

The Effect Of Early Detection, Parenting, And Stimulation On Children's Independence

Anniez Rachmawati Musslifah

Universitas Sahid Surakarta

anniez@usahidsolo.ac.id

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ABSTRACT

Children have every potential that is expected to develop according to their growth and psychological level. **This paper aims** to determine: first, is there a relationship between early detection, parenting, and stimulation on children's independence, and second, to determine the variables that have the most significant influence on children's independence. **This study uses a quantitative approach.** The results of the study indicate that the effect of early detection on children's independence is positive and significant, from the results of the t-test of 2.276 and a significance value of 0.047 and a regression coefficient of 0.185. The effect of parenting on children's independence is positive and significant, from the results of the t-test of 1.422 and a significance value of 0.162 and a regression coefficient of 0.060. The effect of stimulation on children's independence is positive and significant, from the t-test of 2.181 and a significance value of 0.034 and a regression coefficient of 0.288. The independent variable that has the most influence on children's independence is the early detection variable (X1), from the results of the t-test with a t-test value of 2.276, when compared to other independent variables..

KEYWORDS

Early detection, parenting, stimulation, child independence

CORRESPONDING AUTHOR:

email: anniez@usahidsolo.ac.id

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INTRODUCTION

The process of child growth and development is an important thing that must be considered from an early age, considering that children are the next generation of the nation and have the right to achieve optimal development, so children with good quality are needed for a better future for the nation (Prastiwi, 2019). Early detection of child growth and development will be very useful so that child growth and development can take place as

optimally as possible. Screening is a routine procedure for checking child development every day which can provide clues if there is something that needs attention (Dardjito et al., 2014). Growth and development are two different events but cannot be separated (Inggriani et al., 2019). Providing education on child growth and development stimulation can improve parents' ability to provide stimulation for children from an early age because mothers are the first educators

for their children from birth to adulthood (Tarnoto et al., 2018). With counseling and information from midwives, one of the goals is to influence or invite parents of toddlers to determine themselves through choices that have been well-informed and meaningful to them in meeting the needs of their children's growth and development so that indirectly they can reduce the incidence of deviations in children's growth and development (Fitriani & Oktobriarani, 2017).

The parenting program, which is one of the programs in strengthening family life and Indonesian society, provides one of the reinforcements in community life, especially early childhood development, parenting methods and communication patterns carried out by most people (Sánchez-Prieto et al., 2020). In each generation, the profile of children changes, and the nature of family care and community involvement also changes. For this reason, it is very important for each generation to consider who they are, how they process the world around them, how they engage with authority, how this impacts the family and society, and what to do to maximize their chances of achieving their goals (Gaventa, 2006). Family and school are elements that can determine the establishment of parental involvement where a survey conducted by teachers shows that parental involvement is a top priority in improving the quality of education. Parental involvement is basically needed at all times, especially for children in the early age period, where in this period children are just starting to develop their knowledge, attitudes, morals, emotions and character formation (Galuh & Adriana, 2018).

Children are a mandate given to parents to raise them to become mature individuals. In child development, parents have a very large role, this is because the family is the first place where children are born, raised and in the family the child develops (Tunick, 2023). Most parents do not know that the

first and main teacher to educate children is the parents themselves, so they are from the wealthy class busy working and spend less time with their children. They think they don't need to be involved much with their children at home or at school because they have paid a lot to the school. The busyness of parents is also a factor in their lack of role in children's education (Guryan et al., 2008). Development requires stimulation, especially in the family, for example providing toys, socializing children, involvement of mothers and other family members in children's activities (Ginsburg et al., 2007). Providing stimulation to children is very important for the child's further development. This is because, especially early childhood is a sensitive period for children in receiving stimulation or stimulus (Gewirtz, 2017). Based on UNICEF (United Nations Emergency Children's Fund) data in 2019, it shows that the incidence of growth and development disorders in children is still high, as many as 27.5% or equivalent to three million children experiencing disorders (Goli et al., 2023). More than 200 million toddlers have failed to achieve their potential in their development, this is more widespread in developing countries including Indonesia (Olusanya et al., 2018).

