



The Relationship of the Intensity of Balance Bike Activities on the Emotional Resilience of Children Aged 5-6 Years in Malang

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Abstract

This research aims to determine the relationship between the intensity of balance bike activities and the emotional resilience of children aged 5-6 years in Malang. This research was conducted on 35 children aged 5-6 years at the XBC Pushbike Malang, FF Reborn Pushbike Malang and CAKids Pushbike Malang clubs. The type of research used in this research is quantitative descriptive research with correlation and determination test analysis methods. The sampling technique used was purposive sampling. The data collection technique in this research was using a questionnaire which was distributed to the children's parents. The results of research using the Pearson product moment correlation statistical test show that the Sig (2-tailed) value is 0.009 with a correlation coefficient value of 0.437 and a determination value of 0.191. The results show that there is a significant relationship and influence between the intensity of balance bike activities on emotional resilience, with a sufficient or moderate level of relationship strength and a positive relationship direction.

Keywords: Emotional Resilience, Activity Intensity, Early Childhood

1. Introduction

Growth and development in children can be seen from 6 aspects, the six aspects are religious and moral values, children's cognitive abilities, language abilities, physical and motor development, development in social and emotional aspects and art (Sukatin et al., 2019). Of the six aspects of development above, the aspect of social emotional development is the main focus and basis for character formation in children. One important aspect of emotional development is emotional resilience. According to Reivich & Shatte, resilience is the ability to overcome and adapt to difficult events or problems that occur in life. Surviving under pressure and even dealing with adversity or trauma experienced in his life (in Novianti, 2018). Physical activity has been known as a factor that can support children's emotional development. Activities such as a balance bike or pushbike are bicycles designed without pedals, chains and brakes so that children move and stop using both feet.

The researcher's initial findings when he was on the balance bike event committee at SMK Negeri 4 Malang showed that children showed positive emotions such as joy, satisfaction and self confidence during the activity. Some children also show negative emotions such as anger, jealousy, sadness and disappointment when they have difficulty learning to use or compete on a balance bike. However, observations show that children tend to face difficulties optimistically, try repeatedly with confidence and interact well with peers or coaches. Children can feel progress in their achievements when exercising with a balance bike which has an impact on the development of children's emotional resilience. A balance bike requires muscle coordination which affects strength and this strength will affect the psychological aspects,

especially the child's social emotions (Maningtyas, 2021). Previous research has shown that physical activity can support children's emotional development. However, studies that specifically examine the relationship or influence of the intensity of balance bike activities on emotional resilience are still limited. Therefore, this study aims to determine the relationship between activity intensity and the emotional resilience of children aged 5-6 years.

Previous research studies that support this research are research conducted by Eric Jonatan in 2015 with the title "The Relationship between Proactive Coping and Resilience in 2016 National Sports Week (PON) Athletes, South Sulawesi". The difference between this research and this research is that this research focuses on intensity indicators, namely motivation, duration and frequency of exercise, which influence aspects of emotional resilience, namely emotional regulation, emotional control, self confidence, causal analysis, empathy, self-efficacy and self-acceptance on children's ability to manage resilience. emotions when facing challenges. Therefore, based on previous research, researchers want to conduct research with the title "The Relationship between the Intensity of Balance Bike Activities and the Emotional Resilience of Children Aged 5-6 Years in Malang".

2. Method

The type of research used is descriptive quantitative with correlation analysis methods and coefficient of determination. The population in this study were all children aged 5-6 years in the FF Reborn Pushbike Malang club, XBC Pushbike Malang club and CAKids Academy Pushbike Malang club. The sampling technique in this research used purposive sampling which was adjusted to the researcher's own considerations. The sample in this study was 32 children to test the questionnaire and 35 children as research respondents. The data collection technique in this research used questionnaires distributed to the children's parents. The instruments in the questionnaire are divided into two, namely the activity intensity questionnaire and the emotional resilience questionnaire.

