

FACTORS OF KINDERGARTEN PRINCIPALS' LEADERSHIP AFFECTING ADMINISTRATION EFFECTIVENESS OF KINDERGARTEN IN CHAOYANG CITY IN LIAONING PROVINCE

Wang Guanfu

Pornthep Muangman

Peerapong Tipanark

Educational Administration, Faculty of Education, Bangkokthonburi University

Email: wangguanfu209@126.com

Received : 12 September 2023

Revised : 4 June 2025

Accepted : 4 June 2025

ABSTRACT

The objectives of this research were: (1) To study the factors of kindergarten principals' leadership and the components of administration effectiveness of kindergarten in Chaoyang City in Liaoning Province. (2) To examine factors of kindergarten principals' leadership affecting administration effectiveness in Chaoyang City in Liaoning Province. (3) To propose the guidelines for improving principals' leadership of kindergarten in Chaoyang City in Liaoning Province.

This research was a mixed method research, including quantitative research and qualitative research. The population consisted of 2924 kindergarten principals' and kindergarten teachers from 84 kindergartens in Chaoyang City in Liaoning Province. The sample size was determined by G* Power program obtained through stratified random sampling technique. There were 257 administrators and teachers in total. The instrument used for collecting data was a five-point rating scale questionnaire. Descriptive statistics and the Exploratory Factor Analysis, Confirmatory Factor Analysis and Structural Equation Model were used to perform data analysis using statistical software.

The research findings revealed that; 1) There were 5 factors of kindergarten principals' leadership affecting administration effectiveness of kindergarten in Chaoyang City in Liaoning Province. 1. Optimize the internal administration 2. Protection and education 3. Curriculum guidance and development 4. Suit the internal and external environment 5. Harmonious and equal employment environment. 2) The factors of kindergarten principals' leadership affecting

administration effectiveness the data analysis results: the factor loading value of optimize the internal administration was 1.00, the factor loading value of Protection and education was 0.86, the factor loading value of Curriculum guidance and development was 0.98, the factor loading value of Suit the internal and external environment was 1.02, the factor loading value of Harmonious and equal employment environment was 1.00, indicated that there was a significant positive impact . 3) There are 33 guidelines for improving principals' leadership of kindergarten in Chaoyang City in Liaoning Province, including 14 principles for ability to optimize the internal administration, seven principles for the ability of protection and education, five principles for the curriculum guidance and development, and six principles for the ability of transfer ability to suit the internal and external environment, one principle for ability to harmonious and equal employment environment.

Keywords: Kindergarten principals' leadership, Administration effectiveness,
Kindergarten in Chaoyang City

1. Introduction

With the rapid development of the new era, people pay more and more attention to the value and quality of preschool education. Kindergarten is the main implementation part of the reform, improvement and development of preschool education. The leadership ability of kindergarten leaders can directly affect the administration efficiency and affect the quality of kindergarten training. In the review of literature, we found that there are few studies on the impact of kindergarten principals 'leadership on efficiency in China. Due to the differences in Chinese policies, economy, environment and local customs, it is difficult to use a set of objective quantitative indicators to measure the factors affecting the administrative effect of kindergarten principals. Therefore, according to the social habits and economic conditions of Chaoyang city, the factors affecting the influence of the administration effect are investigated, and the guidelines are formulated to solve the difficulties in the administration process, and promote the reform and development of preschool education.

Chaoyang City, also known as "Dragon City", located in the west of Liaoning Province. Located in the western Liaoning mountains and hilly area. The city covers a total area of 19,700 square kilometers, with a permanent resident population of 2.8729 million in 2022. The long history of Chaoyang can be traced back to the Paleolithic Age more than 100,000

years ago. The discovery of the large altar, temple and tomb sites of Hongshan culture in Chaoyang proves that the Chinese ancestors had entered the ancient civilization society more than 5,000 years ago, thus making Chaoyang area one of the birthplaces of Chinese civilization.

2. Research questions

2.1 What are the factors of kindergarten principals' leadership and the components of administration effectiveness of kindergarten in Chaoyang City in Liaoning Province?

2.2 How factors of kindergarten principals' leadership affecting administration effectiveness in Chaoyang City in Liaoning Province?

2.3 What are the guidelines for improving principals' leadership of kindergarten in Chaoyang City in Liaoning Province?

3. Research objectives

3.1 To study the factors of kindergarten principals' leadership and the components of administration effectiveness of kindergarten in Chaoyang City in Liaoning Province.

3.2 To examine factors of kindergarten principals' leadership affecting administration effectiveness in Chaoyang City in Liaoning Province.

3.3 To propose the guidelines for improving principals' leadership of kindergarten in Chaoyang City in Liaoning Province.

4. Research Methodology

4.1 Research Design

This dissertation mainly adopts the mixed research methods of quantitative research and qualitative research. The phase 1 is Qualitative research: The researchers studied the concepts, principles and theories of the components of kindergarten principal leadership and those of kindergarten administration effectiveness, and conducted in-depth interviews with 9 educational administration experts. The phase 2 is Quantitative research: The researchers selected the factors of the kindergarten principal and the variables of the kindergarten administration efficiency from step (1) to prepare a questionnaire as an instrument to collect data from samples in order to Examining the factors. The phase 3 is qualitative research use the interview by 9 experts. verify the new guidelines for improving principals' leadership of kindergarten in Chaoyang City in Liaoning Province. whether to play a positive role.

4.2 Population and Sample

The phase 1 Qualitative research: In-depth interviews with 9 key informants, including 4 education administrators (department directors and dean) and teaching preschool education administration courses. The phase 2 population included principals' and teachers in Chaoyang city. Choose total of 84 kindergarten in the city, totally 2924 faculty members. The sample group will be selected by using proportional stratified random sampling from G * Power program totally 257 principals and teachers.

