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Causal Factors Influencing the Moral and Ethical Development of Early Childhood in the 21st Century

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Abstract

The objectives of this research were to 1) study the causal factors influencing the moral and ethical development of early childhood in the 21st century; 2) develop a linear structural relationship model of the causal factors influencing the moral and ethical development of early childhood in the 21st century; and 3) examine the coherence of the linear structural model of causal factors influencing the moral and ethical development of early childhood in the 21st century. Mixed methodology was used in this research, which was divided into 2 steps. The first step was qualitative research. The sample was 13 experts who were selected by purposive random sampling. The focus group was employed. Qualitative data were analyzed by content analysis. The second step was quantitative research. The population was administrators, teachers, and parents of the kindergarten 3 pupils under the Nakhon Nayok Primary Educational Service Area Office, Nakhon Nayok Province. Simple random sampling was employed to select the sample. The research tool was the questionnaire which used collecting data from 571 persons. Quantitative data was analyzed by the LISREL program. The result showed that:

1. The causal factors influencing the moral and ethical development of early childhood in the 21st century consisted of 3 components: 1) internal factors (IF), including ego and superego to comply with mutual agreement; 2) environmental factors (EF), including care development and raising, learning activities outside the classroom, interaction with others, providing suitable environment, and being a role model; and 3) physical literacy factors (PLF), including motivation and confidence in doing physical activities, physical competence to perform physical activities, knowledge and understanding of movement, and encountering physical activities for life. 2. The results of linear structural relationship model of the causal factors influencing the moral and ethical development of early childhood in the 21st century were similar to the empirical data which examined by the chi-square test at the significant revel level of 0.01 (p=.000). All index consisted of the CFI=1.00, GFI=0.97, AGFI=0.93 met the criteria respectively. On the other hand, the aspects lower than the significance of .05 consisted of the RMSEA=0.042 and SRMR=0.02. 3. The examination of the coherence of the linear structural model of causal factors influencing the moral and ethical development of early childhood in the 21st century revealed that the variables directly influenced the moral and ethical development of early childhood in the 21st century at the significance level of .01. The direct effect variables which developed the moral and ethical development of early childhood in the 21st century were PLF, INF, and EXF with the values equal to 0.50, 0.34, and 0.16, respectively. The indirect effects variables were EXF and INF with the values equal to 0.22 and 0.16, respectively.

Keywords: causal factors, moral and ethical, physical literacy, early childhood.

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1. Introduction

Education management according to the Early Childhood Education Curriculum is an essential part to develop children including physical, emotional, mental, social, and intellectual abilities holistically and balancedly through playing with meaning. This is consistent with functioning of brain, enhancing life skills, parenting children through positive discipline, taking care of children with love, warmth, and generosity, and providing health care, nutrition, and safety with the aim for children to be strong, healthy, having good mood, well behaved, disciplined, self-controlled, and in good relationship with others [1]. Moral and ethical cultivation should begin at the age of 2-6 years old when children begin to have a more rational learning process leading to the development of memory and problem-solving with reasons [2]. Family is the basis for transferring values and preparing children to enter society. For the early childhood development centers, they are responsible to develop social values, attitudes, and expected behaviors [3]. Piaget and Kohlberg, as well as Pulpat [4] believe that teachers play an important role in educating and being a good role model, and they have the ability to create an environment to promote learning and take care of children in order to enhance discipline for children, especially early childhood as the foundation to be a well-disciplined per-

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son living in society. Moral and ethical characteristics should be first cultivated as "self-disciplinary" because it leads to success, achievement, and better goals [5]. According to Mowrer's theory of discipline and Peck and Havighurst's theory of Ethical Motivation or Discipline, it can be concluded that the development of self-disciplinary must be instilled in children from birth. Children will gradually accumulate learning experiences both directly and indirectly from family and society until becoming self-controlled or self-disciplined to act out proper behavior.

Experience management for children must be consistent with their development, maturity, and learning by emphasizing early childhood to authentically practice and learning through the five senses. Especially, learning activities involve movement, exploration, play, observation, discovery, experiment, and solving problems on their own [1]. Learning activities at the early childhood level, therefore, normally organize experiences through a variety of plays by emphasizing learning by doing. Playing helps develop creativity and stimulates the stimuli in the brain to make the brain alert and learn things in the surrounding. If there is inappropriate sensory stimulation, children's brain development will be slower. This affects mood and socialization later on. Consequently, physical movement is an important stimulus for brain development [6]. The sequences of development may be faster or slower depending on the environment, training, and parenting [7]. Children must be stimulated by physical movements or physical activities. There is movement of large muscles and small muscles, therefore, for children to be successful in learning by playing, children must have physical literacy or have knowledge and understanding, be able to move, memorize movement and quality of movement which is appropriate for their ages. This is consistent with Whitehead [8] and Penny Chandler [9] that children are physically literate, have the ability to move, and still have motivation, self-confidence, and ability to adapt to the environment, as well as, creativity, ethics, enthusiast, and responsibility to society.