Stimulation is an activity to stimulate children's basic abilities so that children develop optimally. Every child needs to receive routine stimulation as early as possible and continuously at every opportunity (Setiawati et al., 2023). Optimization of development is needed, such as interaction between children and parents, especially the role of mothers who are very beneficial for the overall child growth and development process. Parents can immediately recognize abnormalities in the child's growth and development process as early as possible and provide comprehensive stimulation, both physical, mental, social and independence aspects (Council et al., 2009).

Independence refers to an independent, creative and independent person, namely having self-confidence that can make someone able as an individual to adapt and take care of everything by themselves (JUN SIPARILAS, 2021). Independence is one of the important things for the growth and development of early childhood. With independence, children will learn how they should be responsible for their duties. Individuals who have an independent attitude in thinking and acting are able to make decisions, direct and develop themselves and adapt constructively to the norms that apply in the community (Bandura, 2006). Independence is the main life skill and one of the needs since early age (Shah, 2017). Independence is also known as an internal strength that is obtained through the process of realizing independence and the process towards perfection, so this independent attitude is important for every individual. Parents and teachers have a very important role in shaping independence in children (Marilena, 2015). According to Erikson's psychosocial theory, social and cultural factors play a role in human development, including the development of children's independence (Rorije et al., 2023).

RESEARCH METHOD

This research was conducted at PAUD XYZ, Colomadu. The population in this study were all parents of students totaling 101 people. The sampling technique used was accidental sampling, which is a sampling technique by chance, where the respondents selected are those who accidentally meet the researcher and are considered to be in accordance with the criteria needed in the study.

Determination of the number of samples was carried out using the Slovin formula as follows:

$$n = \frac{N}{1 + N(e)^2}$$

n = number of samples

N = number of population (101 people)

e = error tolerance of 10% or 0.1

$$n = \frac{101}{1 + 101(0,1)^2} = \frac{101}{1 + 101(0,01)} = \frac{101}{1 + 1,01} = \frac{101}{2,01} \approx 50,24$$

Based on the calculation results, the number of samples used in this study was rounded up to 50 respondents.

RESULTS AND DISCUSSION

Validity test is an item used to measure the accuracy of an item in a questionnaire or scale, whether the items in the questionnaire are accurate in measuring what is to be measured, or can be assessed directly using the Person Correlation method or the corrected item total correlation method. If the calculated r is greater than the table r or the r value is positive and less than 0.05, then the item or question or indicator is declared valid.

Validity testing aims to determine the extent to which the questions in the instrument can measure what should be measured. The Early Detection variable consists of five statement items, the validity of which is tested using Pearson correlation (r).

Table 1. Results of the Validity Test of Early Detection Variables

Question Items	r count	r table	Information
DD1	0,699	0,279	valid
DD2	0,743	0,279	valid
DD3	0,850	0,279	valid
DD4	0,860	0,279	valid

DD5 0,716 0,279 valid

Source: data processed 2021

The table above explains that all items of the early detection variable statements are declared valid because they have a calculated r value greater than r table. The value of 0.279 was obtained from the r table value with $N = 50$.

Parenting variables consist of 12 question items.

Table 2. Parenting Variable Validity Test Results

Question Items	r count	r table	Information
PR1	0,715	0,279	valid
PR2	0,748	0,279	valid
PR3	0,860	0,279	valid
PR4	0,847	0,279	valid
PR5	0,849	0,279	valid
PR6	0,873	0,279	valid
PR7	0,765	0,279	valid
PR8	0,643	0,279	valid
PR9	0,699	0,279	valid
PR10	0,783	0,279	valid
PR11	0,482	0,279	valid
PR12	0,769	0,279	valid

Source: data processed 2021

The table above explains that all parenting variable statement items are declared valid because they have a calculated r value greater than r table. The value of 0.279 was obtained from the r table value with $N = 50$.