4.3 Research Instruments

Phase1: Collect the relevant literature on the leadership of the kindergarten principle using data record sheets, and semi-structured interview forms. **Phase 2:** the instrument for this phase is questionnaire which consists of two parts, the first part is a question about the respondents' basic information, such as gender, age, education level, position, work experience. The second part is the rating scale questionnaire to investigate the factors of kindergarten principals' leadership affecting administration effectiveness in Chaoyang City in Liaoning Province. **Phase 3:** To propose the guideline for improving principals' leadership of kindergarten in Chaoyang City in Liaoning Province using interviewing and make conclude to be the guidelines. The instrument used in this phase was interview form.

4.4 Data Collection

Phase 1: Data collection was performed by the researcher, Through the text books of 24 documents and the interview of 9 experts. **Phase 2:** The questionnaires were sent by online, mail and researcher. Information on the factors of kindergarten principal's leadership affecting administration effectiveness in Chaoyang City in Liaoning Province was collected by filling in the questionnaire of 257 people involved in the questionnaire. **Phase 3:** Checklist will be sent to the panel of experts by mail, online and researcher. the data collected in this stage mainly consisted of interviews and surveys conducted by 9 experts.

4.5 Data analysis

Phase 1: The collected data was analyzed by Content Analysis statistics using frequency and percentage.

Phase 2: Data for demographic variables were analyzed by frequency and percentage. Descriptive statistics were used to analyze the variables of the factors of kindergarten principal leadership affecting administration effectiveness; mean, standard deviation (S.D.). For interpretation criteria about classifying mean score. The factors of kindergarten principal's leadership affecting administration effectiveness was analyzed by Exploratory Factor Analysis (EFA). In the analysis process, the Kaiser-Meyer-Olkin Measure of Sampling was required to be greater than 0.90 and the significance value was less than 0.05. Components of the factors of kindergarten principals' leadership affecting administration effectiveness were analyzed to reduce unrelated variables. Confirmatory factor analysis (CFA) was used to examine the construct validity. Structural equation model (SEM) was used to Analysis of the effect of individual indicators on the population and the relationship between individual indicators.

Phase 3: The data was analyzed by content analysis.

5. Research Results

5.1 Demographic Information

The respondents in this studied 247 persons (96.00%) were female and 10 persons (4.00%) were males. When classified by age, the majority were over the age of 41-50 years, with 83 people or 32.30 percent and 31-40 years, with 72 people or 28.01 percent .51-60 years, with 59 people or 22.96 percent .21-30 years, with 43 people or 16.73 percent. By qualification It was found that with 182 persons (70.81%) were at collage degrees level and 75 persons (29.19%) were Bachelor degree, don't have master degrees level and doctoral degrees level. According to the position of job, the kindergarten principal 69 persons (25.19%), the Vice President of Kindergarten 14 persons (5.45%), Middle managers of the kindergarten 9 persons (3.52%), the kindergarten teachers 165 persons (65.76%). For position time with 1-10 years of experience, the total number of 157 persons (61.09%), 11-20 year of experience, there were 67 persons (26.07%) , the 21-30 year of experience, there were 25 persons (9.34%) , the 31-40 year of experience, there were 9 persons (3.5%)

5.2 Reliability analysis of initial measurement

For reliability of questionnaire is a way of assessing the quality of the measurement procedure used to collect data. The researcher has sent out 30 questionnaires to collect data from non-samples in order to consider a result of reliability. Cronbach's alpha coefficient on or above 0.80 means adequate reliability to determines the internal consistency or average correlation of items in a survey instrument to gauge reliability of the questionnaire. As a result, Cronbach's alpha coefficient was at 0.986 which can be used to describe the reliability of questionnaire.

5.3 Exploratory factor analysis (EFA)

Through comprehensive analysis of the KMO value, variance interpretation rate, and factor load coefficients, etc., to verify the validity level of the data. Among them, the KMO value is used to evaluate the effectiveness of the data, and the variance interpretation rate value is used to illustrate the level of information extraction. The results of KMO value is 0.943, which indicates that the sample's adaptability is very good. Another test is the Bartlett's Test, which can be used to detect the independence between variables, and whether the correlation between variables is suitable for factor analysis. As a result, the approximate card value inspected by the Bartlett's Test, is 43977.439, the degree of freedom is 7140, and the significant level is 0.000. This result shows that the correlation between variables is significant.

Table 1 Showed Eigenvalues, Percentage of Variance, Percentage of Cumulative Variance

| Factor s | Extracted Sums of Squares Loadings | | | Rotation Sums of Squared Loadings | | |
|---|------------------------------------|------------------------------|--------------------------------|-----------------------------------|------------------------------|--------------------------------|
| | Eigenvalues | Percentage of Variance | Percentage of Cumulative | Eigenvalues | Percentage of Variance | Percentage of Cumulative |
| 1 | 66.516 | 55.430 | 59.502 | 22.326 | 18.605 | 35.037 |
| 2 | 3.918 | 3.265 | 62.767 | 18.433 | 15.361 | 50.397 |
| 3 | 2.704 | 2.254 | 65.021 | 14.995 | 12.496 | 62.893 |
| 4 | 2.400 | 2.000 | 67.021 | 4.538 | 3.782 | 66.675 |
| 5 | 2.139 | 1.782 | 68.803 | 2.396 | 1.997 | 68.671 |
| 6 | 1.661 | 1.385 | 70.188 | 1.820 | 1.516 | 70.188 |
| Extraction Method: Principal Component Analysis | | | | | | |

In this form, we can see that 6 main components (factor) are extracted, and each main factors have a corresponding extraction load square and rotating load square. It can be seen that the extraction load of the first main factor is 66.516, which accounts for 55.430% of the

total difference, and the accumulated total difference is explained to 55.430%. For the second main ingredient, its extraction load square and 3.918, accounting for 3.265% of the total difference, and the accumulated total difference was explained to 59.502%. Based on this, each main ingredient has a corresponding extraction load square. The accumulated total difference is interpreted as 70.188%. Factor analysis and principal component analysis were used to analyze the influencing factors. the rotation adopts the maximum variance orthogonal rotation method, with a total of 6 factors extracted fixedly. It is generally believed that the total variance interpretation Factor extraction rate is greater than 60%, indicating sufficient information Has been extracted. The validity of the scale is considered to be good. It shows the factor loading and variables described in each of the main variables. Components behind the rotating shaft.