With the mentioned reason, this research aimed to study "the causal factors influencing moral and ethical development of early childhood in the 21^{st} Century" for the early childhood to learn happily, achieve real learning achievement leading to development according to the potential of being a good citizen, and live happily.

2. Research Objectives

1. To study the causal factors influencing the moral and ethical development of early childhood in the 21^{st} century.

2. To develop a linear structural relationship model of the causal factors influencing the moral and ethical development of early childhood in the 21^{st} century.

3. To examine the coherence of the linear structural model of causal factors influencing the moral and ethical development of early childhood in the 21^{st} century.

3. Material Methods

The research method was divided into 2 steps as follows;

The first step was to study the causal factors influencing the moral and ethical development of early childhood in the 21^{st}century. The research tool was the focus group discussion form and then collecting data from the expert who had experiences more than 5 years in the area of early childhood education, educational research and development, child health care, physical literacy, morality and ethics, and community leaders, totaling 13 persons. Content analysis was employed.

The final step was to create, investigate, and study the effect of the casual factors which affected the development of morality and ethics of early childhood in the 21^{st} century as follows:

2.1 The development of a linear structural relationship model of the causal factors influencing the moral and ethical development of early childhood in the 21^{st} century was based on theory, ideas, and focus group discussion. After that, the model and hypothesis of the development of the linear structural relationship model of the causal factors influencing the moral and ethical development of early childhood in the 21^{st} century were created.

2.2 Examination of the coherence of the linear structural model of causal factors influencing the moral and ethical development of early childhood in the 21^{st} century was based on the results of the survey which used the questionnaire to collect data from 571 administrators, teachers, and parents of kindergarten 3 pupils under the Nakhon Nayok Primary Educational Service Area Office, Nakhon Nayok Province. LISREL program was employed to analyze the data, including 1) investigating the construct validity of the variables which analyzed the correlation coefficient, and 2) analyzing the confirmatory factor analysis of each factor.

Participants

Participants were divided into 2 steps as follows:

The first step was gathering data from the experts who had more than 5 years of experience in early childhood education, educational research and development, child health care, physical literacy, morality and ethics, and community leaders, totaling 13 persons. The purposive random sampling was employed.

The final step was to collect data from the sample which consisted of 129 administrators, 221 teachers, and 221 parents of kindergarten 3 students under the Nakhon Nayok Primary Educational Service Area Office, Nakhon Nayok Province, totaling 571 people, selected by purposive sampling.

Procedure

The causal factors influencing the moral and ethical development of early childhood in the 21st century were examined by studying the concept of related theories regarding early childhood learning through playing. Then, the causal factors were studied by using a structural equation model from documents, textbooks, books, research articles, journals, and the Internet before analyzing and synthesizing to be conceptual framework. In addition, a focus group conversation was conducted by having 13 experts consider causal factors influencing the moral and ethical development of early childhood in the 21st century to formulate a research conceptual framework.

A linear structural relationship model of causal factors influencing the moral and ethical development of early childhood in the 21st century was constructed using the data from concept theory and focus group conversation. The four main components and 14 subcomponents were used to create a questionnaire with 103 questions. The Likert approach was applied to create the 5-rating scale questionnaire. The experts were asked to approve the questionnaire through content validity and the index of item objective congruence that all items were equal to 1.00. Some items were edited from suggestions to be more complete. After that, the questionnaire was tried out with 30 sample who had similarly traits close to the sample and then conducted the reliability test based on Cronbach's alpha. The result was at the value of 0.989. As a result, the certified questionnaire was used to collect the data from the sample for data analysis.

The consistency of the linear structural model of causal factors influencing the moral and ethical development of early childhood in the 21st century was examined. The main components and sub-components of the causal factors was analyzed by affirmative component analysis.

Data analysis

The data obtained from document, concepts, theories, and related research papers both national and international works was analyzed and the conceptual framework of the research was formulated by content analysis.