The Stimulation Variable consists of 3 question items.

Table 3. Results of the Validity Test of Stimulation Variables

Question Items	r count	r table	Information
ST1	0,699	0,279	valid
ST2	0,860	0,279	valid
ST3	0,716	0,279	valid

Source: data processed 2021

The table above explains that all items of the stimulation variable statements are declared valid because they have a calculated r value greater than r table. The value of 0.279 was obtained from the r table value with $N = 50$.

The Child Independence variable consists of 3 question items.

Table 4. Results of Validity Test of Child Independence Variable

Question Items	r count	r table	Information
KA1	0,879	0,279	valid
KA2	0,821	0,279	valid
KA3	0,784	0,279	valid

Source: data processed 2021

The table above explains that all items of the child independence variable statement are declared valid because they have a calculated r value greater than r table. The value of 0.279 was obtained from the r table value with $N = 50$.

Reliability is the level of reliability of a research instrument. Reliability testing is used to determine the consistency of the measuring instrument, whether the measuring instrument used is reliable and remains consistent if the measurement is repeated. The results are indicated by an index that shows how far the measuring instrument can be relied on. To measure the reliability of the measuring instrument, the Cronbach's Alpha technique is used. A construct or variable is said to be a variable if it provides a Cronbach's Alpha value > 0.60 .

Table 5. Reliability Test Results

Variable	Cronch Alpha	Criteria	Information
Early detection	0,699	0,279	valid
Parenting	0,743	0,279	valid
Stimulation	0,850	0,279	valid
Children's independence	0,860	0,279	valid

Source: data processed 2021

The Cronch Alpha value of the three variables shows a value of more than 0.60. This indicates that respondents answered consistently. Thus it can be concluded that all three statements are reliable.

The normality test aims to test whether in the regression model, the interfering variables or residuals have a normal distribution. Tests that can show normal data obtained if the significance value is > 0.05 . The method that can be taken to test the normality of the data is to use the significance value method in the Kolmogorov-Smirnov normality test. If in the test of normality table using Kolmogorov-Smirnov the sig. value is > 0.05 , then the residual data is normally distributed.

Table 6. Results of the Kologorov-Smirnov Method Normality Test

One-Sample Kolmogorov-Smirnov Test		
		Unstandarized Residual
N		50
Normal Parameters ^a	Mean	.0000000
	Std. Deviation	.90467879
Most Extreme Differences	Absolute	.206
	Positive	.123
	Negative	-.206
Kolmogorov-Smirnov Z		1.459
Asymp. Sig. (2-tailed)		.078
a. Test distribution is Normal.		

Source: data processed 2021

The results of the Normality test using Kolmogorov-Smirnov showed a Sig value of 0.078 > 0.05 . These results indicate that the regression model is normally distributed.

The multicollinearity test aims to determine whether there is a correlation between independent variables in the regression model. The multicollinearity test is carried out by comparing the tolerance value and the variance inflation factor (VIF) value with the required value. The required value for the tolerance value is greater than 0.1 and for the VIF value less than 10.

Table 7. Multicollinearity Test Results

Variable	Tolerance	VIF	Information
Early detection	0,409	2,445	There is no multicollinearity
Parenting	0,375	2,665	There is no multicollinearity
Stimulation	0,500	1,998	There is no multicollinearity

Source: data processed 2021

Based on the table above, it can be seen that:

1. The early detection variable has a tolerance value of 0.409 greater than 0.10 and a VIF value of 2.445 less than 10.

2. The parenting variable has a tolerance value of 0.375 greater than 0.10 and a VIF value of 2.665 less than 10.

3. The stimulation variable has a tolerance value of 0.500 greater than 0.10 and a VIF value of 1.998 less than 10.

The heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from the residual of one observation to another observation to detect the presence or absence of heteroscedasticity, then the Glejser test is used. A good regression model is one that does not have heteroscedasticity.