Table 2 the factors of kindergarten principal's leadership affecting administration effectiveness in Chaoyang City in Liaoning Province

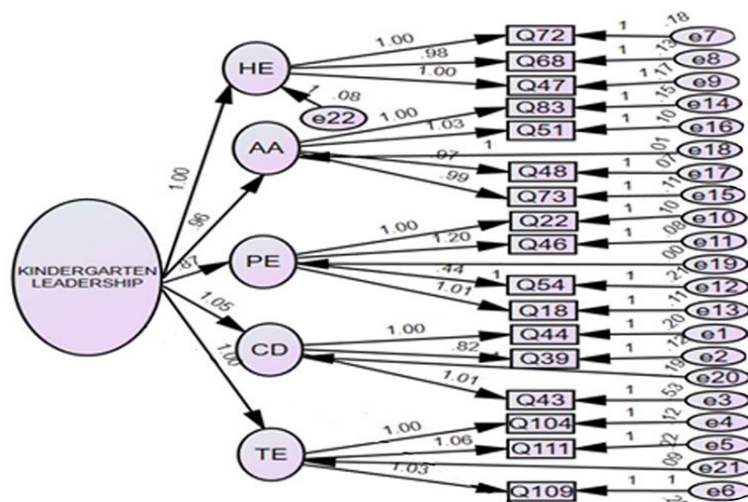
| Order | Assembly | Number of variables | Factor Loading |
|-------|----------|---------------------|----------------|
| 1 | Factor 1 | 32 | 0.511-0.819 |
| 2 | Factor 2 | 28 | 0.501-0.732 |
| 3 | Factor 3 | 24 | 0.500-0.773 |
| 4 | Factor 4 | 20 | 0.502-0.677 |
| 5 | Factor 5 | 5 | 0.501-0.764 |
| 6 | Factor 6 | 5 | 0.775-0.500 |
| All | | 114 | |

According to table 4.2, there are 6 qualified components as follows; Component 1 contains 32 variables that describe the component, the coefficient load of the component is between 0.511-0.819; Component 2 with 28 variables that describe the component, the coefficient load of the component is between 0.501-0.732; Component 3 with 24 variables that describing the components, the coefficient load of the component is between 0.500-0.773; Component 4 with 20 variables that describing the components, the coefficient load of the component is between 0.502-0.677; Component 5 with 5 variables that describing the components, the coefficient load of the component is between 0.501-0.764. Component 6 with 5 variables that describing the components, the coefficient load of the component is

between 0.500-0.775. The total number of variables describing these five variables is 114 variables, and the factor load is between 0.500-0.819.

5.4 Select the indicators that appropriate for the measurement model of each component

Data analysis by using SPSS with the AMOS program, it was found that the appropriate indicators in each factor. Result of ability to optimize the internal administration which was analyzed by AMOS, this measurement result consisted of the 4 indicators namely Q83, Q51, Q48 and Q73(factors loading =1.00,0.97,0.96 and 0.89 respectively). The measurement result of Institution and Mechanism effectiveness which consisted of the 4 indicators namely Q22, Q54, Q46 and Q18(factors loading =1.00,1.35,0.91 and1.00 respectively). The measurement result of curriculum guidance and development consisted of the 4 indicators namely Q43, Q44, Q39(factors loading =1.17,1.00,0.74 respectively). the measurement result of transfer ability to suit the internal and external environment which consisted of the 4 indicators namely Q104, Q111, Q109(factors loading=1.17,1.00,0.74 respectively). The measurement result of harmonious and equal employment environment which consisted of the 4 indicators namely Q72, Q68, Q47(factors loading=1.00,0.95,0.83 respectively).



Chi-square=123.3, df=87; p=.000 GFI=.933 AGFI=.902, TLI=.978, RMSEA=.047

Figure 1: Appropriate indicators of measurement model of kindergarten principals' leadership

Table 3 The confirmatory factors of kindergarten principals' leadership analysis of the fitting indicator

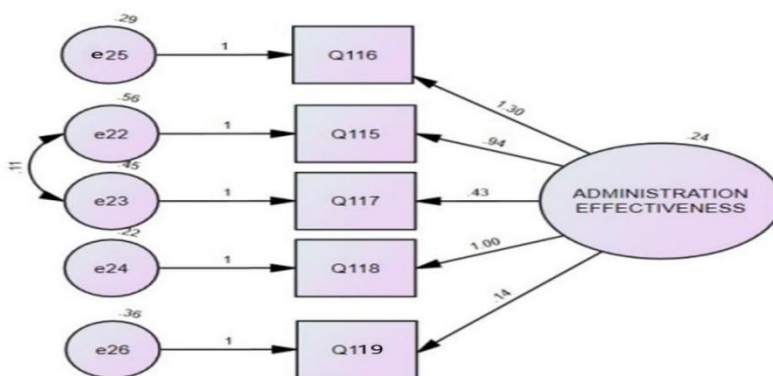
| Fit index | χ^2 | DF | χ^2/DF | RMSEA | GFI | NFI | IFI | TLI | CFI |
|-----------|----------|----|-------------|-------|-------|-------|-------|-------|-------|
| value | 123.3 | 87 | 1.417 | 0.047 | 0.933 | 0.955 | 0.983 | 0.978 | 0.983 |

From figure 4.3 and table 4.20 showed the model fit with the empirical data, the RMSEA value of 0.047 indicated an acceptable fit (Fabrigar L. R.,1994). The GFI value is 0.933, indicated acceptable model fit (Baumgartner, H., & Hombur, C. ,1996). The CFI value was close to 0.983, which showed a relatively good fit (Bentler P. M.,1990). The other fit indices, NFI value was 0.955 and TLI value was 0.950 indicated a good model fit (Bentler P. M.,1990). IFI value was 0.983, which was over 0.9 for a good fit (Bollens, 1989). The fitting index of the measurement model of the factors of kindergarten principals' leadership reached the standard value, and the construct validity of the measurement model of factors of kindergarten principals' leadership met the statistical standard.