Before carrying out data collection, it is necessary to test the validity and reliability of the activity intensity and emotional resilience questionnaire. It is known that the R table at the 5% significance level with 32 respondents in this validity test is 0.349. Each statement on the intensity and resilience questionnaire can be said to be valid if the calculated R is >0.349 . It can be concluded that the results of 14 statements in the activity intensity questionnaire and 35 statements in the emotional

resilience questionnaire are declared valid or the R table in the statements of activity intensity and emotional resilience is greater than the calculated R. Meanwhile, for the reliability test, the activity intensity questionnaire has a Cronbach alpha of 0.679 and a Cronbach alpha of more than 0.6. The emotional resilience statement has a Cronbach alpha of 0.903 and a Cronbach alpha of more than 0.6. It can be concluded that the activity intensity and emotional resilience questionnaires are declared reliable or can be used as a tool to collect data.

3. Results and Discussion

a. Result

Based on the analysis of the activity intensity scale questionnaire, an overview of the level of activity frequency in children aged 5-6 years is obtained which is summarized in the following table:

Table 1. Activity Intensity Categories

No.	Activity Intensity Level	Amount	
		Frequency (n)	Percentage (%)
1	Low	0	0
2	Currently	2	6%
3	Tall	33	94%
Total		35	100%

Based on table. 1 it can be seen that 0% have low activity intensity, 6% (2 children) have medium activity intensity and 94% (33 children) have high activity intensity. This shows that the majority of respondents are in the high level of activity intensity category.

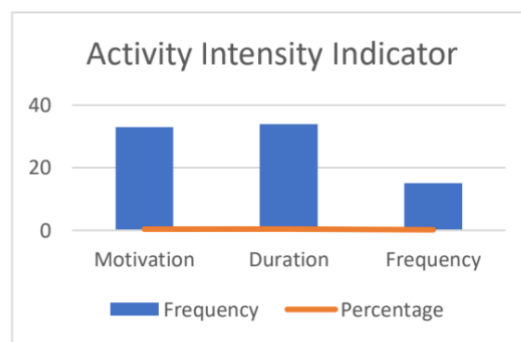


Figure 1. Distribution of Activity Intensity Indicators

Based on questionnaire analysis of indicators or factors that influence emotional resilience such as emotional regulation, impulse control, self-confidence, causal analysis, empathy, self-efficacy and reaching out. So we get a picture of the level of emotional resilience in children aged 5-6 years which is summarized in the following table:

Table. 2 Categories of Emotional

No.	Level of Emotional Resilience	Amount	
		Frequency (n)	Percentage (%)
1	Low	0	0
2	Currently	3	9%
3	Tall	32	91%
Total		35	100%

Based on table. 2 it can be seen that respondents have a low level of emotional resilience, namely 0%, a medium level of frequency, namely 9% (3 children) and a high level of emotional resilience, namely 91% (32 children). This shows that the majority of respondents are in the high level of emotional resilience category.

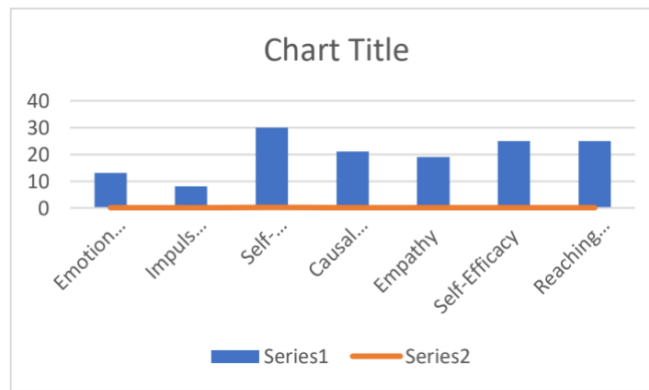


Figure 2. Distribution of Emotional Resilience Factors

Before carrying out the Pearson product moment correlation test, the research data must have a normal distribution and there is a linear relationship between the activity intensity variable and the emotional resilience variable. The following are the results of the analysis of normality tests, linearity tests, correlation tests and coefficient of determination tests on research data obtained from activity intensity and emotional resilience questionnaires.

Table 3. Normality Test Results

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Intensity	.102	35	.200 [*]	.960	35	.235
Resilience	.113	35	.200 [*]	.965	35	.322

*. This is a lower bound of the true significance.

Based on the results of the normality test in this study using the Shapiro-Wilk test which shows that activity intensity has a Sig value of 0.235 and emotional resilience has a Sig value of 0.322 > 0.05. So it can be concluded that the data on the activity intensity variable and the emotional resilience variable are both stated to be normally distributed.