Table 8. Heteroscedasticity Test Results

Variable	Significance	Information
Early detection	0,797	There is no heteroscedasticity
Parenting	0,289	There is no heteroscedasticity
Stimulation	0,224	There is no heteroscedasticity

Source: data processed 2021

The table above explains that all significance values in the early detection, parenting and stimulation variables are more than 0.05 so that in the early detection, parenting and stimulation variables there are no symptoms of heteroscedasticity.

Data analysis and hypothesis testing in this study were carried out using a multiple linear regression model, where in regression analysis it can be used to test the effect of independent variables on dependent variables.

Based on the multiple linear regression equation, it can be interpreted as follows:

1. Constant (a). This means that if all independent variables have a value of zero (0), then the value of the dependent variable (child independence) is 2.089. The constant value shows that if all independent variables (early detection, parenting, and stimulation) are zero, then the value of the dependent variable, namely child independence, is theoretically 2.089. Although in practice a zero value may be unrealistic, the constant still serves as a starting point in the regression equation.

2. Early detection (X1). The regression coefficient of the early detection variable has a positive value of 0.185, this states that by assuming the absence of other independent variables, then if the early detection variable (X1) increases, then the child's independence (Y) increases by 0.185. The regression coefficient of the early detection variable is positive, which is 0.185. This shows that if the early detection variable increases by one unit, and other variables are considered constant, then the level of child independence will increase by 0.185 units. In other words, the better the early detection is done, the higher the child's independence.

3. Parenting (X2). The regression coefficient of the parenting variable has a positive value of 0.060, this states that by assuming the absence of other independent variables, then if the parenting variable (X2) increases, then the child's independence (Y) increases by 0.060. The regression coefficient on the parenting variable of 0.060 indicates that every one unit increase in parenting patterns, assuming other variables remain constant, will increase children's independence by 0.060 units. This indicates that good parenting patterns contribute to increasing children's independence, although the effect is relatively small compared to other variables.

4. Stimulation (X3). The regression coefficient of the stimulation variable has a positive value of 0.288. This indicates that by assuming the absence of other independent variables, if the stimulation variable (X3) increases, the child's independence (Y) will increase by 0.288. The regression coefficient of the stimulation variable of 0.288 indicates that every one unit increase in stimulation, assuming other variables remain constant, will increase children's independence by 0.288 units. This means that stimulation is the variable that has the greatest contribution in influencing children's independence among the three independent variables studied.

The t-test shows how far the influence of one independent variable individually in explaining the variation of the dependent variable. The basis for making decisions for the partial t-test in regression analysis is:

1. Based on the calculated t and t table values
If the calculated t value > t table, the independent variable has an effect on the dependent variable.

If the calculated t value < t table, the independent variable does not affect the dependent variable.

To find the t table value, the formula is used: t table = (a / 2; n-k-1)

t table = (0.05 / 2; 50-3-1)

t table = (0.025; 46)

t table = number 0.025; 46 then searched in the distribution of t table values, the t table value was found to be 2.012.

2. Based on the significance value of the SPSS output results:

If the Sig. value < 0.05, the independent variable has a significant effect on the dependent variable.

If the Sig. value > 0.05 then the independent variable does not have a significant effect on the dependent variable.

The following is a discussion of the t-test between early detection, parenting, and stimulation on children's independence as follows:

1. Early detection (X1) on children's independence (Y)

H1: Early detection has a significant effect on children's independence.

From the results of the table above, the regression analysis obtained a t-value of 2.276 > t-table 2.012 and a significance value (Sig) of 0.047 < 0.05. So it can be concluded that Ho is accepted and H1 is accepted and that the X1 variable has a positive and significant effect on Y.