Table 4 Confirmatory factor analysis parameter of measurement model for factors of kindergarten principals' leadership

| No. | Standardized | S.E. | C.R. | P | Factor | R2 | CR | AVE |
|-----|--------------|-------|--------|------|--------|------|-------|-------|
| CD | 0.763 | 0.118 | 9.007 | *** | 1.05 | 0.19 | 0.501 | 0.697 |
| PE | 1.016 | 0.069 | 15.653 | *** | 0.87 | 0.00 | | |
| AA | 0.989 | 0.067 | 15.286 | *** | 0.96 | 0.01 | | |
| HE | 0.855 | | | | 1.00 | 0.08 | | |
| TE | 0.837 | 0.08 | 12.816 | *** | 1.00 | 0.09 | | |
| O10 | 0.742 | 0.078 | 13.244 | *** | 1.03 | 0.25 | | |
| O46 | 0.843 | | | | 1.20 | 0.08 | | |
| O51 | 0.83 | | | | 1.03 | 0.10 | | |
| O68 | 0.836 | | | | 0.98 | 0.13 | | |
| O47 | 0.799 | 0.063 | 16.173 | *** | 1.00 | 0.17 | | |
| O11 | 0.759 | 0.077 | 13.592 | *** | 1.06 | 0.22 | | |
| O10 | 0.857 | | | | 1.00 | 0.12 | | |
| O83 | 0.771 | | | | 1.03 | 0.15 | | |
| O48 | 0.876 | 0.047 | 20.277 | *** | 0.97 | 0.07 | | |
| O73 | 0.823 | 0.05 | 19.681 | *** | 0.99 | 0.11 | | |
| O72 | 0.789 | | | | 1.00 | 0.18 | | |
| O22 | 0.945 | 0.284 | -0.723 | 0.47 | 1.00 | 0.10 | | |
| O54 | 0.744 | 0.065 | 16.183 | *** | 0.64 | 0.21 | | |
| O18 | 0.809 | 0.058 | 14.937 | *** | 1.01 | 0.11 | | |
| O39 | 0.973 | 0.071 | 10.842 | *** | 0.82 | 0.12 | | |
| O44 | 0.787 | 0.087 | 11.464 | *** | 1.00 | 0.20 | | |
| O43 | 0.634 | | | | 1.01 | 0.53 | | |

*** p-value <0.01



From table 4, Factor loading of Q22 to Q111 were between 0.64-1.20, according to Awang. Z et al. (2015), Factor loading of 0.6 and above for each item indicated a high convergent validity. P-value<0.01, showed that the study was statistically significant.

The AVE corresponding to the CD, PE, AA, HE and TE were 0.697. According to Fornell and Larcker (1981), AVE \geq 0.5 confirms the convergent validity and it can be seen that all the AVE in table 4.24 were greater 0.5.

The convergent validity is established when composite reliability (CR) is \geq 0.5. The CR for CD, PE, AA, HE and TE were 0.501 respectively, it evidenced the internal consistency in scale items according to Fornell and Larcker (1981). Therefore, all indicators of measurement model for administration effectiveness have good combination reliability and convergent validity.

Chi-square=6.2, DF=4, p=.184, GFI=.990, AGFI=.964, TLI=.969, RMSEA=.046

Figure 2: Appropriate indicators of measurement model of administration effectiveness

Table 5 Appropriate indicators of measurement model of administration effectiveness

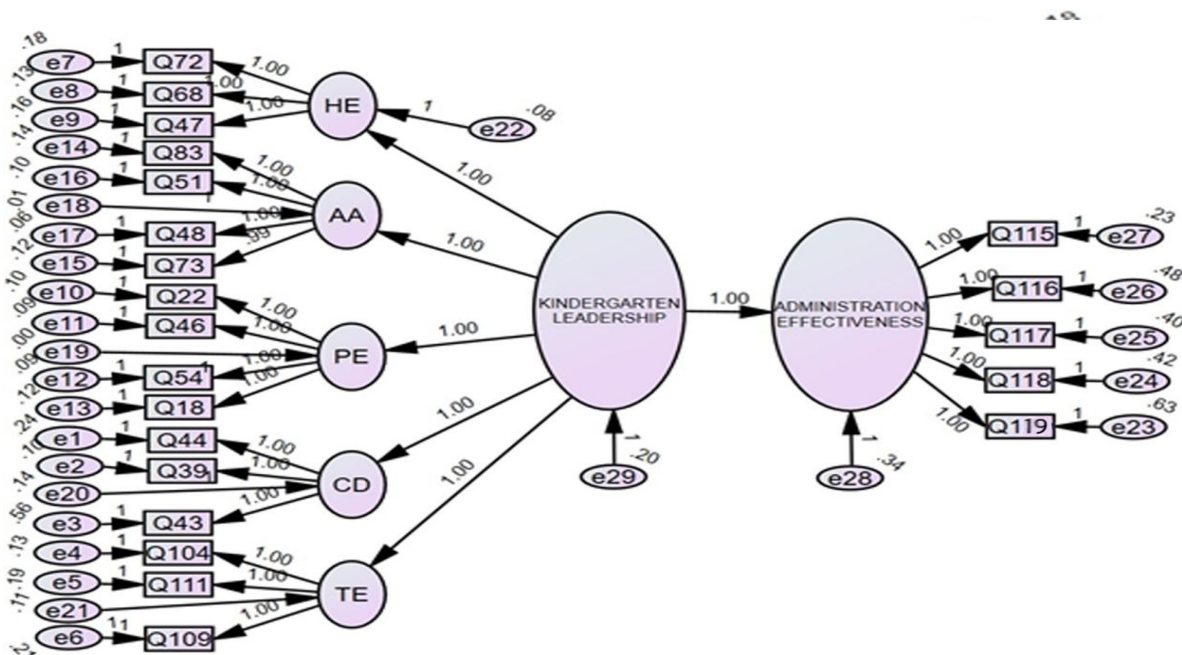
| Fit index | χ^2 | DF | χ^2/DF | RMSEA | GFI | NFI | IFI | TLI | CFI |
|-----------|----------|----|-------------|-------|-------|-------|-------|-------|-------|
| value | 6.2 | 4 | 1.550 | 0.046 | 0.990 | 0.967 | 0.988 | 0.969 | 0.988 |

