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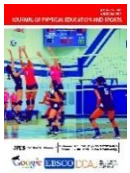

The Effect of Concentration and Motivation on the Accuracy of Slingshot Games

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Abstract

Slingshot games are games that don't use much physical activity but require fine motor skills in playing and doing activities. The slingshot game requires patience, concentration, motivation, mental endurance and high anxiety, this is done to obtain proper accuracy. The aim of this research is to determine the influence of concentration and motivation on the accuracy of the slingshot game. This research is quantitative research with a correlational descriptive method. Data collection techniques use observation, questionnaires, tests and documentation. This research was carried out in 6 public elementary schools in Semarang Regency. The sample in this study consisted of 125 students, divided into 51 male students and 74 female students. The data analysis techniques used in this research used normality tests, linearity tests, homogeneity tests, and hypothesis tests. The research results show that concentration and motivation when aiming at the target greatly influence the results of shots on target. The conclusion of this research is that the results show a significance value of 0.000 which is smaller than 0.05, which means that concentration and motivation have a positive and significant influence on the accuracy of the slingshot game, with an R Square value of 51.2%, while 48.8% is influenced by variables. other.

Keywords: Concentration, Motivation, Accuracy, Slingshot.

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INTRODUCTION

Traditional games are the cultural heritage of our ancestors whose existence must be preserved (Lumbin et al., 2022). Traditional games are generally played by young children as a means of play or entertainment (Mortara et al., 2014). Traditional games are designed to meet the motor development needs, social skills and creativity of young children through play activities (Fadjariyanti & Fathiyah, 2022).

Erwanda & Sutapa (2023) stated that early childhood has developmental aspects that need to be developed optimally, namely the physical-motor development aspect which has an important role in the development of early childhood. The child's physical-motor growth and development greatly influences the child's motor movements in the future, such as the child's ability to move in a coordinated manner, body balance, agility, dexterity, accuracy and speed (Dwi Widayanti et al., 2023). Not only in physical-motor development, but playing traditional games can make children grow strong mentally, physically, socially and emotionally (Awang Irawan et al., 2021; Fadjariyanti & Fathiyah, 2022). In line with the opinion of Dwi Astika (2021) states that through traditional games children can understand themselves, between feelings, thoughts, actions and words, and dare to express their beliefs in playing.

There are various types of traditional games that have developed in Indonesia, including fortification, stilts, engklek, clogs, slingshots or plinthengan, dagongan and several other types of games (Ma'dum et al., 2022). Slingshot is a simple game with wood in the shape of the letter Y, the top of which is joined with rubber and the middle is tied as a ball bearing (Ma'dum et al., 2022). In the past, children played with slingshots as a tool for hunting animals such as birds. The slingshot game is a traditional game that involves several components of physical fitness, such as arm muscle strength, hand eye coordination, and shooting accuracy in attracting and releasing bullets at existing targets (Irawan, Permana, Aditya, et al., 2023). Playing the slingshot game requires patience, concentration, mental endurance and high levels of anxiety. This is done to obtain proper accuracy so that you are required to regulate your emotions so as not to interfere with your performance (Irawan, Permana, Hidayah, et al., 2023).

In a slingshot game Concentration is also required because it is an important factor in successfully aiming at a target and can produce maximum accuracy. This is in line with the opinion of Juniarni Hardi et al (2019) explaining that concentration is the ability to focus attention on an object in the absence of interference and influence from external or internal stimuli. In sports and precision games, concentration is highly prioritized because to produce maximum shooting accuracy, if you do it with hesitation it can create negative thoughts that create stress within yourself and result in loss of concentration (Yachsie et al., 2021). This concentration is usually difficult for young children, because the attention in the brain often changes which is influenced by new or unfocused stimuli which makes the bullet shot not fit the target.

Motivation is encouragement or support for students to achieve goals (Wattimena & Khaeroni, 2021). Motivation can come from internal or oneself and also external or environmental (Al Asari & Mahardhika, 2023). Motivation greatly influences students' thoughts, behavior and emotions. Students who have high motivation in something will increase their concentration and focus. In sports or games, accuracy motivation can encourage students to be more focused on achieving targets and effectiveness in shooting accuracy.