Table 4. Linearity Test Results

ANOVA Table							
			Sum of Squares	df	Mean Square	F	Sig.
Intensity * Resilience	Between Groups	(Combined)	2567.186	14	183.370	2.916	.014
		Linearity	729.892	1	729.892	11.609	.003
		Deviation from Linearity	1837.294	13	141.330	2.248	.050
	Within Groups		1257.500	20	62.875		
	Total		3824.686	34			

Based on the results of the linearity test in this study, the deviation from linearity of activity intensity and resilience has a Sig value of 0.05 and an F table value of 2.248 > F count of 0.4663. So it can be concluded that there is a linear relationship between the variables of activity intensity and emotional resilience.

Table 5. Pearson Correlation Test

		Correlations	
		Intensity	Resilience
Intensity	Pearson Correlation	1	.437**
	Sig. (2-tailed)		.009
	N	35	35
Resilience	Pearson Correlation	.437**	1
	Sig. (2-tailed)	.009	
	N	35	35

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

Based on the results of the correlation test in this study, it shows a significance value of 0.009, which means the sig value is <0.05 and the Pearson correlation value is 0.437, which means the Pearson correlation value is >0.334. So it can be concluded that there is a significant relationship between activity intensity and emotional resilience and based on the Pearson correlation value of 0.437 obtained, the criteria for the strength of the relationship between the activity intensity variable and the emotional resilience variable have a sufficient relationship.

Table 6. Determination Test (R Square)

Measures of Association				
	R	R Squared	Eta	Eta Squared
Resilience * Intensity	.437	.191	.819	.671

Based on the results of the determination test, it is known that the correlation value is 0.437. From this output, a coefficient of determination (R Square) of 0.191 was obtained, which means that the influence of the activity intensity variable on the emotional resilience variable was 19.1%. With this, it can be concluded that there is an influence between the intensity of balance bike activities on emotional resilience.

b. Discussion

This research was carried out at Living Plaza Malang and Dinoyo Mall Malang with a population of all children participating in pushbike and a sample of 35 children. This type of research is quantitative descriptive research with correlation and determination test analysis methods. The data collection technique in this research was using a questionnaire on activity intensity and emotional resilience which was distributed to the children's parents. The results of the correlation test show that there is a significant positive correlation between the intensity

of balance bike activities and the emotional resilience of children aged 5-6 years in Malang. This shows that the higher the intensity of the balance bike activity, the higher the emotional resilience in children aged 5-6 years in Malang.

Intensity is the effectiveness of actions or processes carried out routinely. Activity intensity is a repetitive action carried out more than once with increasing frequency over time. There are three indicators of activity intensity, namely motivation, duration and frequency (Nuraini 2011). The research results show that most children aged 5-6 years have high motivation in participating in Balance Bike activities. This motivation comes from children who feel happy when taking part in Balance Bike training and comes from parents who always inspire their children to take part in Balance Bike training. In line with these findings, Skinner & Kindermann, (2009) in their research stated that high motivation in children can increase their self-confidence, help overcome academic pressure and reduce stress levels in children. In addition, consistent parental involvement will provide a sense of security and support for trying new things. The results on the activity duration indicator show that some respondents always warm up and jog for 10 minutes. Meanwhile, the activity frequency indicator shows a high frequency, with the majority of respondents frequently practicing the balance bike three times a week or even practicing every day. This is in line with experts from the AAP (American Academy of Pediatrics) who state that children need a total of at least 60 minutes of physical activity every day and throughout the week (Adnan AF, 2023). Warming up before practicing the balance bike is a form of physical readiness for children. In addition, the warm-up also contributes to the overall recommended time for daily physical activity. By following a consistent duration of exercise, children not only meet their physical needs but also develop healthy habits that can last a lifetime. This is also in line with various studies which show that regular physical activity helps in children's physical, mental and emotional development.