From figure 4.8 and table 4.22 showed the model fit with the empirical data, the RMSEA value of 0.046 indicated an acceptable fit (Fabrigar L. R.,1994). The GFI value is 0.990, indicated acceptable model fit (Baumgartner, H., & Hombur, C. ,1996). The CFI value was close to 0.988, which showed a relatively good fit (Bentler P. M.,1990). The other fit indices, NFI value was 0.967 and TLI value was 0.950 indicated a good model fit (Bentler P. M.,1990). IFI value was 0.988, which was over 0.9 for a good fit (Bollens, 1989). The fitting index of the measurement model of the factors of kindergarten principals' leadership reached the standard value, and the construct validity of the measurement model of factors of kindergarten principals' leadership met the statistical standard.

Table 6 Confirmatory factor analysis parameter of measurement model for administration effectiveness

| No. | Standardized regression weight | S.E. | C.R. | P | Factor loading | R2 | CR | AVE |
|-----|--------------------------------|------|------|-----|----------------|------|-------|-------|
| O11 | 0.720 | | | | 1.00 | 0.22 | 0.680 | 0.593 |
| O11 | 0.295 | 0.1 | 3.86 | *** | 0.63 | 0.45 | | |
| O11 | 0.520 | 0.1 | 6.44 | *** | 0.94 | 0.56 | | |
| O11 | 0.761 | 0.1 | 6.74 | *** | 1.30 | 0.29 | | |
| Q11 | 0.114 | 0.0 | 1.56 | *** | 0.14 | 0.36 | | |

*** p-value <0.01



From table 6, Factor loading of Q115 to Q1195 were between 0.63-1.30, according to Awang. Z et al. (2015), Factor loading of 0.6 and above for each item indicated a high convergent validity. P-value<0.01, showed that the study was statistically significant.

The AVE corresponding to the Capability, Organization, Work effectiveness, Supervision and Performance appraisal indicators was 0.593. According to Fornell and Larcker (1981), AVE ≥ 0.5 confirms the convergent validity and it can be seen that all the AVE in table 4.10 were greater 0.5.

The convergent validity is established when composite reliability (CR) is ≥ 0.5 . The CR for indicators Capability, Organization, Work effectiveness, Supervision and Performance appraisal were 0.680 respectively, it evidenced the internal consistency in scale items according to Fornell and Larcker (1981). Therefore, all indicators of measurement model for administration effectiveness have good combination reliability and convergent validity.

5.5 Develop the structural equation model

Chi-square=209.7, DF=175, $p=.037$, GFI=.932 AGFI=.902, TLI=.987, RMSEA=.028

Figure 3: Structural equation model of the factors of kindergarten principals' leadership affecting administration effectiveness.

Table 7 Confirmatory factor analysis fit index of the factors of kindergarten principals' leadership affecting administration effectiveness in Chaoyang City in Liaoning Province.

| Fit index | χ^2 | DF | χ^2/DF | RMSEA | GFI | NFI | IFI | TLI | CFI |
|-----------|----------|-----|-------------|-------|-------|-------|-------|-------|-------|
| value | 209.7 | 175 | 1.198 | 0.028 | 0.932 | 0.946 | 0.991 | 0.987 | 0.991 |

From figure 3 and table 7, the RMSEA value of 0.028, GFI value was 0.932, indicating acceptable model fit (Baumgartner, H., & Hombur, C., 1996), CFI value was close to 0.991, which showed a relatively good fit (Bentler P. M., 1990), NFI value was 0.946, TLI value was 0.984 indicating a good model fit (Bentler P. M., 1990). IFI value was 0.991, which is over 0.9 for a good fit (Bollen's, 1989). Based on these indices, the structural equation model fitting index of administration ethical leaderships effects on administration reached the standard value, and the fitting degree of the structural equation model was good.

Table 4.25 Statistics value of the full SEM model the effect of administration ethical leadership on the administration effectiveness

| Components and Indicators | | | Standardized Regression Weights | S.E. | C.R. | P | Factor loading | R ² |
|---------------------------|------|---|---------------------------------|-------|--------|-----|----------------|----------------|
| The factors of Leadership | <--- | Ability to optimize the internal administration | 0.999 | 0.079 | 12.588 | *** | 1.00 | 0.27 |
| The factors of Leadership | <--- | Protection and education | 0.862 | 0.070 | 12.230 | *** | 0.86 | |
| The factors of Leadership | <--- | Curriculum guidance and development | 0.983 | 0.100 | 9.827 | *** | 0.98 | |

