Control*, *32*, 150–156. https://doi.org/10.1016/j.bspc.2016.10.013

Morgan, G. A., Barrett, K. C., Leech, N. L., & Gloeckner, G. W. (2019). IBM SPSS for introductory statistics: Use and interpretation. In *IBM SPSS for Introductory Statistics: Use and Interpretation* (Second Edi). Lawrence Erlbaum Associates. https://doi.org/10.4324/9780429287657

Mudzakir, D. O. (2020). Pengaruh Permainan Olahraga Tradisional Terhadap Motivasi Dalam Pembelajaran Penjas Di Sekolah Dasar. *Jurnal Maenpo:Jurnal Pendidikan Jasmani Kesehatan Dan Rekreasi*, *10*(1), 44–49.

Nuriman, R., Kusmaedi, N., & Yanto, S. (2016). Pengaruh Permainan Olahraga Tradisional Bebentengan terhadap Kemampuan Kelincahan Anak Usia 8-9 Tahun. *Jurnal Terapan Ilmu Keolahragaan*, *1*(1), 29. https://doi.org/10.17509/jtikor.v1i1.1550

Pratama, R., Hardiyono, B., & Martinus. (2017). Pengaruh Latihan Kelincahan Di Media Pasir Dan Air Terhadap

Kelincahan Pemain Bola Baske. *Jurnal Ilmiah Bina Edukasi*, *10*(2), 93–102.

R Ramadan, G. (2017). Pengaruh Metode Pembelajaran Dan Motivasi Belajar Terhadap Hasil Belajar Passing Sepakbola. *JUARA : Jurnal Olahraga*, *2*(1), 1-10. https://doi.org/10.33222/juara.v2i1.27

Ramadan, G., & Juniarti, Y. (2020) Metode penelitian: pendekatan kuantitatif, kualitatif dan R&D. CV Sadari Press

Riadi, E. (2014). *Metode Statistika: Parametrik & Non-Parametrik* (1st ed.). Pustaka Mandiri.

Safari, I. (2010). Analisis Unsur Fisik Dominan Pada Olahraga Tradisional. *Jurnal Kependidikan: Penelitian Inovasi Pembelajaran*, *40*(2), 132617. https://doi.org/10.21831/jk.v40i2.495

Sopa, I. S., & Pomohaci, M. (2016). Study regarding the development of agility skills of students aged between 10 and 12 years old. *Timisoara Physical Education and Rehabilitation Journal*, *9*(17), 7–16. https://doi.org/10.1515/tperj-2016-0009

Sugiyono. (2016). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. PT ALfabet.

Widiastuti. (2015). *Tes dan Pengukuran Olahraga*. PT Raja Grafindo Persada.

Zaferiou, A. M., Ojeda, L., Cain, S. M., Vitali, R. V., Davidson, S. P., Stirling, L., & Perkins, N. C. (2017). Quantifying performance on an outdoor agility drill using foot-mounted inertial measurement units. *PLoS ONE*, *12*(11), 1–15. https://doi.org/10.1371/journal.pone.0188184

Zubaida, I., Hufad, A., Hendrayana, A., & Leksono, S. M. (2021). The Effect of Traditional Games Bebentengan on Aerobic Capacity and Agility. *JUARA : Jurnal Olahraga*, *6*(2), 344-349. https://doi.org/10.33222/juara.v6i2.1359