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HEALTHY SCHOOL MANAGEMENT MODEL OF CHILD-FRIENDLY SCHOOLS: CHILDREN NUTRITION STATUS AND LEARNING ATMOSPHERE

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ABSTRACT

Health problems may affect a child's learning performance in school. Obesity is the most common health problem experienced by children. Childhood obesity is one in all the foremost serious public health challenges of the 21st century. The number of primary school students who are overweight in Indonesia reaches 12.2%. The purpose of this study is to investigate 33 schools' health programs to seek out sufficient management of the health school model. Research and development design was used to describe the schools' health program and to design the model of health school. Data analysis was performed using two techniques, namely descriptive analysis with SPSS 24.0 and path analysis supported by SEM AMOS 24.0 program. Findings from this study suggest that the schools need attention to the level of implementation of child-friendly schools, learning atmosphere and school comfort in order to maintain the nutritional status of children to avoid obesity or even stunting. The results among the variables were showed that (1) the implementation of child-friendly schools has a direct influence on school comfort, (2) the learning atmosphere has a direct influence on school comfort, (3) the implementation of child-friendly schools, and the learning atmosphere has a simultaneous influence on school comfort, (4) the implementation of child-friendly schools has a direct influence on the nutritional status of children, (5) the support of learning atmosphere has a direct influence on the nutritional status of children, (6) school comfort has a direct influence on the nutritional status of children, (7) the implementation of child-friendly schools has an indirect effect on the nutritional status of children through the convenience of school, (8) the learning atmosphere has an indirect effect on the nutritional status of children through the convenience of school, and (9) the implementation of child-friendly schools, learning atmosphere, and comfort schools have a simultaneous influence on a child's nutritional status.

Keywords: School Management Model, Child-Friendly Schools, Learning Atmosphere, School Comfort, Child Nutritional Status

INTRODUCTION

Children's health conditions have a significant influence on learning outcomes. A result study of (Hayatus, Herman, Rahmatina, & Sastri, 2014) states that students' who experience low nutritional status like stunting and wasting affect their achievement in school. Ministry of Health stated that of 100 children aged 5-12 years, 8 of them were obese (Badan Penelitian dan Pengembangan Kesehatan, 2013). Nationally the obesity rate suffered by children reaches 12%. Meanwhile, in the adult category, Indonesian who is obese reaches 20.7% (Kementerian Kesehatan RI, 2017). The population which is obese becomes one of the problems in the health field, which certainly will also affect children learning outcomes. Generally, children who are obese caused by insufficient consumption of fresh food, lack of physical activity and the result of early smoking (Ayu & Sartika, 2011). Threats occurring due to obesity are various non-communicable diseases such as high blood pressure, diabetes, cardiovascular disease, asthma (Al-Thani et al., 2018). Children learn for 8 hours every day at school; thus, the condition of the school environment contributes to children's health. The role of the principal in this context is very important for managing the school environment in order to be able to meet health standards and provide a comfortable learning environment for students. The cleanliness and comfort of the school environment must be arranged and maintained properly, considering that some of the fastly spread diseases like dengue occur morning to afternoon. The environment, especially school, has a significant influence on the level of children's health, learning motivation and student achievement (Saragih, Sinaga, & Sinaga, 2013).

One of the causes of children having poor health is lack of physical movement and unhealthy food intake (Lee, Ho, & Keung, 2010). Indonesia Health Ministry (in Pangesti, Gunawan, & Julia, 2016) explains that the lack of physical activity due to lack of playing fields, inadequate public facilities and technological advances result in children becoming too lazy to move. Some schools have limited physical space, related to the standard of facilities and infrastructure. The Indonesian government has issued regulations Permendikbud No 24 Year 2007 about Facility and Infrastructure Standard for Elementary Schools/Madrasah Ibtidaiyah (SD/MI), Junior High Schools/Madrasah Tsanawiyah (SMP/MTS), and Senior High Schools / Madrasah Aliyah (SMA / MA). However, these regulations are not fully implemented yet. For example, in terms of land area, the regulation that manages the study area for 7-9 groups owned by schools must be 3,070 m2. In fact, in urban areas, many schools do not have land area appropriate to the government rules. Especially in the aspect of playing field, the ratio should be 3 m2 for each student, if the school has 100 students then the school must have 300 m2 playing field.

Students' lack of physical freedom of movement can contribute to obesity (Lee, Ho, Keung, &Kwong, 2014). Time allotment, 8 hours a day, should be enough to control the student learning activity and to consider student physical activity. Besides, to provide sufficient space, schools need to conduct a regular check on children's health, at least there are related activities to fulfill kids' nutrition and educate them about nutritious foods. 4 Sehat 5 Sempurna program has been implemented by Indonesia since the 50s which is now replaced by the "*Program Gizi Seimbang"* (PGS) but it seems that PGS has not been implemented properly. The researcher experienced seeing "4 Sehat 5 Sempurna" posters which existed in various corners of the school during 1990; it was used to stimulate the adoption of such a healthy lifestyle. These policies should be continued and improved so that children acknowledge healthy food.