2. Parenting (X2) on children's independence (Y)

H2: Parenting has a significant effect on children's independence.

From the results of the table above, the regression analysis obtained a t-value of 1.422 < t-table 2.012 and a significance value (Sig) of 0.162 > 0.05. So it can be concluded that Ho is rejected and H1 is rejected and that variable X2 has a positive effect and does not have a significant effect on Y.

Parenting does not have a significant effect on children's independence because parenting is not yet too important.

3. Stimulation (X3) on children's independence (Y)

H3: Stimulation has a significant effect on children's independence.

From the results of the table above, the regression analysis obtained a t-value of 2.181 > t-table 2.012 and a significance value (Sig) of 0.034 < 0.05. So it can be concluded that Ho is accepted and H1 is accepted and that variable X3 has a positive effect and has a significant effect on Y.

The purpose of the simultaneous significance test (F Test) is to determine whether all independent variables can simultaneously affect the dependent variable. This F test is carried out by comparing the F count value with the F table

value and by comparing the significance value or probability value from the SPSS calculation results, whether the significance value is greater or less than the standard statistical value used, namely 0.05. Decision making in the F test is based on the f count and f table values:

1. If the f count value > f table, then the independent variables simultaneously affect the dependent variable.

2. If the f count value < f table, then the independent variables simultaneously do not affect the dependent variable.

The basis for decision making in the next f-test is based on the significance value of the results from the SPSS output:

1. If the significance value < 0.05 then the independent variable has a significant effect on the dependent variable

2. If the significance value > 0.05 then the independent variable does not have a significant effect on the dependent variable.

To find out whether or not there is an influence of variable X on variable Y, it can be seen from the results of the f-test analysis.

Table 9. Results of the F-Test Analysis

ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	47.896	3	15.965	18.313	.000 ^a
Residual	40.104	46	.872		
Total	88.000	49			

a. Predictors: (Constant), X3, X1, X2

b. Dependent Variable: Y

Source: data processed 2021

Based on the table above, it can be seen from the Fcount value in the ANOVA table, which is 18.313 and Ftable of 3.195, it can be concluded that the independent variable has a significant effect on the dependent variable. The table above also shows that the significance value of 0.000 is smaller than 0.05, so it can be concluded that the early detection, parenting and stimulation variables have an effect on children's independence. The coefficient of determination (R2) is used to determine how much percentage of the contribution of the influence of the independent variables together on the dependent variable. The R2 value is between 0 and 1. If the R2 value is close to 1, it can be said that the model is stronger in explaining the independent variables on the dependent variable. Conversely, if R2 is close to 0 (zero), the weaker the variation of the independent variables in explaining the dependent variable. In this test, using SPSS 16.

Table 10. Results of Determination Coefficient Test Analysis

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.738 ^a	.544	.515	.934	1.887

a. Predictors: (Constant), X3, X1, X2

b. Dependent Variable: Y

Based on the table above, it is known that the coefficient of determination (Adjusted R Square) is 0.515. The value of the coefficient of determination (Adjusted R Square) of 0.515 is equal to 51.5%. This figure means that the independent variables (early detection, parenting, stimulation) have an effect on children's independence by 51.5%. While the rest (100% - 51.5% = 48.5%) is influenced by other variables outside this regression model.

CONCLUSION

The effect of early detection on children's independence is positive and significant, this can be seen from the results of the t-test of 2.276 and a significance value of 0.047 and a regression coefficient of 0.185. The effect of parenting on

children's independence is positive and significant, this can be seen from the results of the t-test of 1.422 and a significance value of 0.162 and a regression coefficient of 0.060. The effect of stimulation on children's independence is positive and significant, this can be seen from the t-test of 2.181 and a significance value of 0.034 and a regression coefficient of 0.288. The independent variable that has the most influence on children's independence is the early detection variable (X1), this can be seen from the results of the t-test, with a t-test value of 2.276, when compared to other independent variables.

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