Based on the results of initial observations carried out by researchers, it shows that female students who play the slingshot have high motivation to hit the target, but they are not able to concentrate

well and have difficulty focusing, this occurs due to interference from the surrounding environment such as peers who are distracted. when playing slingshots, it makes it difficult for students to focus on aiming at the target. Concentration as an important factor in this game has not been studied in depth. To what extent does concentration affect students' ability to aim and shoot? There is an assumption that high concentration will contribute positively to performance, but this still needs to be proven through systematic research.

So the aim of this research is to find out the influence between concentration and motivation on the accuracy of the slingshot game.

METHODS

Location And Time Of Research

This research was conducted in 6 public elementary schools in Semarang Regency consisting of SDN Bergaslor 01, SDN Samban 02, SDN Lerep 01, SDN Lerep 02, SDN Sidomulyo 01, and SDN Beji 01, and data collection was carried out for two weeks in June 2024.

Determination Of Respondents

This research was carried out in 6 public elementary schools in Semarang Regency. The sample in this study was 125 students, divided into 51 male students and 74 female students.

Types Of Research

This research uses quantitative methods, with a descriptive correlational research approach. Correlational research aims to determine the relationship between the independent variable (X) and the dependent variable (Y).

Data collection techniques

The data collection techniques used are observation, questionnaires, tests and documentation. The preparation of the questionnaire in this research was guided by existing indicators and the assessment used *Likert scale*. The test carried out in this research was to measure students' concentration levels using measuring instruments *test grid consentration exercise* (Mukhtar et al., 2017). Then test the accuracy of playing the slingshot using the slingshot playing test with the can number category. In the assessment of the slingshot accuracy test, it is based on the number of targets/cans that fall, each can has point 1 and uses an indicator of suitability for body position.

Table 1. Questionnaire Indicators

Variable	Factor	Indicator
Motivation	Intrinsic	- Knowledge - Talent - Hobby - Performance
	Extrinsic	- Teacher - Friend - Environment

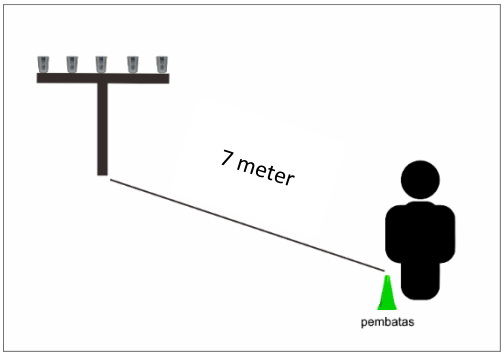

Figure 1 Layout of Accuracy Test Implementation

Table 2. Norms for assessing suitability of body position for accuracy tests

No	Indicator	SS	S	TS	STS
1	Feet shoulder width apart with left/right feet in front				
2	Position your head upright and turn 90 degrees				
3	Straight arm position				
4	The plinth is directed inward to 90 degrees				
5	Maximum slingshot pull up to the cheekbones				

Table 3. Accuracy Test Assessment Norms

No.	Participant	Kaleng					Total
		1	2	3	4	5	
1.							

The questionnaire in this research is used to measure and collect data to support the success of a research.

The slingshot game accuracy test in this study aims to measure the sample's level of accuracy in playing the slingshot game. Documentation is used as a recap of all activities during the research.

Data analysis techniques

The data analysis technique used in this research uses the normality test, linearity test, homogeneity test, and multiple regression hypothesis test. The data obtained was then analyzed using statistical tools, namely *SPSS* 25.0.