Most kids have picky eating habits, they are interested in tasty and colored food. Delicious food sometimes does not meet the aspects of healthy food (Belot & James, 2011). This should also be a concern for the school so that children grow up healthy. The availability of an ideal playing field, attention to the adequacy of healthy food intake and a comfortable learning environment will encourage an increase in students' achievement (Kriemler et al., 2011; Lee et al., 2010; Townsend & Foster, 2013). The four aspects stated above need to be studied as variables of this study. The variables also need to be examined; the causes between them and how the management healthy model should be applied by schools.

Research Objectives

The current study was initiated to find answers to the above statements so that in the future it can contribute to improving the management of school institutions that are able to create healthy children and a conducive environment. Specifically, the objectives of this study include:

(1) Describe the level of implementation of child-friendly schools, the atmosphere of school learning, school comfort and the nutritional status of children in Primary Schools in Malang;
(2) Explain the contribution of the level of implementation of child-friendly schools, the atmosphere of school learning, school comfort and the nutritional status; and
(3) Find a management model to seek out a healthy school environment model.

Hypotheses

The importance of this research has been described in the introduction section. So as a temporary answer to the research objectives, the following hypothesis is proposed.

(1) H_o: There is no relationship between the implementation of child-friendly schools and school comfort variable
(2) H_o: There is no relationship between learning atmosphere and school comfort variable
(3) H_o: There is no simultaneous relationship among implementation of child-friendly schools and the learning atmosphere of school comfort variable
(4) H_o: There is no relationship between the implementation of child-friendly school and the nutritional status of children variable
(5) H_o: There is no relationship between learning atmosphere variables and the nutritional status of children
(6) H_o: There is no relationship between school comfort and the nutritional status of children variable
(7) H_o: There is no simultaneous relationship between the implementation of child-friendly schools, learning atmosphere and school comfort on the nutritional status of children variable

LITERATURE REVIEW

Management of Healthy School Environment

The education system in Indonesia is recognized in several formats: informal education, non-formal education and formal education. Informal education is an educational process that takes place in the family, parents are the teachers of a child starting from post-birth until adulthood, the family will always be advisors of the child. Non-formal education is an educational process based on certain skills, it could be work skill, life skill, even pleasure skill. Meanwhile, formal education is known as an education process which holds a planned, structured and several stages. Formal education provided by government and society, formal education organized by government is state school while formal education which is organized by certain communities is private school.

The triumph of education implementation cannot be separated from environmental conditions around the school. The school environment consists of several components such as crowded of the residence, distance school facilities, school infrastructure, school infrastructure for sports, maintenance school facilities, school security, safe from kinds of criminal acts, traffic security, comfort school environment, nice school environment, a friendly bicycle and pedestrian zone, connectivity one facilities to another, around residence environment and friendly study environment zone. In addition, related to students' comfort during study at school, the school environment also has an influence on the future vision of a student. A research conducted in Swedia stated School environment contributed to students' belief in the future (Alm, Brolin, Sandahl, &Modin, 2019; Earthman, 2002). A student who studies in a comfort zone, a quality teacher services and school infrastructure could give confidence that he will succeed in the future (Puteh, Adnan, Ibrahim, Noh, &Che'Ahmad, 2014). The optimism could motivate a children's satisfaction in learning and a motivation to be a hard-study.

School infrastructure and environment could be created and executed by headmaster, A research conducted in Indonesia and Malaysia related to students' soft skill contributive factors are school culture and activity in the classroom (Muhammad, Hanum, Zulnaidi, &Razaq, 2017). School culture is an interaction pattern and the condition of the school environment which affects students' comfort and work-life. Meanwhile, classroom activities are several activities which are conducted in the classroom that support competence achievement which should be mastered by students. In line with the research, a result of another research declared that the surrounded condition of the school environment encourages a student's creativity (Hashim & Denan, 2015). Some reviews explained that to create a friendly and comfortable school environment, it can be arranged from constructive school culture, implementing several classroom activities that support competence achievement and managing the school environment to participate in a comfortable school atmosphere.

Child-Friendly School

Child-Friendly School (SRA) is a formal, non-formal, and informal education unit that is safe, clean and healthy, caring and cultured for the environment. On the other side, by implement Child-Friendly School, the school be able to guarantee, fulfill, respect children's rights and protect children from violence, discrimination, and other mistreatment and supports participation Children are predominantly involved in planning, policies, learning, monitoring, and complaint mechanisms related to the fulfillment of children's rights and protection in education (KLA, 2017). Furthermore, child-friendly schools are an effort to realize the fulfillment of children's rights and protection for 8 hours children are in school, through the school's efforts to make schools (KLA, 2017). In this program, the school promote the program slogan: **B** (**B**ersih/ Clean), **A** (**A**man/ Safe), **R** (**R**amah/ Friendly), **I** (**I**ndah/ Beauty), **I** (**I**nklusi/ Inclusive), **S**(**S**ehat/ Healthy), **N** (**N**yaman/ Comfortable).

