The Mediating Factors on the relationship between Social Factors and Female Administrators' Leadership in Public high schools under Shenyang City

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ABSTRACT

The objectives of this research were: (1) To study the components on the Female administrators' Leadership in high schools under Shenyang city. (2) To develop the model of mediating factors between social factors and Female administrators' Leadership in high schools in Shenyang city. And (3) To decompose mediating factors of the social factors affecting on female administrators' leadership in public high schools in Shenyang city. The population were administrators' and teachers in public high schools determined by G*Power software, total 2,862 and used stratified random sampling method for 212. The data analyzed by statistical software including descriptive statistics, confirmatory factor analysis, and structural equation model.

The research found that; (1) The leadership of female administrators' consist of 5 components mainly; thinking ability, organizational ability and decision-making ability; (2) Personal factors, Ffamily factors and Oorganizational factors had positive effect on female administrators' leadership with statistical significant ($p<.05$), and play an intermediary role between social factors and female administrators' leadership; And (3) The mediating effect of intermediary factors could be reduce the direct effect of social factors on the leadership of female administrators at 59%.

Keywords: Female managers' leadership, Social factors, Mediating, public high school

1. Introduction

Administrators' leadership is closely related to the specific implementation and methods of management activities, and gender differences are also an important research topic for leaders to develop leadership, in which many scholars have shown great interest.

According to reason, social support is a behavior or process that can promote support, help or support things. It is an individual's response to his/her own/others' social needs and the source of people's overall level of participation and social support environment; whether social support can provide individuals with composite structural help, a force or factors in the social environment to promote human development. (Sarason., Levine, Basham, et al,1983) and Chen Hui (2019). considered that the subjects of social support refer to the various social forms related to the objects, including family, community, society, school, organization, government, etc. Female leaders in public high schools are mainly provided with a support network of life care, emotion, culture, policy and other aspects by social support subjects such as family, school, government, etc.; the object of social support refers to female leaders in public high schools , who are not socially disadvantaged groups or individuals, but only individuals or groups who generally need support in their daily life; the intermediary of social support refers to the connection between family, community, school, government and female administrators in public high schools female leaders, including the content, mode and type of services provided by the subject of social support as an object, which are specifically expressed as emotional support (gaining respect, trust and care), information support (borrowing tools such as relevant policy guidance, media publicity feedback and affirmation) friendly support (acceptance, sense of belonging) and instrumental support (material resources, financial assistance or required services). In addition, as more and more female administrators' leaders emerge in society, female leaders are also receiving more and more attention.

2. Research Questions

(1) What were the components of leadership of female administrators in public high schools in Shenyang City?

(2) What were the mediating factors between social factors and leadership of female administrators in public high schools in Shenyang City?

(3) How did social factors change female administrator leadership through mediating factors?

3. Research Objectives

(1) To study the components on the female administrators' leadership in high schools under Shenyang city.

(2) To develop the model of mediating factors between social factors and female administrators' leadership in high schools in Shenyang city.

(3) To decompose mediating factors of the social factors affecting on female administrators' leadership in public high schools in Shenyang city.