RESULTS AND DISCUSSION

Description of research data

Tabel 4. Descriptive Statistics

	N	Min	Max	Mean	Std. D
Concentration	125	6	19	10,36	2,487
Motivation	125	54	82	66,73	7,470
Accuracy	125	14	24	17,40	1,699
Valid N (listwise)	125				

The measurement results above are then processed descriptively and can be identified for each variable. The minimum value obtained for the concentration variable is 6, the maximum value is 19, and the average value is 10.36 with a standard deviation of 2.48. The minimum value obtained for the motivation variable is 54, the maximum value is 82, and the average value is 66.73 with a standard deviation of 7.47. The minimum value obtained for the slingshot game accuracy variable is 14, the maximum value is 24, and the average value is 17.40 with a standard deviation of 1.69.

Table 5. Normality Results

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		125
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	1,65531654
Most Extreme Differences	Absolute	,058
	Positive	,058
	Negative	-,030
Test Statistic		,058
Asymp. Sig. (2-tailed)		,200[c,d]

In the normality test using *Kolmogorov-Smirnov Test* with *absolute Most Extreme Differences.* This is proven by the value *Asymp Sig (2-tailed)* The value is 0.200 where > 0.05 which means the data is normally distributed.

Table 6. Results of Concentration Linearity on Accuracy

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Akurasi * Konsentrasi	Between Groups	(Combined)	45,701	12	3,808	1,366	,193
		Linearity	6,114	1	6,114	2,193	,141
		Deviation from Linearity	39,587	11	3,599	1,291	,239
	Within Groups		312,299	112	2,788		
	Total		358,000	124			

Table 7. Results of Linearity of Motivation on Accuracy

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Akurasi * Motivasi	Between Groups	(Combined)	87,311	26	3,358	1,216	,243
		Linearity	3,954	1	3,954	1,432	,234
		Deviation from Linearity	83,357	25	3,334	1,207	,253
	Within Groups		270,689	98	2,762		
	Total		358,000	124			

In the linearity test, the values can be seen in the Anova table for the two tables *sig. Deviation from linearity* equal to 0.239, and 0.253, which means the significance value is greater than that a = 0.05, so it can be concluded that there is a

linear relationship between intellectual intelligence and accuracy in playing slingshots.

Table 8. Homogeneity Results

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Concentration, Motivation, Accuracy	Based on Mean	162,622	2	372	,267
	Based on Median	155,089	2	372	,359
	Based on Median and with adjusted df	155,089	2	192,360	,370
	Based on trimmed mean	162,881	2	372	,254

Based on the value homogeneity test *sig Based on Mean* for the intellectual intelligence variable, which is 0.267, greater than 0.05, it can be concluded that the concentration and motivation variables are homogeneous or the same.

Table 9. Hypothesis Results

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Say.
1	(Constant)	17,906	1,430		12,518	,000
	Concentration (X1)	,137	,061	,201	2,264	,025
	Motivation (X2)	,029	,020	,127	1,431	,019

If the significance value is > 0.05 then H0 is accepted, whereas if the significance value is < 0.05 then Ha is accepted. Based on the correlation analysis in the table, it shows that the significance is 0.025 because the significance of the concentration variable on the accuracy of the slingshot game is less than 0.05, so H0 is rejected, Ha is accepted. The hypothesis can be stated that there is a significant positive influence between concentration on the accuracy of the slingshot game.

Table 10. R Concentration Test on Accuracy

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,611[a]	,273	,349	1,691

a. Predictors: (Constant), Concentration

The results of the table above show that the concentration on the accuracy of the slingshot is with value *R-Square* 0.283 means that the influence of concentration on the accuracy of the slingshot game is 27.3%, while 72.7% is influenced by other variables.

Table 11. R Motivation Test for Accuracy

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,635[a]	,239	,301	1,697

a. Predictors: (Constant), Motivasi

If the significance value is > 0.05 then H0 is accepted, whereas if the significance value is < 0.05 then Ha is accepted. Based on the correlation analysis in the table, it shows that the significance is 0.019 because the significance of the motivation variable on the accuracy of the slingshot game is less than 0.05, so H0 is rejected, Ha is accepted. The hypothesis can be stated that there is a significant positive influence between motivation on the accuracy of the slingshot game.

The results of the table above show that the motivation for slingshot accuracy is with value *R-Square* 0.229 means that the influence of motivation on the accuracy of the slingshot game is 23.9%, while 76.1% is influenced by other variables.