Nutritional Status of Children

Performance Definition of nutritional status is the body's condition caused by food consumption and use of nutrients. The word nutrition has a broad definition that is not only associated with body health but can be associated with a person's economic condition, brain development, learning ability, and work productivity (Almatsier, 2010). Likewise, nutritional status for children, measurement of nutritional status in children can be done using several indicators: 1) Direct measurements: Anthropometry, Clinical, Biochemistry, and Biophysics; and 2) Indirect measurements: Food consumption survey, Vital Stats, Ecological Factor.

Anthropometric measurements are measurements of body dimensions and composition. It is used to see the balance of energy and protein but cannot measure specific nutrients (no date). The anthropometric index can be the ratio of one measurement to more measurements or related to age and nutritional level. One example of an anthropometric index is the Body Mass Index (BMI) or the Body Mass Index (Thamaria, 2017). Two parameters used in anthropometric measurements are weight and height. The measurement is carried out using formula 1.

$$IMT = \frac{Weight\ (kg)}{Height\ (m)} \qquad (1)$$

Clinical determination of nutritional status is based on changes that occur associated with nutrient intake. Clinical examination can be seen in the epithelial tissue found in the eyes, skin, hair, oral mucosa, and organs close to the body surface (thyroid gland) (Supriasa, 2012). Biochemistry measurement is used to identify the presence of nutritional deficiency in more severe cases using a biopsy. Another way is to use a functional impairment test. However, this measurement can only be done in a laboratory way (Baliwati, Khomsan, & Dwiriani, 2004). Meanwhile, measures with biophysics look at the ability of tissue function and see changes in tissue structure that can be used in certain circumstances, such as night blindness (Thamaria, 2017).

In indirect measurement with the food consumption survey method, this nutritional status assessment looks at individuals and families' amount and type of food. The data obtained can be in the form of quantitative or qualitative data. Quantitative data can determine the amount and type of food consumed. In contrast, qualitative data can choose the frequency of eating and how a person or family obtains food according to nutritional needs (Baliwati et al., 2004). Vital stats is one method of assessing nutritional status through data on health statistics related to nutrition, such as mortality rates by a certain age, causes of morbidity and mortality, statistics on health services, and rates of infectious diseases related to malnutrition (Supriasa, 2012).). In measuring with ecological factors, assessment of nutritional status using ecological factors because nutritional problems can occur due to the interaction of several ecological factors, such as biological factors, physical factors, and cultural environment. Assessment based on ecological factors is used to determine the causes of malnutrition in a community, which will be helpful in nutritional interventions (Thamaria, 2017).

Logical Framework

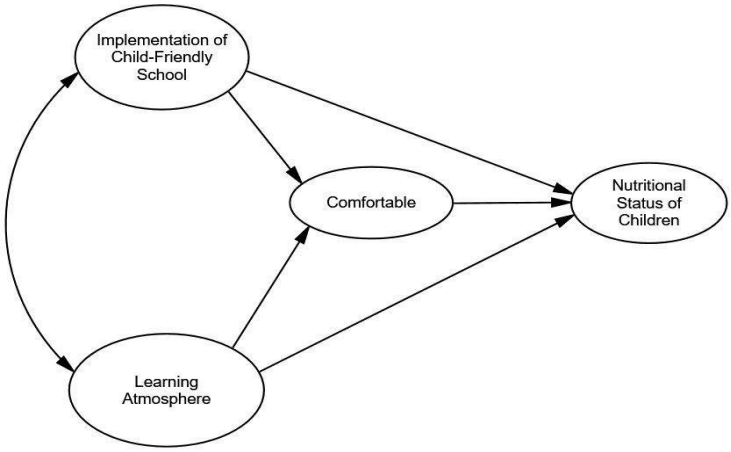

Figure 1. Theoretical Framework Model

METHODS

This study employed research and development design. The research process combines theoretical and empirical studies to establish a healthy school management model. The study was conducted in 5 districts with 271 schools in both public and private schools in Malang. Determination of the sample was done by a professional through random sampling representing the public region or private schools. The following table 1 and Table 2 present the results of determining the population and sample.

Schools of each district were chosen based on the size of the school land area, the location of the school (center or edge of the city), and the number of students, which then divided into three clusters (A, B, and C),with a total sample242 headmasters also 726 teachers and students. The theoretical framework model in this study can be seen in Figure 1. Testing the theoretical model of path analysis in this study was conducted using Structural Equation Modeling (SEM) with Amos 24.0.

Table 1
Sample Distribution based on District

District	Total	Population	
		Public Elementary School	Private Elementary School
Klojen	44	19	25

Blimbing	59	45	14
Kedungkandang	54	44	10
Lowokwaru	60	44	16
Sukun	54	41	13
Total	271	193	78

