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Submission date: 22-Feb-2024 10:44PM (UTC+0700)

Submission ID: 2301618015

File name: Sinta_3,T,_Jurnal_Juara_2023.pdf (540.66K)

Word count: 3513

Character count: 19565



JUARA: Jurnal Olahraga

E-ISSN 2655-1896 ISSN 2443-1117

<https://doi.org/10.33222/juara.v8i1.2807>



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Info Artikel

Article History:

Received 01 November 2022

Approved 25 March 2023

Published 28 March 2023

Keywords:

Motor Educability,
Movement Skills,
Gymnastics

Abstract

This study aimed to determine the influence of the level of motor education on movement skills in floor gymnastics courses. The story of motor education is significant because it will affect a person's ability to learn better motion skills. The research method used in this study is a quantitative research design with an experimental approach. The research instrument used in this study is a test of motor educability and observation of motion skills with a sample of 30 students selected by random sampling. Correlation data were processed using SPSS Version 21. The results showed that the level of motor educability positively affects movement skills in floor exercise courses because a high level of motor educability will improve movement skills in floor exercise courses and improve the ability to coordinate movements. Overall, students have a good level of motor education and motor skills. Further studies are needed to determine factors beyond motor educability and Motion Skills.

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INTRODUCTION

Motor education is the level of a person's ability to learn motion skills (Ridlo, 2016). Floor gymnastics courses and motor educability levels significantly improve movement skills (Sahabuddin et al., 2020). Someone with a high level of motor educability will find it easier to learn basic motion compared to someone with a low level of motor educability (Utama, 2020); Semarayasa, 2017). In floor gymnastics courses, the level of motor education will determine how quickly a person can learn and master the movement skills (Zulkifli et al., 2018) required in floor gymnastics. In addition, the level of motor educability can also affect a person's ability to improve movement skills in the long term (Pambudi & Widiyanto, 2019).

Motor educability is a person's ability to learn and improve gestures through practice and experience (Limbu et al., 2017). In floor gymnastics courses, motor education can improve one's movement skills (Lesmana, 2018). Continuous practice and experience can help a person to improve their ability to understand and execute correct movements, as well as help them to develop better coordination, agility, and stability (Rawat & Bangari, 2019). This can help them to achieve better achievements in floor gymnastics, as well as help them to become more agile and skilled in other daily activities. Innovation in learning media development can be used to develop basic motor movement skills and motion coordination (Supriatna & Suhairi, 2021). The development of modules for variation and combination motion learning can be used to improve motion skills (Kurniawan et al., 2022).

To improve motor educability, a person needs to engage in regular practice, focus on specific movements, and have the patience and motivation to continue learning and improving their abilities (Sandeep et al., 2018). It is also

essential to get guidance and advice from a trained and experienced gymnastics instructor to understand how to perform the movements and avoid mistakes that can result in injury. Overall, the level of motor educability is fundamental in floor gymnastics courses because it will affect a person's ability to learn and pursue the movement skills needed in floor gymnastics (Rustiawan & Rohendi, 2021). Front and back roll movements are basic in floor gymnastics (Permatasari et al., 2012). Front roll movement is carried out by rotating the body forward using hands and feet as support (Siregar & Widowati, 2022). The rear roll movement is the opposite of the front roll movement, which is done by rotating the body backward using the hands and feet as support (Yunitaningrum, 2016). These two front and back roll movements are usually trained to develop strength, coordination, and flexibility. Therefore, in floor gymnastics courses, one must increase one's motor educability level to learn and pursue better motion skills.

METHODS

The research method used in this study is a quantitative research design of one group pretest-posttest with an experimental approach (Andriani et al., 2017). The research place was conducted at Nahdlatul Ulama Sunan Giri University (UNUGIRI) Health and Recreation Physical Education (PJKR) study program in floor gymnastics courses. The research time is carried out for one semester. The subject of the study was a student of PJKR Unugiri Class of 2022 who took part in floor gymnastics courses. The population in this study was all students of the Class of 2022, with a total of 90 students who participated in floor gymnastics courses, while the sample used was as many as 30 students who were randomly selected Random Sampling (Sugiyono, 2011) sample

selection with inclusion criteria, namely students who are willing to participate and have varying levels of motor educability, as well as exclusion criteria such as students who have physical or health problems and taking medications that can affect movement skills. The variables studied in this study were the level of motor education and motion skills. This study aimed to determine the effect of motor educability level on movement skills in floor gymnastics courses.