The general status of the questionnaire respondents including gender, status, age, work experience, educational background, income, and accommodation were analyzed using frequency distribution and percentage.

The appropriateness of the causal factor variables influencing the moral and ethical development of early childhood in the 21st century was analyzed by comparing with a mean criterion. The mean and the standard deviation of the educational institution administrators' questionnaire concerning the opinions toward the main components and sub-components, and the variables of causal factors influencing the moral ethical development of early childhood in the 21st century was equal to or greater than 3.00. Then, the data was interpreted.

The analysis of causal relationship between variables by statistical package program was conducted by analyzing the correlation of the variables. The causal model from the conceptual framework and theory was used to determine whether the data matched the theoretical correlation by analyzing it with the LISREL Model. Data analysis by the researcher was as following processes.

1) The correlation coefficient for each variable was calculated using Pearson's product moment correlation coefficient as a correlation matrix using the KMO (Kaiser-Meyer-Olkin measure of sampling adequacy), and Bartlett's test of Sphericity was implemented to decide whether the data is suitable for the composition analysis method or not.

2) The model identification was decided to specify that the model components approximated to a single parameter. There should be at least 3 observable variables per latent variable, known as the rule of three indicators [11].

3) Evaluation of the data-model fit was conducted to confirm the component model. The chi-square statistic was used to test the statistical hypothesis that the fitting function is zero or the research hypothesis theoretical component model is consistent with the empirical data. The statistically insignificant chi-square (p¿ .05) indicates that the component model corresponds to the empirical data; relative chi-square is the ratio between the chi-square value and the number of degrees of freedom (/ df). In general, if the relative chi-square value is less than 3.00, the model is considered consistent with the empirical data. The statistical value used to measure the degree of fitting value was Adjusted goodness of fit index (AGFI) and Comparative fit index (CFI). AGFI greater than 0.90 indicates that the model is consistent with the empirical data. If the CFI index is greater than 0.95, the model is consistent with the empirical data. There is also a model error indicating the root of Standardized root mean square residual standardized (RMR). If values are less than 0.08, the model is consistent with the empirical data, and if root mean square error of approximation (RMSEA) value is less than 0.06, the model is consistent with the empirical data. To verify the validity of a research hypothesis element model or evaluating the validity of a component model or check the concordance between the elemental model and the empirical data, the researcher considered the following statistical values. If the chi-squared statistic is not statistically significant (p ¿ .05), the GFI index and the AGFI index are greater than 0.90, the CFI index is greater than 0.95, the standardized RMR is lower than 0.08, and the RMSEA is lower than 0.06, it indicates that the model is consistent with the empirical data. To verify the validity of a research hypothesis element model or evaluate the validity of a component model or check the concordance between the elemental model and the

empirical data, the researcher considered the following statistical values. If the chi-squared statistic is not statistically significant (p ¿ .05), the GFI index and the AGFI index are greater than 0.90, the CFI index is greater than 0.95, the standardized RMR is lower than 0.08, and the RMSEA is lower than 0.06, it indicates that the model is consistent with the empirical data. If the statistical chi-square is statistically significant (p ¿ .05), but the relative chi-square is less than 3.00, the GFI index and the AGFI index are greater than 0.90, the CFI index is greater than 0.95, the standardized RMR is lower than 0.08, and RMSEA is lower than 0.06, it indicates that the model is consistent with the empirical data.

4) Regarding the model modification, in case the model is found not to be inconsistent with the empirical data, the model must be adjusted and analyzed. The modification indices (MI) index will suggest which parameters should be added or removed from the model in order to make the model consistent with a large standardized root mean square residual (above 2.00). This large standardized root mean square residual may indicate a problem with the relationship between the observable variable and the latent variable. The researchers need to analyze the revised model with the original data set. The researcher used a group of samples to confirm the developed model, totaling 514 participants.