| Components and Indicators | | | Standardized Regression Weights | S.E. | C.R. | P | Factor loading | R ² |
|---------------------------|------|---|---------------------------------|-------|--------|-----|----------------|----------------|
| The factors of Leadership | <--- | Transfer ability to suit the internal and external environment | 1.024 | 0.870 | 11.791 | *** | 1.02 | |
| The factors of Leadership | <--- | Harmonious and equal employment environment | 1.000 | | | | 1.00 | |
| Q83 | <--- | Ability to optimize the internal administration | 1.000 | | | | 1.00 | 0.15 |
| Q73 | <--- | Ability to optimize the internal administration | 0.972 | 0.050 | 19.569 | *** | 0.97 | 0.11 |
| Q51 | <--- | Ability to optimize the internal administration | 1.000 | | | | 1.00 | 0.10 |
| Q48 | <--- | Ability to optimize the internal administration | 0.949 | 0,094 | 13.283 | *** | 0.95 | 0.07 |
| Q22 | <--- | Protection and education. | 1.000 | | | | 1.00 | 0.09 |
| Q46 | <--- | Protection and education. | 1.237 | 0.073 | 17.066 | *** | 1.24 | 0.08 |
| Q54 | <--- | Protection and education. | 1.244 | 0.094 | 13.283 | *** | 1.24 | 0.10 |
| Q18 | <--- | Protection and education. | 1.000 | | | | 1.00 | 0.11 |
| Q44 | <--- | Curriculum guidance and development | 1.000 | | | | 1.00 | 0.23 |
| Q39 | <--- | Curriculum guidance and development | 1.000 | | | | 1.00 | 0.15 |
| Q43 | <--- | Curriculum guidance and development | 1.084 | 0.93 | 11.701 | *** | 1.08 | 0.53 |
| Q104 | <--- | Transfer ability to suit the internal and external environment. | 1.000 | | | | 1.04 | 0.11 |

| Components and Indicators | | | Standard dized Regressi on Weights | S.E. | C.R. | P | Fact or load ing | R ² |
|---------------------------|------|---|--|-------|--------|-----|---------------------------|----------------|
| Q111 | <--- | Transfer ability to suit the internal and external environment. | 1.045 | 0.076 | 13.707 | *** | 1.04 | 0.22 |
| Q109 | <--- | Transfer ability to suit the internal and external environment. | 1.024 | 0.077 | 13.264 | *** | 1.02 | 0.25 |
| Q72 | <--- | Harmonious and equal employment environment | 1.000 | | | | 1.00 | 0.18 |
| Q68 | <--- | Harmonious and equal employment environment | 0.984 | 0.070 | 14.072 | *** | 0.98 | 0.13 |
| Q47 | <--- | Harmonious and equal employment environment | 1.001 | 0.074 | 13.519 | *** | 0.08 | 0.16 |
| Q115 | <--- | Administration effectiveness | 1.000 | | | | 1.00 | 0.22 |
| Q116 | <--- | Administration effectiveness | 1.018 | 0.192 | 5.290 | *** | 1.02 | 0.44 |
| Q117 | <--- | Administration effectiveness | 0.481 | 0.396 | 1.216 | *** | 0.48 | 0.39 |
| Q118 | <--- | Administration effectiveness | 1.311 | 0.185 | 7.072 | *** | 1.31 | 0.28 |
| Q119 | <--- | Administration effectiveness | 0.911 | 0.138 | 6.606 | *** | 0.91 | 0.57 |

***P-value < 0.01

Focus at the data analysis results in table 4.25, it was found that:

1) The factor loading value of ability to optimize the internal administration was 1.00 and $P\text{-value} < 0.01$, the factor loading value of Protection and education was 0.86 and $P\text{-value} < 0.01$, the factor loading value of Curriculum guidance and development was 0.98 and $P\text{-value} < 0.01$, the factor loading value of Transfer ability to suit the internal and external environment was 1.02 and $P\text{-value} < 0.01$, the factor loading value of Harmonious and equal employment environment was 1.00 and $P\text{-value} < 0.01$, indicated that there was a significant positive impact.

2) Ability to optimize the internal administration to Q83, Q73, Q51, Protection and education to Q22, Q46, Q54, Q18, Curriculum guidance and development to Q44, Q39, Q43, Transfer ability to suit the internal and external environment to Q104, Q111, Q109, Harmonious and equal employment environment to Q72, Q68, Q47, Administration effectiveness to Q115, Q116, Q117, Q118, Q119 were all indicated a high convergent validity. All the $p\text{-value} < 0.01$, showed that the study was statistically significant.

Table 8 Summary of results from hypothesis testing

| Hypotheses | Result |
|--|----------|
| 1. Ability to optimize the internal administration directly effects on the administration effectiveness in Chaoyang City in Liaoning Province | Accepted |
| 2. Protection and education ability directly effects on the administration effectiveness in Chaoyang City in Liaoning Province | Accepted |
| 3. Curriculum guidance and development ability directly effects on the administration effectiveness in Chaoyang City in Liaoning Province | Accepted |
| 4. Transfer ability to suit the internal and external environment directly effects on the administration effectiveness in Chaoyang City in Liaoning Province | Accepted |
| 5. Harmonious and equal employment environment directly effects on the administration effectiveness in Chaoyang City in Liaoning Province | Accepted |

As can be seen from table 4.26, the 5 hypotheses in this study had a direct impact on each other. The hypotheses that have been proven affecting the kindergarten administration effectiveness in Chaoyang City in Liaoning Province.

From the above conclusions, it can be concluded that the factors of kindergarten principals' leadership had significant affecting administration effectiveness in Chaoyang City in Liaoning Province.