The research instruments used in this study are motor educability tests and observation of motion skills (Aliriad et al., 2023). The motor educability test was used to measure the level of the motor educability of the research subject. In contrast, the observation of motion skills was used to measure the movement skills of the research subject with the Barrow Motor Ability test (Sepdanius et al., 2019) consisting of several test items, namely Standing broad jump: 1) The test jumps as far as possible from a standing position which aims to measure leg strength and body flexibility. 2) Softball throw: A softball throw test as far as possible to measure the strength of the arm and upper body muscles. 3) Zigzag run: A test of running across obstacles in the form of zigzagging as fast as possible to measure speed and coordination between feet and hands. 4) Wall pass: The test bounces the basketball against the wall

alternately between two people, which aims to measure eye and hand coordination ability and response speed. 5) Medicine ball put: A test of throwing the medicine ball as far as possible to measure the strength of the muscles of the arm and upper body. 6) 50-meter sprint: A 50-meter sprint test to measure speed and physical endurance. The above tests can be used to measure a person's movement skills and can be used to evaluate the development of movement skills during floor gymnastics courses. The data collection technique used in this study was motor educability tests and observation of motion skills (Kiram, 2019). Motor educability tests are conducted by giving tests to research subjects and recording the results. Movement skills are observed by observing research subjects while attending floor gymnastics courses and recording the results. The data analysis technique used in this study is statistical analysis (Arikunto, 2019). These data are processed using descriptive statistics, data normality, and correlation.

FINDINGS AND DISCUSSION

The test result data was taken after being given a motor educability test and basic motion skills test at the 12th meeting, which can be seen in Table 1. Description of test results.

Table 1. Paired Samples Statistic

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Motor educability	.8227	30	.05819	.01062
	Motion skills	.9083	30	.03425	.00625

The data results from measuring two variables, namely "Motor Educability" and "Motion Skills" in 30 subjects. The "mean" for "Motor Educability" is 0.8227, while the "Mean" for "Motion Skills" is 0.9083. The "Std. Deviation"

for "Motor Educability" is 0.05819, and for "Motion Skills," it is 0.03425. The "Std. Error Mean" (standard error mean) for "Motor Educability" is 0.01062, and for "Motion Skills" is

0.00625. Thus, the data provide information about how the two variables differ in the sample.

Findings

The results of the correlation analysis showed a strong and significant positive correlation between Motor Educability and Motion Skills ($r = 0.971$; $p < 0.01$). In addition, there was a weak and significant positive correlation between Motor Educability and Floor Gymnastics Learning Outcomes ($r = 0.367$; $p < 0.05$), as well as between Movement Skills and Floor Gymnastics Learning Outcomes ($r = 0.364$; $p < 0.05$). This shows that the higher the Motor Educability and Movement Skills scores, the higher the Floor Gymnastics Learning Outcomes score achieved. However, the relationship between Motor Educability and Floor

Gymnastics Learning Outcomes, as well as Movement Skills and Floor Gymnastics Learning Outcomes, is still weak, with correlation values of only 0.367 ($p < 0.05$) and 0.364 ($p < 0.05$), respectively. However, there is a weak and significant positive relationship. This can be caused by other factors that affect the learning outcomes of floor gymnastics beyond Motor Educability and Movement Skills. Data on the results of Motor Educability, Movement Skills, and Floor Gymnastics in the overall floor gymnastics course can be seen in Table 2. Correlation of motor educability, motion and learning outcomes of floor gymnastics.

Table 2. Pearson correlation

		Motor educability	Motion skills	Learning Outcomes
Motor educability	Pearson Correlation	1	.971**	.367*
	Sig. (2-tailed)		.000	.046
	N	30	30	30
Motion skills	Pearson Correlation	.971**	1	.364*
	Sig. (2-tailed)	.000		.048
	N	30	30	30
Learning Outcomes of floor gymnastics	Pearson Correlation	.367*	.364*	1
	Sig. (2-tailed)	.046	.048	
	N	30	30	30

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

The table above shows the correlation results between the Floor Gymnastics Learning Outcomes variables with Motor Educability and Movement Skills. There was a robust and significant positive correlation between Floor Gymnastics Learning Outcomes with Motor

Educability ($r = 1,000$; $p < 0.001$) and Movement Skills ($r = 0.967$; $p < 0.001$). This shows that the higher the Motor Educability and Movement Skills, the higher the Floor Gymnastics Learning Outcomes.