4. Results

The results of the research framework synthesis to find out the sub-components of the causal factors influencing the moral and ethical development of early childhood in the 21^{st} century were divided into 3 parts as follows:

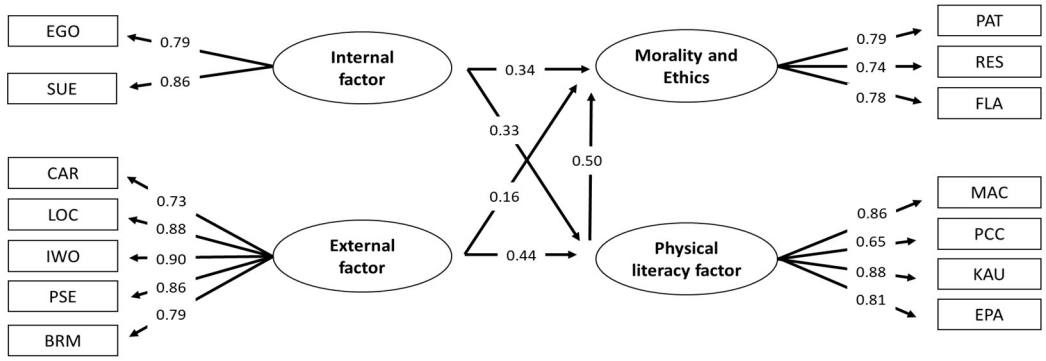
1. The results of the study of causal factors influencing the moral and ethical development of the early childhood in the 21^{st} century revealed that the causal factors are as follows: 1) For intrapersonal factors, the observable variables consisted of ego and superego to comply with mutual agreements. 2) For environmental factors, the observed variables were cares development and raising, learning activities outside the classroom, interaction with others, providing suitable environment, and being a role model. 3) For physical literacy factors, the observable variables include motivation and confidence, physical competence, knowledge and understanding of movement, and encountering physical activities for life.

2. The results of the consistency examination of the linear structural correlation model of causal factors influencing the moral and ethical development of early childhood in the 21^{st} century is showed in the figure below.

According to the Figure, it was found 3 components of causal factors influencing the moral and ethical development of early childhood in the 21^{st} century: 1) Internal Factors (INF) consisted of 2 variables: ego (EGO) and superego to comply with mutual agreements (SUE) with component weight (λ) equal to 0.46 and 0.4. 2) Environmental Factors (EXF) consisted of 5 variables: cares development and raising (CAR), learning activities outside the classroom (LOC), interaction with others (IWO), providing suitable environment (PSE), being a role model (BRM) with component weights (λ) of 0.40, 0.50, 0.52, 0.54 and 0.47. 3) Physical Literacy Factors (PLF) consisted of 4 variables: motivation and confidence (MAC), physical competency (PCC), knowledge and understanding of movement (KAU), and encountering physical activities for life (EPA) with a component weight (λ) of 0.41, 0.34, 0.46, and 0.40. In the moral and ethical components of the early childhood in the 21^{st} century, the model is consistent with empirical data ((χ^2 = 103.76, df= 40 p= 0.00 CN= 425.53, CFI= 1.00 GFI= 0.97, AGFI= 0.93, RMSEA= 0.042, SRMR=0.02). The examination result of the causal factor model consistency influencing the moral and ethical development of early childhood in the 21^{st} century is consistent with the empirical data by considering the absolute index, which the chi-square statistic (χ^2) was 108.33, degrees of freedom (df) was 40, the level of significance was 0.00, the relative chi-square statistic ((χ^2)/df) was 2.71, Goodness of Fit Index (GFI) was 0.97, and Adjusted Goodness of Fit Index (AGFI) was 0.93. The root mean square error of approximation (RMSEA) was 0.042. The Standardized Root Mean Squared Residual (SRMR) was 0.023 and the sample size index (CN) was 425.53, with all statistical values passing, excluding statistical significance level values. This shows that the causal factor model influencing the moral and ethical development of early childhood in the 21^{st} century is consistent with the empirical data.

3. The study results of direct influence, indirect influence, and the combined influence of variables of causal factors influencing the moral and ethical development of early childhood in the 21^{st} century are in Table 1.

According to the table 1, it was found that all variables were positively correlated with the moral and ethical development of early childhood in the 21^{st} century with a statistical significance at the .01 level. In the 21^{st} century, physical literacy factor (PLF), internal factor (INF) and external factor (EXF) were 0.50, 0.34, and 0.16, respectively. The factors influencing the moral and ethical development of the early childhood in 21^{st} century were the external factor (EXF) and the internal factor (INF) with influence of 0.22 and 0.16, respectively. The causal variables on physical literacy factors (PLF), internal factors (INF) and external factors (EXF) had a combined influence of 0.50, 0.50 and 0.38, respectively. The variance rate of the 21^{st} century early childhood moral and ethical (MAE) variable was explained with approximately 81 percent of exogenous causal variables. When consid-