5.6 Research to find out the guidelines

There are 33 guiding principles for the factors of kindergarten principals' leadership affecting administration effectiveness in Chaoyang City in Liaoning Province :

1) Ability to optimize the internal administration

1. Master the national laws, regulations and policy requirements for kindergarten administration 2. Instant the advanced experience of kindergarten administration at home and abroad. 3. Establish a sound kindergarten safety administration standard, establish and improve the kindergarten emergency mechanism and corresponding plans 4. Establish a reasonable kindergarten organization, so that each department has clear responsibilities, division of labor and cooperation, so that the kindergarten administration is standardized and scientific. 5. Make the financial situation of kindergartens open and transparent, and establish a reasonable financial resource system and accountability mechanism. 6. Implement scientific administration and democratic administration, respect and protect the democratic right of the staff to participate in the kindergarten administration. 7. Establish a administration system with moral and humanized characteristics 8. Instant the needs of kindergarten teachers in their professional development 9. Cultivate excellent teacher ethics, stimulate the sense of responsibility of preschool teachers, make them love children and early childhood education career, create an objective and fair employment environment 10. Emphasize the importance of teamwork in the work, advocate mutual respect and mutual help among employees 11. Fully realize that the family is an important partner of the kindergarten 12. Pay attention to the positive role of leadership demonstration in administrative administration 13. Actively respond to work setbacks 14. Foresee and skillfully deal with various conflicts in the kindergarten, coordinate the relationship among relevant stakeholders, and have strong communication and coordination skills.

2) The ability of protection and education

15. Abide by the relevant provisions of preschool education, abide by the party's principles and policies 16. Respecting and taking care of teachers and children, reflecting personal dignity, and feeling harmony and happiness are the core of the construction of kindergarten education and culture 17. Master children's physical and mental development characteristics, respect and protect children's curiosity 18. Pay attention to the safety and health of children 19. Brave to accept new knowledge, examine and improve rationally, and reflect on yourself 20. Clarify the rights and obligations of kindergarten teachers, respect, trust,

unite and appreciate every teacher 21. Strive to build a team that encourages teachers to conduct on-the-job training, and strive to become a learning organization

3) Curriculum guidance and development

22. Fully instant the problems and challenges faced by the school development, organize experts, school members, parents, community personnel and other forces to participate in the formulation and development goals of the kindergarten development plan

23. Be good at sharing and spreading the development vision of the school 24. Encourage employees to conduct on-the-job training, actively carry out foreign academic exchanges and development 25. Hold regular seminars, establish and improve the evaluation system of lectures and course evaluation 26. Establish and improve the kindergarten teaching and research system

4) Debug external environmental factors

27. Carefully use the relevant laws and procedures 28. Coordinate the relationship between the relevant stakeholders, and have a strong communication and coordination ability 29. To guide the parents' committee and relevant social personages to participate in kindergarten education and administration 30. Attach importance to the utilization of natural environment and social (community) educational resources and maintain a good relationship with leaders at all levels 31. Establish a foreign cooperation and communication mechanism for kindergartens 32. The instructor uses information media and other ways to realize multi-channel family communication and instant the basic situation of children's family education.

5) Lead the curriculum development ability

33. The principal can respect, trust, unite and appreciate every staff member, pay attention to the physical and mental health of preschool teachers, and create an objective and fair employment environment

6. Discussion

Based on the research objectives, the discussion will be presented as follows:

Component 1: Optimize the internal administration capability; This study is in line with formulates a reasonable internal system, makes the kindergarten according to law, and trains the staff by law, and fundamentally ensures the teachers' teaching administration ability of the kindergarten in accordance with the concept of Li Sheng (2020:48-49) and Zhao xiqing (2019:38-42). Pay attention to the positive role of leadership demonstration in administrative administration, be honest and trustworthy, become the principal that makes the employees

fully trust, pay attention to the affinity, attraction, good at communication, and can get the support of different people in the kindergarten. Perfect administration, make administration standardized and scientific and consistent with Liu Linfang., (2015:46-65). The principal needs to constantly learn self-improvement and consistent with Luo Li, Hong Xiumin., (2015:8), Li Sheng (2020:48-49), Shi Kangjie (2016:56). The principal should provide appropriate conditions to help teachers achieve professional growth, formulate appropriate professional development plans for teachers at different levels, and meet the needs of teachers at different career stages, consistent with the views of Liu Linfang., (2015:46-65) and liu Guohua (2009:60). Improve the democratic administration decision-making process and the incentive mechanism needed to develop teachers. and consistent with Li Ying (2021: 45) , Xiang Xiaoying (47-48) .

Component 2: The ability of protection and education ; Zhao xiqing (2019:38-42) emphasizes the persistence, children-based protection and education. Peter. San ji (1998:3) In the Fifth Practice-The Art and Practice of Learning Organization, the so-called learning organization refers to the organization that can try to make all levels of people invest wholeheartedly and have the ability to keep learning, which is consistent with the view of strengthening team building and learning organization. Chinese scholars Luo Li, Hong Xiumin (2015:25-28), Xiang Xiaoying (2007:47-60) also put forward the same view.

Component 3: Curriculum guidance and development; Zhao xiqing (2019:38-42) according to the kindergarten concept set development goals, please social experts, parents to participate in the development of the kindergarten, build characteristic campus culture. Shi Kangjie (2016:56) As the leader of the kindergarten, I shoulder the task of grasping the overall development direction of the kindergarten. Li Ying (2021:45-56) carry out solid training work, adopt flexible and diverse training forms are consistent. Liu Linfang., (2015:46-65) It is pointed out that the curriculum teaching leadership of principals' is mainly reflected in the planning of kindergarten curriculum development and the guidance and monitoring of curriculum implementation. The principal should organize and coordinate various factors, provide resources for curriculum development and implementation, instant and meet the needs of teachers in the teaching process, often carry out lectures and class evaluation activities, and provide professional guidance for teachers' teaching.

Component 4: Transfer ability to suit the internal and external environment.

Zhao xiqing (2019:38-42) do a good job in home communication, through questionnaires, symposiums, regular parents' meetings and other activities, to create a harmonious communication environment. Coordinate the development of external resources and seek cooperation. Take children to visit the subway, museums, etc., to experience the learning. Shi Kangjie (2016:56) The principal should open the kindergarten to the outside world, make use of their own advantages, feed back to the society, and set up family guidance and community services. Xu Jin (2016:51-53) is mainly employees, the ability to affect parents is weak. Consistent with the principal should have the ability to debug external environmental factors.