Table 3 Relationship between Motor educability, Motion Skills and Learning Outcomes of Floor Gymnastics

Control Variables			Motor educability	Motion skills
Learning Outcomes	Motor educability	Correlation	1.000	.967
		Significance (2-tailed)	.	.000
		Df	0	27
	Motion skills	Correlation	.967	1.000
		Significance (2-tailed)	.000	.
		Df	27	0

Discussion

Previous research entitled "The Contribution of motor educability to the rhythmic gymnastics ability of hoop tools in elementary school students" (Sahabuddin et al., 2020). The results of this study show that motor educability significantly contributes to the rhythmic gymnastics ability of hoop tools in students. This is indicated by the positive regression value found and the low probability level, which indicates that the relationship between the two variables is significant. In addition, the study had limitations, such as a limited focus on hoop tools and a sample of only female students.

Its novelty in this study lies in the differences in research methods, research instruments, research samples, and data analysis techniques. This study involved students in floor gymnastics courses in improving movement skills with the intervention of motor educability tests and Barrow Motor Ability tests. In general, this research can contribute to developing movement skills. This shows the importance of research focusing on the relationship between motor educability and movement skills, as it can be the basis for developing floor gymnastics learning programs. The differences in research methods, instruments, samples, and data analysis techniques in the second study are expected to provide more valid and accurate results in showing the relationship between motor educability and

rhythmic gymnastics ability. Therefore, the results of this study are significant for practitioners and experts in improving movement skills and motor education to improve the quality of learning and development of gymnastics learning programs.

This study shows that a high level of motor education will improve movement skills in floor gymnastics courses and increase the ability to coordinate movements (Al Ardha, 2022). In addition, from the results of this study, a high level of motor education will help students improve movement skills to improve the quality of floor gymnastics performance (Aliriad et al., 2023). This is important in improving the quality of floor gymnastics courses and can also improve students' physical health. In the discussion, the study results show that the level of motor education positively affects movement skills in floor gymnastics courses (Van Capelle et al., 2017). The results of the correlation analysis showed a strong and significant positive correlation between Motor Educability and Motion Skills ($r = 0.971$; $p < 0.01$). In addition, there was a weak and significant positive correlation between Motor Educability and Floor Gymnastics Learning Outcomes ($r = 0.367$; $p < 0.05$), as well as between Movement Skills and Floor Gymnastics Learning Outcomes ($r = 0.364$; $p < 0.05$). This shows that the higher the Motor Educability and Movement Skills scores, the higher the Floor Gymnastics Learning Outcomes score achieved.

These results align with (Shakty et al., 2022) theory that the level of motor educability is vital in developing motion skills. Previous research has also shown that interventions aimed at increasing motor educability levels can improve locomotion skills in individuals. However, this study made a new contribution by showing a strong relationship between motor educability levels and movement skills in floor gymnastics courses. There was a robust and significant positive correlation between Floor Gymnastics Learning Outcomes with Motor Educability ($r = 1,000$; $p < 0.001$) and Movement Skills ($r = 0.967$; $p < 0.001$). This shows that the higher the Motor Educability and Movement Skills, the higher the Floor Gymnastics Learning Outcomes.

This research can provide vital information for gymnastics trainers and educators in developing effective training programs to improve movement skills (SITI AISYAH, 2020). In addition, these results can also be used to improve the quality of gymnastics learning in schools and universities. However, this study has limitations, such as samples used only from one university and only in floor gymnastics courses. Therefore, further research is needed to test the generalizability of these results on a broader sample and other types of gymnastics (Jiménez-Díaz et al., 2015). This study can provide vital information for gymnastics coaches and educators in developing effective training programs to improve movement skills (SITI AISYAH, 2020). In addition, these results can also be used to improve the quality of gymnastics learning in schools and universities. However, this study has limitations, such as samples used only from one university and only in floor gymnastics courses. Therefore, further research is needed to test the generalizability of these results on a broader sample and other types of gymnastics (Jiménez-Díaz et al., 2015)

CONCLUSION

The findings of this study, learning floor gymnastics with the level of motor educability and movement skills, had a strong and significant positive correlation ($r = 0.971$; $p < 0.01$). There was a robust and significant positive correlation between Floor Gymnastics Learning Outcomes with Motor Educability ($r = 1,000$; $p < 0.001$) and Movement Skills ($r = 0.967$; $p < 0.001$). This shows that the higher the Motor Educability and Movement Skills, the higher the Floor Gymnastics Learning Outcomes. Further study is needed to determine factors beyond motor educability and motion skills.

ACKNOWLEDGMENTS

Thank you to UNUGIRI for providing support and permission to conduct this research. Thank you to all research subjects who have been willing to be part of this research. Thank you also to all those who have helped in the research process. With support and assistance from all parties, this research will be able to be carried out correctly.

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