Table 2
Sample Distribution based on Cluster

No.	*Cluster*	School	Teacher	Student
1		SD NEGERI MODEL KOTA MALANG	12	36
2		SD KRISTEN KALAM KUDUS MALANG	12	36
3		SD IT AHMAD YANI	12	36
4		SD NEGERI PERCOBAAN 02	12	36
5		SD MUHAMMADIYAH 09	12	36
6	A	SD ANAK SALEH	12	36
7		SD BRAWIJAYA SMART SCHOOL	12	36
8		SD NEGERI KESATRIAN 01	12	36
9		SD PLUS AL-KAUTSAR	12	36
10		SD NEGERI LOWOKWARU 03	12	36
11		SD NEGERI LOWOKWARU 02	12	36
12		SD NEGERI SUKUN 02	7	21
13		SD INSAN AMANAH	7	21
14		SD NEGERI MERGOSONO 01	7	21
15		SD PLUS QURROTA A YUN	7	21
16		SD NEGERI KOTALAMA 02	7	21
17	B	SD NEGERI BANDUNGREJOSARI 03	7	21
18		SD NEGERI LESANPURO 03	7	21
19		SD NEGERI MADYOPURO 01	7	21
20		SD NEGERI SAWOJAJAR 06	7	21
21		SD KRISTEN ALETHEIA	7	21
22		SD NEGERI GADANG 04	7	21
23		SDIT INSAN PERMATA	3	9
24		SD NEGERI SAWOJAJAR 02	3	9
25		SD NEGERI SUKOHARJO 02	3	9
26		SD NEGERI JATIMULYO 03	3	9
27		SD NEGERI SAWOJAJAR 04	3	9
28	C	SD NEGERI TANJUNGREJO 04	3	9
29		SD NEGERI TUNGGULWULUNG 01	3	9
30		SD KARTIKA IV-7	3	9
31		SD NEGERI JATIMULYO 04	3	9
32		SD NEGERI BUMIAYU 04	3	9
33		SD NEGERI PANDANWANGI 02	3	9
Total			242	726

Data Analysis

The data analysis was carried out in stages. First, conducting the descriptive analysis, which describes the actual state of the data in general, the researcher determined the mean, variance, and standard deviation which were calculated by the SPSS program. The second step was the validation of measurement items based on data obtained at the main data collection stage. The validity test of the research instrument items was carried out by applying the

Rasch model technique. The main purpose of applying this technique is to identify whether the items exactly measure what is represented by each construct in the theoretical model of the instrument and to determine the extent of responses to the question items and latent variable regression values according to the model. Then the last stage was to see the relationship between latent variables in this study, then the next step was to do a Path Analysis using the Structural Equation Modeling (SEM) approach. Path Analysis can be applied to test theoretical models that are built with direct and indirect relationships between exogenous and endogenous variables (Hair, Black, Babin, & Anderson, 2009; In'Nami & Koizumi, 2013; Uslu & Arslan, 2017).

RESULTS

Data description

The results of the descriptive analysis include the variable of the visionary leadership role of the school principal, namely the implementation of child-friendly schools (X1), the learning atmosphere (X2), school convenience (Y) and the nutritional status of children (Z). The results are shown in Table 3.

Table 3
Descriptive Analysis Results

Number	Value	Implementation of Child-Friendly Schools		Learning Atmosphere		Comfortable		Nutrional Status of Children	
		Freq	%	Freq	%	Freq	%	Freq	%
1	Not very good	2	0.83	4	1.65	0	0.00	0	0.00
2	Not good	19	7.85	8	3.31	23	9.50	15	6.20
3	Good	62	25.62	132	54.55	145	59.92	104	42.98
4	Very Good	159	65.70	98	40.50	74	30.58	123	50.83
Total		242	100	242	100	242	100	242	100

The table above clearly figures out that the implementation of child-friendly schools variable has a very good score, from 159 respondents the 62 respondents were in a good category, 19 respondents in poor category and 2 respondents in the very poor category. Then it can be concluded that the level of child-friendly school implementation is in a very good category. The learning atmosphere variable also has a very good score, from 98 respondents, the good category was obtained by 132 respondents, the poor category by 8 respondents, and the very poor category by 4 respondents. Then it can be concluded that the level of both variables is in a very good category.

Variable implementation of school comfort has a very good score, from 74 respondents, the good category was obtained by 145 respondents, poor category by 23 respondents, and very poor category by 0 respondents. Then it can be concluded that the level of school comfort variables is in the very good category. The nutritional status variable has a very good score, from 123 respondents, the good category was obtained by 104 respondents, poor categories by 15 respondents and very poor categories by 0 respondents. Then it can be concluded that the level of nutritional status of the children variable is in a very good category.

The nutritional status of 33 schools was measured through BMI, the results are shown in Table 4. The total nutritional status of underweight was obtained by 172 respondents, slightly underweight by 117 respondents, normal weight by 359 respondents, slightly overweight by 54 respondents, and overweight by 24 respondents. The student IMT graph can be seen in Figure 2.