Component 5: Harmonious and equal employment environment. Liu Linfang (2015:46-65) pointed out that the principal should create a fair just environment, and the teachers should respect, trust, unite and appreciate every employee. Xiang Xiaoying (2020:47-60) also proposed to timely pay attention to the physical and mental health of preschool teachers, to help teachers to solve problems, to create a warm employment environment.

7. Recommendations

7.1 Recommendations for Policy Formulation

1) The education department of Chaoyang City can use guidelines for factors of kindergarten principals' leadership affecting administration effectiveness in Chaoyang City to plan and develop the leadership skills of kindergarten principals' through this research. Let the kindergarten managers develop into professional administrators with leadership skills.

2) Ministry of Education and Office of the Education Commission take the guidelines for factors of kindergarten principals' leadership affecting administration effectiveness in Chaoyang City for kindergarten administrators as a result of this research, as a result of this research, to be a policy to develop school administrators to have knowledge and instant of the value of leadership in themselves.

3) Office of the guidelines for the factors of kindergarten principals' leadership affecting administration effectiveness in Chaoyang City for kindergarten administrators as a result of this research, it is a guideline for determining standard indicators. School administrator (deputy director, director, deputy kindergarten principal, kindergarten principal) before being promoted to school administration. This annotation can be used as an indicator of the entry inspection criteria.

7.2 Recommendation for practical application

Key components should be given priority, first, the key components of improve the internal administration ability, then protect and educate ability, Planning and development ability, debug external environmental factors, lead the curriculum development, respectively the key components of improve the internal administration ability should focus on the following sub-components: Improve the administration system, Administration of teacher selves administration. Key components: protect and educate ability focus on the following components .Concept of educational value 、 Conservation and education 、 Team of teachers 。 The key component of Planning and development ability should be given to this sub-component. Develop development plans and goals、 External resources to promote development、 Improve teachers and administration system to ensure development。 The key components of debug external environmental factors should be concentrated in the following sub-components: Information exchange and sharing 、 External supervision、 Attract external resources 。 The key components of lead the curriculum development should be concentrated in the following sub-components: Curricular development, Subject study, and Expert guidance.

Bibliography

- Avolio B J, Zhu W, Koh W, et al (2004). **transformational leadership and organizational commitment: mediating role of psychological empowerment and moderating role of structural distance.** Journal of Organizational Behavior, Wiley Online Library, 25(8): 951–968.
- Bass B M, Avolo B J. (1994). **Developing transformational Leadership: 1992 and Beyond.** Journal of European Industrial Training, MCB UP Ltd, 14(5).
- Bommer W H, Rubin R S, Baldwin T T. (2004). **Setting the stage for effective leadership: Antecedents of transformational leadership behavior.** The Leadership Quarterly, 15(2): 195–210
- Carson J B, TESLUK P E, MARRONE J A. (2007). **Shared Leadership in Teams: An Investigation of Antecedent Conditions and Performance.** Academy of administration Journal, Academy of administration, 50(5): 1217–1234

- DenHartog. D.N., House, R.J., Hanges, P.J., Ruiz Quintanilla, S.A. Dorfman, P.W. (1999). **Culture specific and cross-culturally generalizable implicit leadership theories are attributes of charismatic/transformational leadership universally endorsed?** *Leadership Quarterly*. 10(2), 219-256.
- Feng Wei. (2017). **Enhance the principal's leadership in action** *Education Guide*. (9),15-17.
- Heifetz R A, Linsky M. (2017). **Leadership on the line staying alive through the dangers of change.**
- Jiang Jun. (2014). **Strengthen the subject research and improve the leadership of principal good parents.** (2): 11-12.
- Jillian Rodd, translated by Guo Liang Jing, Liu Ronghui, Zhuang Shuxin. (2007). **Leadership in Early Education (Third Edition)**. Shanghai: East China Normal University Press,58.
- Keegan A E, Den Hartog D N. (2014). **transformation leadership in a project-Hussain Ali: Role of Leadership in Project administration: An Empirical Study of Information System Development Projects in Pakistan based environment: A comparative study of the leadership styles of project managers and line managers.** *International Journal of Project administration*, 22(8),609–617.
- Lin Ling. (2016). **Study on leadership development of Z Principal of X Private Kindergarten in Haikou city.** (Master degree) Haikou: Hainan Normal University, Online research access <https://kns.cnki.net/kcms/detail/detail.aspx?dbcode=CMFD&dbname=1016273980..nh&uniplatform=NZKPT&v=AHG94NDvRnXh8KJ1n2japOpArCXPlRF1oPxA-AG65tiWn3ZvUAeeOQpegq9h3lIhe>, 25.
- Macit M. (2016). **Leadership and Bass Transactional and transformational Leadership Theory.** *Sosyal Ekonomik Araştırmalar Dergisi*, 3(5), 86–114
- Pan Bingru. (2017). **Analysis of influencing factors of kindergarten principal leadership and improvement countermeasures.** *Social science in Guang xi*.09,249-252
- Spector B A. Carlyle, Freud., (2016). **Great Man Theory more fully considered.** *Leadership*, SAGE Publications, 12(2), 250–260.
- Tam A C. (2019). **Conceptualizing Distributed Leadership: Diverse Voices of Positional Leaders in Early Childhood Education.** *Leadership and Policy in Schools*,18(4):701-718.
- Wolfgang Tietze,Susanne Viernickel. (2018). **Construction and development of education quality in day care institutions for children aged 0-6 years — Basic methods**

and practice guidance of the German National Standards Manual. Jinan: Shandong Science and Technology Press, 275-284.