χ^2 = 103.76, df= 40 p= 0.00 CN= 425.53, CFI= 1.00 GFI= 0.97, AGFI= 0.93, RMSEA= 0.042, SRMR=0.02

Figure 1: Results of the consistency analysis of causal factor model influencing moral and ethical development of the early in the 21st century

Table 1. Synthesis of components of causal factors influencing moral and ethical development

Variables	R2	Influence	Casual factors		
			INF	EXF	PLF
PLF	0.51	Direct effects	0.33	0.44	-
		Indirect effects	-	-	-
		Total effects	0.33	0.44	-
MAE	0.81	Direct effects	0.34	0.16	0.50
		Indirect effects	0.16	0.22	-
		Total effects	0.50	0.38	0.50

ering direct influences and indirect influence, it was found that when the latent variable in physical literacy factor (PLF) was the dependent variable in the structural equation. It was directly influenced by the latent variable, which was internal factor (INF), at 0.33. Additionally, it was directly influenced by the external latent variable, which was environmental factor (EXF), at 0.44. About 51 percent of the physical literacy factor variables (PLFs) were explained by external causal variables.

5. Discussion

The results of the study of causal factors influencing the moral and ethical development of the early childhood in the 21st century revealed that the casual factors included internal factors, external factors, and physical literacy factors. Since moral and ethical development has to be cultured from birth until maturity, it is important that the relationship between the infants and the parents or caregiver begins from the raising with love, warmth and parenting, or teaching from caretakers until the characteristics are bonded with satisfaction to follow instruction or develop to become a person with morality and ethics. This is consistent with Mowrer's theory and Bandura's theory that most human learning is learning by observation or imitation through interaction with the surrounding environment and social groups that influence on instilling moral and ethical values that are expected by society to instill and foster imitation from the example in society in children. It is consistent with Rath, Harmin and Simon's theory of values clarification, which stated that the process by which a person clarifies his own ethics, self-awareness, knowledge of others, society, and environment is a way for a person to accept their feelings and self-thinking under given circumstances. This theory believes that the results of this process facilitate thought and action and believe that if a person has the ability to think or express their own feelings and can answer questions or be able to analyze the results of their own behaviors in well expressed manner, it will help a person clarify their beliefs, attitudes, and values fairly and accurately. For the factor of physical literacy, this is one of the factors of children's moral and ethical development of children because the physical development of children changes rapidly according to the rate of physical growth through movement activities, either indoor or outdoor activities to help develop large muscles and small muscles to be strong as well as skills and ability to control the use of muscles fluently and balancedly. Therefore, children should be cared for, nurtured and taught in the right way appropriately according to age and maturity. As a result, children have a good quality of life with physical, emotional, social and intellectual development. Especially, physical development is a development that will enhance confidence in children. A child who reaches full maturity is considered based on the fact that the child has a physical shape, physical ability, and physical performance compared to others as saying, "A good mind resides in a healthy body." This will help the child move

and use the correct posture when growing up. It can be concluded that physical activities are important for the development of learning and skills that are essential for the future survival of children because it is related to development in other areas. It also affects health and overall physical fitness. Physical literacy is a lifelong holistic learning process applied to movement and physical activity comprising body, mind, intellect, and society, and it is essential to help us stay healthy and fulfilled. Physically literacy people are able to integrate their physical, emotional, cognitive, and social abilities to support health and mobility related to the situation and the environment as well. It is consistent with the case study of Whitehead [8] and the Penny Chandler [9] that children who are physically literacy are not only having physically and mentally competent, but they also have motivation and confident without relying on others, and they are able to adapt to the environment, including having knowledge and understanding. This resulted in a variety of development, including creativity, ethics, enthusiasm, and responsibility to society.