Table 4
Student IMT Data (Child Nutrition Status)

Number	Value	IMT	Cluster A		Cluster B		Cluster C		Total	
		(kg/m²)	Freq	%	Freq	%	Freq	%	Freq	%
1	Underweight	<17,0	84	21.2	56	24.2	32	32.3	172	23.7
2	Slightly underweight	17,1-18,4	65	16.4	35	15.2	17	17.2	117	16.1
3	Normal	18,5-25,0	211	53.3	113	48.9	35	35.4	359	49.4
4	Slightly overweight	25,1-27,0	24	6.1	21	9.1	9	9.1	54	7.4
5	Overweight	>27,0	12	3.0	6	2.6	6	6.1	24	3.3
	Total		396	100.0	231	100.0	99	100.0	726	100.0

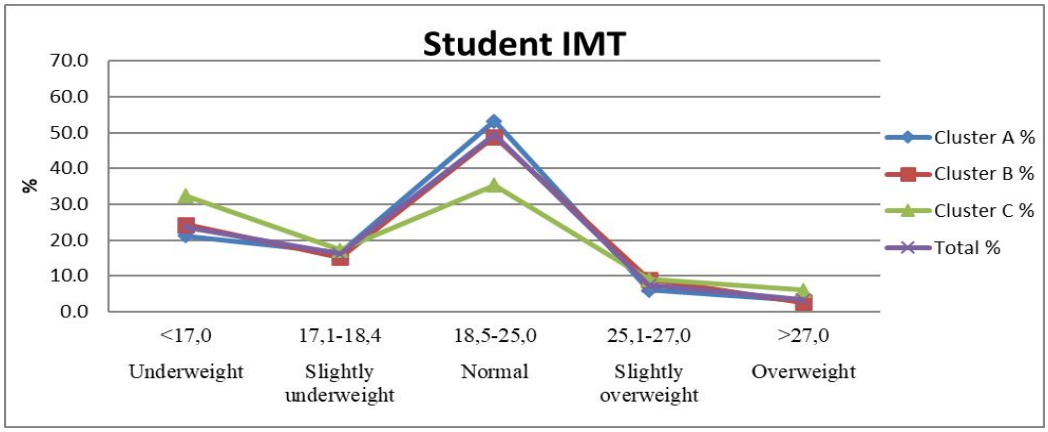

Figure 2. Student IMT Chart

Evaluating the Measurement Model

The purpose of this measurement was to determine the effect of the implementation of child-friendly schools (X1), learning atmosphere (X2), and school comfort (Y) on the nutritional status of children (Z). SEM structural equation modeling was done using SEM AMOS 24. This method helps researchers to build complex relationship models and can be used to analyze direct and indirect effects. (Al-husseini & Elbeltagi, 2018; Hair et al., 2009). The measurement model discusses and evaluates the reliability and validity of indicators to measure hypothetical constructs, while the structural model discusses the relationships between unobserved variables and relates it to the causal relationships between variables by the proposed hypothesis (Hair et al., 2009).

The validity of the measurement model depends on the establishment of an acceptable level of goodness of fit for the model and finding specific evidence of construct validity. The evaluation of the measurement model validity includes testing of construct validity, which consists of convergent and discriminant validity. Implementation of child-friendly schools, learning atmosphere, school comfort and nutritional status of children were measured using 23 indicators.

The convergent validity of the model was evaluated through Confirmatory Factor Analysis (CFA) using AMOS 24. Indicators that have a loading value > 0.5 are included in the test (Hair et al., 2009), and the size of AVE (Average Variance Extracted) required is > 0.5. The reliability was assessed based on Composite Reliability (CR), each of which must exceed (> 0.70). Table 5 shows convergent validity and satisfactory reliability, because the factor loading values, CR and AVE are satisfactory and significant.

Table 5
Convergent Validity Test

Factor	Item Code	Loading	AVE	CR
Implementation of Child-Friendly School	IoCFS1	0,639	0,662	0,920
	IoCFS2	0,977		
	IoCFS3	0,812		
	IoCFS4	0,724		
	IoCFS5	0,902		
	IoCFS6	0,781		
Learning Atmosphere	LA1	0,986	0,795	0,939
	LA2	0,904		
	LA3	0,818		
	LA4	0,850		
Comfortable	C1	0,934	0,550	0,854
	C2	0,891		
	C3	0,619		
	C4	0,607		
	C5	0,578		
Nutritional Status of Children	NSoC1	0,751	0,647	0,934
	NSoC2	0,972		
	NSoC3	0,927		
	NSoC4	0,569		
	NSoC5	0,680		
	NSoC6	0,583		
	NSoC7	0,884		
	NSoC8	0,948		

Note: N = 242, AVE = Average Variance Extracted, CR = Construct Reliability

Table 6
Inter-correlations

Factor	1	2	3	4
1. Implementation of Child-Friendly School	0,662			
2. Learning Atmosphere	0,587	0,795		
3. Comfortable	0,632	0,668	0,550	
4. Nutritional Status of Children	0,614	0,733	0,528	0,647

Note: N = 242

Table 7
The Fit Indices of The Model

No.	The Goodness of Fit Indices	Model Test Results	Cut-Off Value	Conclution
1	X^2 Chi Square	249,817	≤ 259,914	Good
2	Probabilitas	0,063	≥ 0,050	Good
3	RMSEA	0,047	≤ 0,080	Good
4	GFI	0,913	≥ 0,900	Good
5	TLI	0,972	≥ 0,950	Good
6	CFI	0,963	≥ 0,950	Good

Discriminant validity refers to the extent to which a construct is completely different from another construct. Its main purpose is to build internal consistency. Discriminant validity measurement was done by comparing AVE with the squared correlation between two constructs, where the AVE value must be greater than the squared correlation value between two constructs (Fornell & Larcker, 1981). Table 6 shows that the AVE value is greater than the squared correlation value between the two constructs. The goodness of fit indices was found to be acceptable as shown in Table 7. Based on Table 7, it can be seen that all indices are in the recommended category, namely χ^2 = 249,817; GFI = 0.913; TLI = 0.972; CFI = 0.963; RMSEA = 0.047.