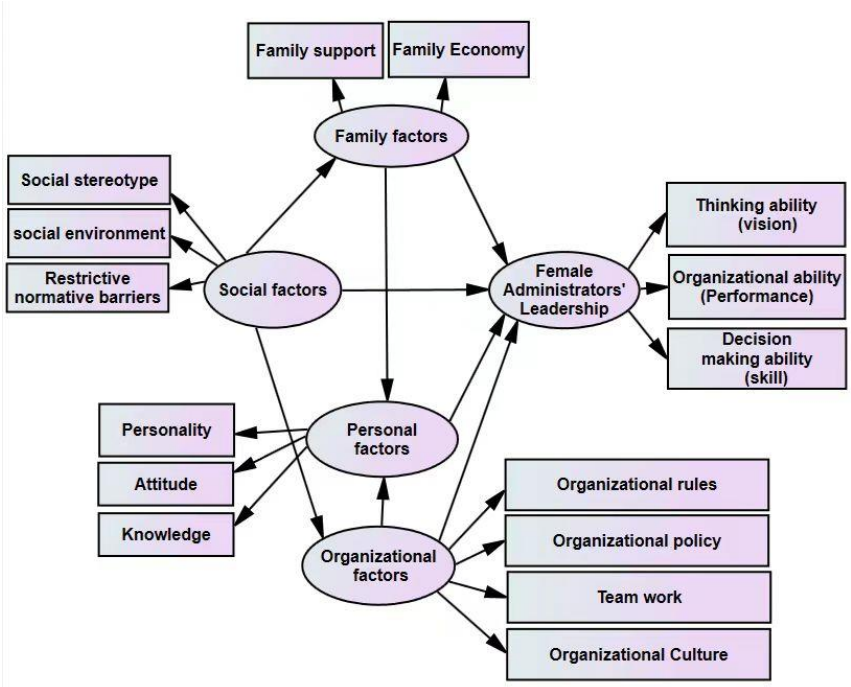
4. Research Hypothesis

H1: The model of mediating factors between social factors and female administrators' leadership in high schools in Shenyang city fit well with empirical data.

H2: The family factors, organizational factor and personal factor were mediators' effect on the relationship between social factors and female administrators' leadership in high schools in Shenyang city.

H3: Mediating factors could be change to the effect of the social factors affecting on female administrators' leadership in public high schools in Shenyang city.

Conceptual Framework



5. Methodology

Step 1: Apply for permission to collect research data from the faculty of Education, Bankokthonburi University.

Step 2: Obtain researcher references from the faculty of Education, Bankokthonburi University.

Step 3: Select some coordinating teachers to help data collection in Shenyang. These teachers will help to understand the details of questionnaire and data collection.

Step 4: Send questionnaires to coordinating teachers to gathering data from the sample. The coordinating teacher will help to collect data from the selected sample of teachers in each school.

Step 5: The analysis was performed using data analysis methods include descriptive statistics were used for data analysis, mean, standard deviation (S.D). The model was evaluated using the chi-square goodness-of-fit. chi-square test, Confirmation factors analysis and hypothesis testing used by structural equation modeling.

6. Research Finding.

Descriptive analysis of indicators

On the leadership of female administrator leadership(FAL) consisted of 3 components mainly; thinking ability(TA), organizational ability(OA) and decision-making ability (DA); and there were 4 factors affecting female administrator leadership namely; family factor(FF), personal factor(PF), social factor(SF), and organization factor(OF). Result as follow;

Table 1 Test for distribution of data

Factors	Variables	Mean	Level	S.D.	Skewness		Kurtosis		Tolerance	VIF
					Statistic	SE	Statistic	SE		
Familly	FS	3.219	Moderate	1.072	-.453	.164	-1.162	.326	.239	4.187
(FF)	FE	3.221	Moderate	1.116	-.479	.164	-1.033	.326	.254	3.936

Table 1 Test for distribution of data

Factors	Variables	Mean	Level	S.D.	Skewness		Kurtosis		Tolerance	VIF
					Statistic	SE	Statistic	SE		
Social (SF)	SS	3.268	Moderate	1.066	-.351	.164	-1.228	.326	.148	6.776
	SE	3.279	Moderate	1.072	-.346	.164	-1.178	.326	.170	5.879
	RB	3.245	Moderate	1.040	-.328	.164	-1.185	.326	.141	7.098
parents (PF)	PE	3.103	Moderate	.980	-.305	.164	-1.158	.326	.269	3.719
	AT	3.276	Moderate	1.061	-.418	.164	-1.105	.326	.180	5.562
	KN	3.341	Moderate	1.084	-.452	.164	-1.133	.326	.168	5.935
	ORR	3.257	Moderate	1.107	-.376	.164	-1.258	.326	.158	6.318
Organization (OF)	OP	3.261	Moderate	1.099	-.296	.164	-1.296	.326	.151	6.622
	TW	3.219	Moderate	1.126	-.302	.164	-1.218	.326	.159	6.294
	OC	3.298	Moderate	1.109	-.389	.164	-1.254	.326	.178	5.625
Femel Leadership	TA	3.246	Moderate	1.070	-.388	.164	-1.083	.326	.158	6.316
	OA	3.262	Moderate	1.122	-.488	.164	-1.132	.326	.180	5.547

Table 1 Test for distribution of data

Factors	Variables	Mean	Level	S.D.	Skewness		Kurtosis		Tolerance	VIF
					Statistic	SE	Statistic	SE		
(FAL)	DA	3.233	Moderate	1.121	-.470	.164	-1.106	.326	.170	5.866

On the table 1; That show on the distribution of factors and each component of factors. All of component had mean between 3.10 to 3.34 at a high level and there were skewness value between -0.48 to -0.29, kurtosis value between 1.03 to 1.29, that show the data distribution with normal curve, when test multicoliniality with VIF and tolerance had value between 3.72 to 7.09 and 0.14 to 0.27 respectively, that no multicoliniality effect.