Table 12. R Test of Concentration and Motivation on Accuracy

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,226[a]	,512	,035	1,669

a. Predictors: (Constant), Motivation (X2), Concentration (X1)

The results of the table above show that concentration and motivation affect slingshot accuracy with value *R-Square* 0.512 means that the influence of concentration and motivation on the accuracy of the slingshot game is 51.2%, while 48.8% is influenced by other variables.

DISCUSSION

According to Barnes et al. (2019) concentration is the ability to focus attention on a task without being distracted or influenced by external or internal stimuli. Furthermore, Allen et al. (2013) stated that concentration is a student's ability to focus attention and thoughts only on important information. In sports, concentration accuracy is a very important factor in achieving shooting success (Merwan, 2023). In line with opinion Juniarni & Hastian (2022) In shooting sports or games, concentration is prioritized because it can produce maximum accuracy. If students do not have good concentration, an athlete will make many mistakes in their performance (Jannah, 2017).

The research results obtained showed that concentration had an effect on catapult accuracy by 27.3%, while 72.7% was determined by other variables. The results of this study are in accordance with the expressions of Yachsie et al., (2021) in their research which states that there is a positive influence between athlete concentration and the accuracy of archery results. Athletes who have good concentration will also produce a better level of archery accuracy.

The results of the research show that there is a significant influence between concentration on the accuracy of the plinth, this shows that the ability to hit the target is increased by the student's concentration. Concentration can coordinate eye and hand movements well, reduce errors, and increase accuracy in determining the right angle and strength when aiming at a handheld target. Students with a high level of concentration are able to ignore external and internal distractions, so they can focus completely on the target at hand.

In slingshot games, apart from shooting techniques, a high level of concentration is needed to maintain consistent precision and good accuracy. Psychological conditions such as stress or anxiety can affect concentration levels, and thus can also affect the accuracy of the palm. Students who can manage stress and maintain composure during hand-held game trials tend to perform better. Apart from that, an environment that is supportive and free from distractions also contributes to increased concentration and performance. The higher the student's level of concentration, the better and more consistent the results they will obtain. On the other hand, the lower the student's level of concentration, the results they obtain will not be optimal (Juniarni Hardi et al., 2019).

Motivation is something that is used to cause certain factors to generate, manage, maintain and channel behavior towards a target (Dahlan et al., 2020). Motivation is a force that encourages students to do something to achieve goals (Wattimena & Khaeroni, 2021). According to Widiyono et al. (2022) motivation is explained as an urge from within students to do more in order to produce one or more impactful results.

The research results obtained showed that motivation had a positive effect on plinth accuracy by 23.9%, while 76.1% was determined by other variables. This happens because high motivation can increase students' focus and desire to achieve targets. Highly motivated students tend to pay more attention to deeper details, and develop good strategies to improve their accuracy.

Motivation can encourage students to overcome challenges and continue trying. This research shows that motivation can increase consistency and precision in hand plinth movements. When students are motivated, they can be more calm and control their emotions, which helps in making movements more stable and accurate. In addition, motivation can increase the use of effective mental strategies. Motivated students are more likely to be able to use techniques and strategies to target the targets taught by the teacher. Through this, the importance of social support and a positive

environment in increasing motivation. Support from friends and teachers can strengthen students' motivation in targeting targets, provide emotional encouragement, and create a supportive atmosphere that can help achieve good performance.

However, a student's level of accuracy can also be seen from how often the child does the same movement repeatedly, because by doing the same movement repeatedly the child will get the correct and comfortable movement or technique (Irawan et al., 2024).

CONCLUSION

Conclusions from research on the influence of concentration and motivation on the accuracy of the slingshot game. It can be explained that in the branch game, accuracy, concentration and motivation when aiming at the target greatly influence the results of shots on target. The results show that the significance value of 0.000 is smaller than 0.05, which means that concentration and motivation have a positive and significant influence on the accuracy of the slingshot game, with an R Square value of 51.2%, while 48.8% is influenced by other variables.

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