Evaluating the Structural Model

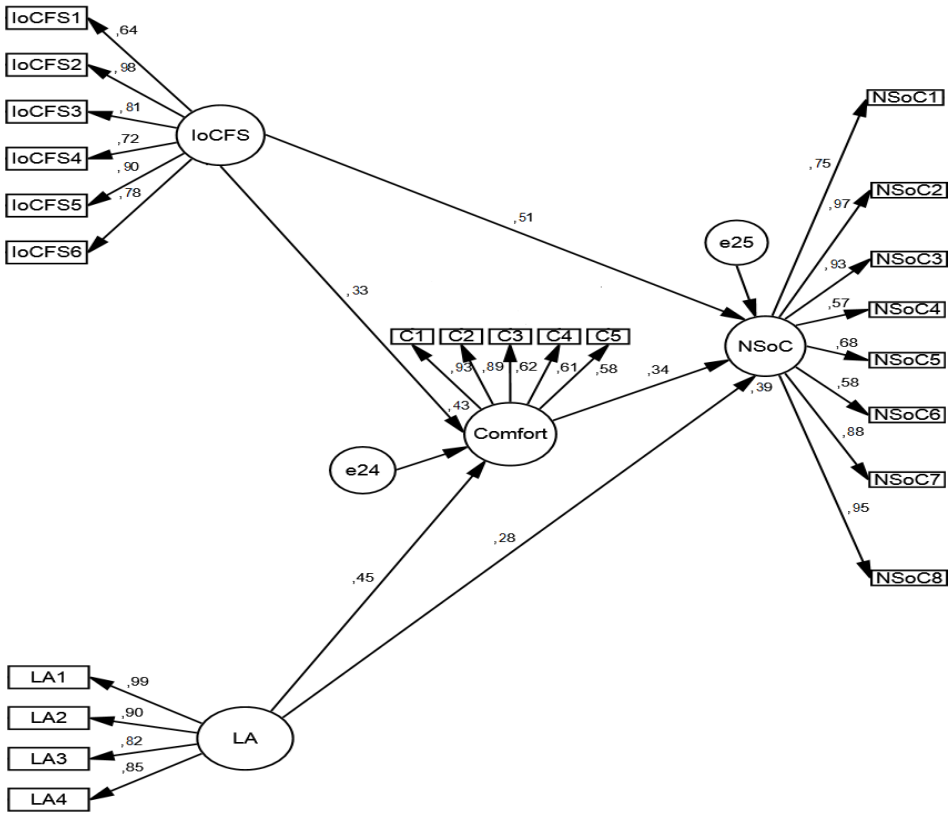

Figure 3. SEM Test Results

Based on the evaluation of the measurement model above, the next step is testing the effect of the implementation of child-friendly school variables (X1), learning atmosphere (X2), and school comfort (Y) on the nutritional status of children (Z). The next step is interpreting the model. The results of testing the research hypotheses can be seen in table 8. The model also needs to be interpreted to determine the magnitude of the total influence of both direct and indirect effects of exogenous variables on endogenous variables as summarized in Table 9. Figure 3 shows the value of loading factors between variables.

Based on Table 8 and Table 9, the interpretation of the analysis results is presented as follows.

1. The variable implementation of child-friendly schools (X1) has a direct effect on school comfort (Y), with a magnitude of influence of 0.334 or 33.4%.
2. The learning atmosphere variable (X2) has a direct influence on school comfort (Y), with a magnitude of influence of 0.451 or 45.1%.

3. The effect of the variable implementation of child-friendly schools (X1) and the learning atmosphere on school comfort (Y) simultaneously by 0.431 or 43.1%.
4. The variable implementation of child-friendly schools (X1) has a direct influence on the nutritional status of children (Z), with a magnitude of 0.513 or 51.3%.
5. The variable of learning atmosphere support (X2) has a direct influence on the nutritional status of children (Z), with a large effect of 0.278 or 27.8%.
6. School comfort variable (Y) has a direct effect on the nutritional status of children (Z), with a magnitude of influence of 0.341 or 34.1%.
7. The variable implementation of child-friendly schools (X1) has an indirect effect on the nutritional status of children (Z) through school convenience (Y) of 0.114 (11.4%), with the total effect of implementation of child-friendly schools (X1) on the nutritional status of children (Z) 0.627 (62.7%).
8. The learning atmosphere variable (X2) has an indirect effect on the nutritional status of children (Z) through school comfort (Y) of 0.154 (15.4%), with the total effect of learning atmosphere (X2) on the nutritional status of children (Z) of 0.432 (43.2%)
9. The effect of the variable implementation of child-friendly schools (X1), learning atmosphere (X2), and school comfort (Y) on the nutritional status of children (Z) simultaneously was 0.394 or 39.4%.