The results of the development and consistency examination of the causal factor model influencing the moral and ethical development of the early childhood in the 21^{st} century revealed that the model was consistent with the empirical data. This is because the study of causal factors is conducted by structural equation modeling and related concepts and theories, and researches to be the basis for modeling as conceptual framework for research. The analysis and synthesis of concepts and theory were conducted by analyzing content and generating inductive conclusions through a group discussion process based on concepts, theories and related research. The research tools were created and validated and proved with high quality in terms of content validity. Construct validity and reliability is at high level in each aspect. The LISREL model was then analyzed by examining the empirical data consistent with the developed model. The rapid changes in the world resulted in rapid changes in social sciences and behavioral sciences along with the study of relationships between variables, and it becomes more complicated than ever. Relationship analysis requires a number of mathematical equations. This set of mathematical equations is called "Structural Equation Modeling (SEM), which aims to study the causal relationship model between theoretical latent variables or constructs that are correlated with many variables or used for causal relationship model analysis between latent variables and observed variables thus resulting in the development and coherence of the influencing causal-factor model. Moral and ethical development of the early childhood in the 21^{st} century is consistent with empirical data. This is consistent with the study of Tikul [12] who studied the development of a causal model of self-disciplinary among undergraduate students at Suranaree University of Technology. Multigroup analysis found that the causal model of self-disciplinary was consistent with the empirical data. The variable in the model accounted for 79% of the variance in self-disciplinary and consistent with the study of Nonkaew [13] that the development of a causal model of morality and ethics among high school students showed that a multigroup analysis was directly influenced by environmental variables with statistical significance.

The results of the study on direct, indirect, and combined influence of variables of causal factors influencing the moral and ethical development of the early childhood in the 21^{st} century were that the variables with the highest direct influence were physical literacy factors, followed by the internal factors and external factors. In addition, the moral and ethical development of the early childhood in the 21^{st} century was also indirectly influenced by external factors and internal factors. The findings concluded that the most direct influencing variables on the moral and ethical development of the early childhood in the 21^{st} century were physical literacy, followed by internal factor, and external factor. It was based on the assumption that "Internal factors, external factor, and physical literacy factor affect the moral and ethical development of the early childhood in the 21^{st} century." This is because children who are physically literacy were not only physically and mentally able to move, but they also have motivation and self-confidence without relying on others. Moreover, they are able to adapt to the environment, including the knowledge and understanding resulting in the development of various aspects. In addition, a person who is physically literacy will not only be able to move more effectively, he is also creative, ethical, enthusiastic, and responsible to society. Therefore, the causal factor influencing the moral and ethical development of the early childhood children in the 21^{st} century has the most direct influence, physical literacy factors. The conclusion of this research on this issue is consistent with Sum et al. [14] who studied the effects of continuing professional physical education development on physical literacy knowledge, self-efficacy, and students' learning outcomes. Moreover, teachers' physical literacy and self-efficacy were important factors in effective physical education teaching and to the physical intelligence and participation in physical activities of students. It is also consistent with a study by Brown et al. [15] who considered the state of physical literacy and differences in children's participation in activities. The findings suggested that physical literacy played an important role in shaping the exercise regimen at an early age, and environmental factors influenced the moral development of early childhood in the 21^{st} century. This is consistent with the study of Sribuanam [16] who studied on the development of a causal model of factors influencing student morality and found that the moral variables of the lower secondary students were most directly influenced by the

positive environmental variables in their families.

The research shows that the promotion of childhood development should include physical activities in the form of plays. They will be able to interact with the world around them, overcome fear and obstacles. It helps them to develop new abilities that lead to the confidence and adaptability to handle the new challenges of the 21^{st} century. This is consistent with Penny Chandler [9] that apart from moving efficiency, children with physical literacy are also creative, ethical, enthusiastic, and responsible to society.

6. Conclusions

The causal factors influencing the moral and ethical development of early childhood in the 21^{st} century consisted of 3 components: 1) internal factors (IF) including ego and superego to comply with mutual agreement; 2) environmental factors (EF) including care development and raising, learning activities outside the classroom, interaction with others, providing suitable environment, and being a role model; and 3) physical literacy factors (PLF), including motivation and confidence in doing physical activities, physical competence to perform physical activities, knowledge and understanding of movement, and encountering physical activities for life.

The results of the linear structural relationship model of the causal factors influencing the moral and ethical development of early childhood in the 21^{st} century were similar to the empirical data using the chi-square test which examined by the chi-square test at the significant level of 0.01 (p=.000). All index consisted of the CFI=1.00, GFI=0.97, AGFI=0.93 met criteria respectively. On the other hand, some index was lower than the significance of 0.05, consisting of the RMSEA=0.042 and SRMR=0.02.

Regarding the examination of the coherence of the linear structural model of causal factors influencing the moral and ethical development of early childhood in the 21^{st} century, it was found that the variables that directly influenced the moral and ethical development of early childhood in the 21^{st} century at the significant level of .01 were PLF, INF, and EXF with the values equal to 0.50, 0.34, and 0.16 respectively. While the indirect effects variables were EXF and INF with the values equal to 0.22 and 0.16 respectively.

Conflicts of interest: The authors declare that there is no conflict of interest.

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