Emotional resilience is defined as the ability to regulate emotions during difficult times. Researchers assume that when children cannot regulate their emotions, it can affect their emotional resilience Cherry (2023). Children with emotional resilience abilities have full awareness of their emotional reactions. This allows children to face difficult situations more calmly. Based on the research results, it can be seen that children aged 5-6 years who are in the XBC Pushbike Malang club, FF Reborn Pushbike Malang and the CAKids Pushbike Malang club mostly have a high level of emotional resilience. The high emotional resilience of children can be demonstrated by the results of research on the factors of self-confidence, empathy, self-efficacy and Reaching Out in children. Confidence when children practice the Balance Bike is shown when the majority of children feel confident or confident while practicing the Balance Bike, feel confident and focused on the instructions from the trainer and confident when starting. This is in accordance with research by Hertinjung W.S (2022) which shows that the more optimistic a person is, the higher their resilience will be. Children who are optimistic will get used to thinking positively when facing difficulties or in stressful conditions. So that in the future children can control themselves and more easily achieve their hopes. The high empathy factor in children when practicing Balance Bike is shown when the child feels comfortable when interacting with his peers and when the child gets positive support from his parents. When children feel comfortable with their friends, children will be more open to sharing experiences, listening to each other and providing emotional support. This is in accordance with research by Rohmah (2018) that high empathy can trigger children's resilience. The higher the child's sense of empathy, the higher the child's resilience to face challenges or difficulties when practicing Balance Bike. The resilience factor that is in the high category is

self-efficacy. In this self-efficacy factor, the majority of respondents showed that children persisted when facing difficulties or challenges when practicing Balance Bike. This is in accordance with research by Maharani (2021) which shows that children who have the ability to persist when faced with problems and try to overcome them means that the child has high self-efficacy. Based on the Reaching Out factor, most children actively participate in Balance Bike training or competitions. This active participation from children shows that children not only enjoy the activity but are also enthusiastic about being involved and interacting with the surrounding environment. Children show initiative to join in training, seek opportunities to learn more and are enthusiastic about facing new challenges. This is in accordance with Hurlock's opinion in research by Wahyuseptiana, et al (2020) which shows that Reaching Out or self-acceptance is an indicator of the extent to which an individual is able to realize these characteristics. Children who are able to accept their strengths are free to reject what is not in accordance with themselves and admit all their shortcomings without blaming themselves.

Reivich and Shatte (2002) in research by Tazkiyah, et al (2019) define impulse control and emotional regulation as one's ability to regulate impulses, emotions and behavior so that they are still controlled from within, not out of control and remain in a calm state. Children who have good self control and emotional regulation will find it easier to manage their emotions. However, these findings are not in line with the research results shown by the high score of 3 and 4 "often" and "always" by most parents on statements on the impulse control factor. Apart from that, on the impulse control factor, researchers found a score of 1 "never" and 2 "rarely" for the statement that children maintained their concentration when practicing the Balance Bike. This is in accordance with the research results of Uyun, et al (2012) which explains that individuals with low impulse control will often experience rapid emotional changes and tend to control behavior and emotions. Children will lose patience, concentration and get angry easily. The results of this study prove that the emotional resilience of early childhood on impulse control factors is still low, meaning that emotional resilience in early childhood is still classified as lacking according to one of the existing statements.

Overall, the results of this study show that young children who practice Balance Bike have a high level of emotional resilience in various aspects such as emotional regulation, self-confidence, empathy, self-efficacy, causal analysis and reaching out. However, there is still low emotional resilience in the aspect of impulse control. This child's low impulse control results in difficulty in maintaining concentration and calm during training and this shows that the child often experiences rapid and out-of-control emotional changes.

4. Conclusion

Based on the analysis that has been carried out, it can be concluded that the intensity of balance bike activities has a significant relationship with the direction of a positive relationship to the emotional resilience of children aged 5-6 years in Malang. The research results in the previous chapter showed that hypothesis testing using the correlation test showed a significance of $0.009 < 0.05$ so that H_0 was rejected and H_a was accepted. The correlation coefficient value of 0.437 indicates that there is sufficient quality of relationship. Apart from that, the coefficient of determination (R Square) is 0.191, which means that activity intensity has an influence on children's emotional resilience by 19.1%.

The intensity of balance bike activities affects emotional resilience in children aged 5-6 years, because physical toughness (regular physical exercise or completion) can help children

develop the physical strength and emotional resilience needed to face challenges. When children successfully overcome physical challenges such as controlling a bicycle and maintaining balance, children also learn to manage emotions such as frustration and excitement. Apart from that, the physical endurance built through balance bike training can increase children's self-confidence and self-efficacy. So it can be concluded that there is a relationship and influence between the intensity of balance bike activities on the emotional resilience of children aged 5-6 years in Malang.

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