DISCUSSION

Indonesia is in dire need of a reliable young generation in welcoming and realizing the vision of Indonesia 2045 gold. Children in the current school and prospective students born before 2020 are the generations who will fill golden Indonesia in 2045. The intellectual and personality qualities of students will be very determined by the health of the child himself. If students experience obesity, thinness or even stunting, it can be predicted that the success of the educational program will not be achieved to the maximum (Townsend & Foster, 2013). The success of education cannot be separated from the environmental conditions around the school. Based on the results of the analysis of the data described previously the variable implementation of child-friendly schools has a direct influence on the comfort of the school. The effort to create a safe and comfortable school requires the application of good child-friendly school concepts (Friend & Morrison, 2015; Rueger, Malecki, & Demaray, 2010). Efforts to achieve a healthy school must be supported by meeting the needs of children both physically and psychologically.

Implementation of child-friendly schools must pay attention to several indicators namely, (1) cheerfulness, (2) safety and health, (3) attractiveness, 4) active, (5) guaranteed children's rights, (6) sharpening, caring, caring, (7) comfortableness, (8) aspiration, and (9) communicativeness. The results showed that the learning atmosphere had a direct influence on the comfort of the school. School management towards a healthy school is in line with research, a conducive learning atmosphere is also supportive to the effort to create school comfort. Good school management requires creating a climate or emotional atmosphere and positive social relationships (Baumann & Krskova, 2016; Jäppinen, Leclerc, N Tubin, 2016), meaning that there is a positive relationship between teachers and students, or between students and students. Here the teacher is the key to the formation of personal relationships and its role is to create healthy personal relationships (Maring & Koblinsky, 2013).

All students have the same right to study at school, the establishment of a safe or child-friendly school will support students in learning (Martin, 2018; Schulze & Moneti, 2007). The implementation of child-friendly schools and the creation of a conducive learning atmosphere also have an influence on school comfort. Not only do teachers have a role in securing a safe school in order to create a school that is comfortable for student learning, but the most important thing is the Principal (Anderson & Sun, 2017; Fullan, 2014; Goodall, 2015). The principal as the highest leader in an educational institution has the authority to make policies related to the creation of a comfortable school (Engels, Hotton, Devos, Bouckenooghe, & Aelterman, 2008; Raine & Thorsen, 2017). The leader should prioritize the creation of a child-friendly school and have a conducive learning atmosphere so that negative events do not occur at school, so students feel comfortable learning at school.

Table 8
Hypothesis testing results

Variable	Hypothesis	P Count	Cut of Value	Conclusion
Y →X1	H_o: There is no relationship between the implementation of child-friendly schools and school comfort variable H1: There is a relationship between the implementation of child-friendly schools and school comfort variable	0,009	0,050	H1 Approved
Y → X2	H_o: There is no relationship between learning atmosphere and school comfort variable H1: There is a relationship between learning atmosphere on school comfort variable	0,000	0,050	H1 Approved
Y → X1 dan X2	H_o: There is no simultaneous relationship among implementation of child-friendly schools and the learning atmosphere of school comfort variable H1: There is a simultaneous relationship among implementation of child-friendly schools and the atmosphere of learning to school comfort variable	0,000	0,050	H1 Approved
Z → X1	H_o: There is no relationship between the implementation of child-friendly school and the nutritional status of children variable H1: There is a relationship between the implementation of child-friendly school variables and the nutritional status of children	0,000	0,050	H1 Approved
Z → X2	H_o: There is no relationship between learning atmosphere variables and the nutritional status of children H1: There is a relationship between learning atmosphere and children's nutritional status variable	0,017	0,050	H1 Approved
Z → Y	H_o: There is no relationship between school comfort and the nutritional status of children variable H1: There is a relationship between school comfort variables and the nutritional status of children variable	0,003	0,050	H1 Approved
Y → X1, X2, dan Y	H_o: There is no simultaneous relationship between the implementation of child-friendly schools, learning atmosphere and school comfort on the nutritional status of children variable H1: There is a simultaneous relationship between implementation of child-friendly schools, learning atmosphere and school comfort on the nutritional status of children variable	0,000	0,050	H1 Approved

Table 9
Summary of Direct and indirect causal influence of variables

No.	Variable	Causal Influence		Total
		Direct	Indirect	
1	X1 → Y	0,334	-	0,334
2	X2 → Y	0,451	-	0,451
4	X1 → Z	0,513	0,114	0,627
5	X2 → Z	0,278	0,154	0,432
7	Y → Z	0,341	-	0,341
7	X1, and X2 (simultaneously) → Y	0,431	-	0,431
8	X1, X2, and Y (simultaneously) → Z	0,394	-	0,394

The nutritional status is a condition of the body that describes the level of fulfillment of food substances needed in the process of metabolism and human growth (Abdullah, Sarkees, & Yasin, 2017). The word nutrition has a broad definition that is not only associated with physical health, but the adequacy of children's nutrition also cannot be separated from other elements such as a person's economic condition, brain development, learning ability and work productivity (Almatsier, 2010). Likewise, the nutritional status for children, in this study shows the implementation of child-friendly schools has a direct influence on the nutritional status of children. Efforts by school principals in implementing child-friendly school policies include being able to set minimum school service standards, the existence of an anti-violence policy, the presence of violence prevention measures, the existence of non-discriminatory discipline enforcement, the commitment of smoking and drug-free areas (Greenberg, 2010; Saluja et al., 2018).

Characteristics of child-friendly Schools are formal, non-formal and informal education units that are safe, clean, healthy, caring and uphold culture in the environment. In another view (KLA, 2017) added schools should be able to guarantee, fulfill and respect children's rights; protect children from violence, discrimination, and another mistreatment; also support children's participation, especially in planning, policy, learning, supervision and complaints mechanisms related to the fulfillment of children's rights and protection in education. Fulfillment of child-friendly facilities and infrastructure implemented to improve the comfort of students in following the teaching and learning process both inside and outside the classroom, and to maintain student safety while in the school environment (Weshah, Al-Faori, & Sakal, 2012). Fulfillment of these facilities and infrastructures includes children's play facilities which are wider because it is one of the children's rights.

The school environment consists of various components including density of residence, distance to school facilities, overall school infrastructure (Ikeda et al., 2018). School infrastructure includes facilities for sports, maintenance of school facilities, overall school security, security from crime, safety in traffic, comfort of the school environment, beauty of the school environment, cycling and pedestrian facilities, connectivity between one facility and other facilities, environmental conditions around home, and learning environment (Hinojosa, MacLeod, Balmes, & Jerrett, 2018). Besides being related to the comfort of students in learning at school, the school environment also has an influence on a child's future vision.

Research conducted in Sweden states that the school environment contributes to the formation of students' beliefs about their future (Alm, Brolin, Sandahl, & Modin, 2019; Earthman, 2002). A child who goes to school in a comfortable place, with qualified teacher services and cloudy school infrastructure will have the confidence that he will be successful in the future (Puteh, Adnan, Ibrahim, Noh, & Che'Ahmad, 2014). This optimism is reasonable considering the child's satisfaction in learning becomes a motivator to be more active learning. School infrastructure and environment can be created with various efforts from the school principal. The ability to work in the fields of school management must be possessed by the principal so that the school's goal in creating quality educational services can be achieved.

Overweight in children will cause high morbidity and mortality, the emergence of a tendency of drowsiness in children, and low concentration resulting in low learning achievement of children. Schools that implement healthy environment management are schools that continuously strengthen their capacity as healthy places to live, study and work (Lewallen, Hunt, Potts-Datema, Zaza, & Giles, 2015; Townsend & Foster, 2013). In line with the results of this study that show the implementation of child-friendly schools supports a conducive learning atmosphere and a comfortable school affects the nutritional status of children, a research conducted by Hashim and Denan (2015) finds that the state of the school environment in the surrounding environment encourages student creativity. (Hashim & Denan, 2015). Some of the reviews stated that in order to establish a healthy and comfortable school environment, it is necessary to start with the creation of a child-friendly school, a learning atmosphere that with the implementation of various class activities that support the achievement of student competencies and manage the environment around the school to participate in creating comfort in the school. In the end, a healthy and comfortable school will affect the nutrition of children so that the educational output will be high-quality school graduates (Belot & James, 2011; Kriemler et al., 2011).

CONCLUSION AND RECOMMENDATIONS

Conclusion

Based on the result of the study, the implementation of a healthy school environment management model needs to consider the level of implementation of child-friendly schools, the atmosphere of learning and the comfort of the school to maintain the nutritional status of children to avoid obesity or stunting. The variables showed that (1) The implementation of child-friendly school has a direct influence on school comfort, (2) The learning atmosphere has a direct influence on school comfort, (3) The implementation of child-friendly school and learning atmosphere has a simultaneous influence on school comfort, (4) The implementation of child-friendly schools has a direct influence on the nutritional status of children, (5) Learning atmosphere has direct effect on children's nutritional status, (6) School comfort directly influences the nutritional status of children, (7) The implementation of child-friendly schools has indirect effect on the nutritional status of children through school comfort, (8) Learning atmosphere has indirect effect on the nutritional status of children through school comfort, and (9) The implementation child-friendly school, learning atmosphere, and school comfort has simultaneous influence on a child's nutritional status.

Recommendations

Suggestions are given to various parties as follows: (1) The head of the education office should be able to formulate policies that create a conducive atmosphere for schools so that they can stimulate schools in competing to realize healthy school environment management; (2) Principals in primary schools throughout Malang should be able to create a healthy school environment, and improve the atmosphere and comfort of the school to a better level; and (3) Teachers should be able to support the principal in the process of managing a healthy school environment, through physical and non-physical contributions in the context of achieving success in creating a healthy school environment.

Limitation of the Study

The current study is limited by variable of management of healthy school environment, child-friendly school, and nutritional status of children. The limitation of the study based on variables that are used in the current study and covering in the Malang city area. In addition, this study can apply to other areas with a similar vision for building health schools and cities.

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