Correlation testing

The intrecorrelation of variables of model could have correlation coefficient as the table 2

Table 2: Pearson correlation coefficient

	FS	FE	TA	OA	DA	ORR	OP	TW	OC	PE	AT	KN	SS	SE	RB
FS	1														
FE	0.857**	1													
TA	0.223**	0.190**	1												
OA	0.260**	0.239**	0.876**	1											
DA	0.221**	0.183**	0.883**	0.859**	1										
ORR	0.325**	0.316**	0.337**	0.385**	0.357**	1									
OP	0.282**	0.268**	0.272**	0.309**	0.324**	0.876**	1								

Table 2: Pearson correlation coefficient

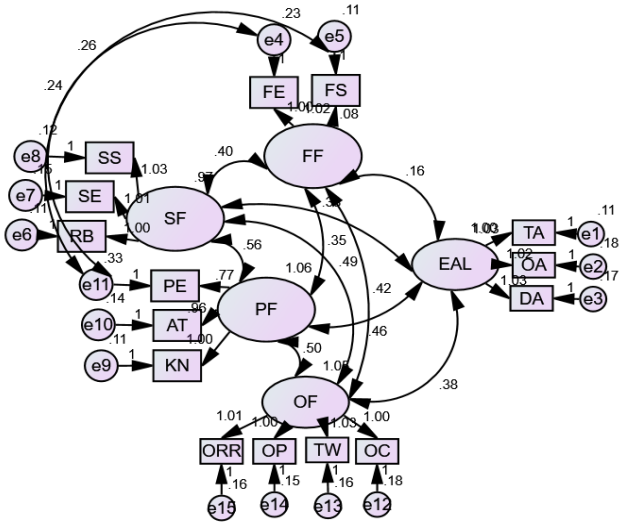
	FS	FE	TA	OA	DA	ORR	OP	TW	OC	PE	AT	KN	SS	SE	RB
TW	0.288**	0.273**	0.282**	0.320**	0.303**	0.872**	0.874**	1							
OC	0.305**	0.308**	0.321**	0.367**	0.361**	0.857**	0.863**	0.869**	1						
PE	0.463**	0.427**	0.478**	0.471**	0.437**	0.286**	0.241**	0.270**	0.305**	1					
AT	0.317**	0.292**	0.392**	0.394**	0.334**	0.451**	0.424**	0.454**	0.468**	0.751**	1				
KN	0.307**	0.299**	0.391**	0.390**	0.348**	0.404**	0.404**	0.416**	0.423**	0.774**	0.889**	1			
SS	0.304**	0.297**	0.350**	0.343**	0.295**	0.446**	0.393**	0.439**	0.425**	0.357**	0.506**	0.506**	1		
SE	0.317**	0.287**	0.354**	0.339**	0.306**	0.439**	0.398**	0.451**	0.421**	0.360**	0.494**	0.498**	0.885**	1	
RB	0.349**	0.309**	0.368**	0.383**	0.301**	0.446**	0.426**	0.450**	0.436**	0.366**	0.509**	0.508**	0.897**	0.882**	1

* $p<0.05$ ** $p<0.01$

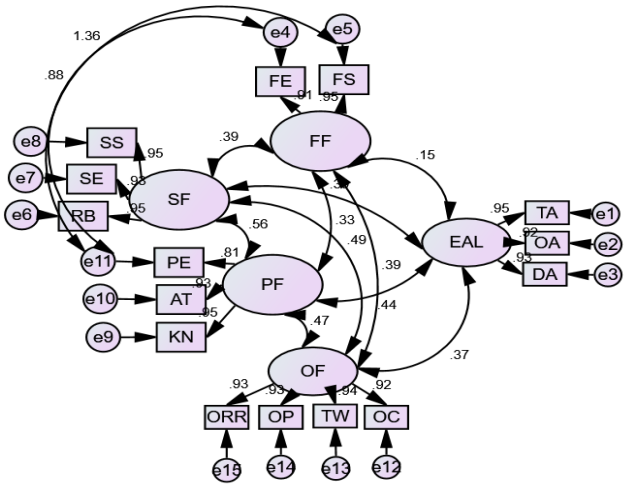
From the table 2 that show the correlation of all variable in the model had value between 0.18 to 0.89 and there were significant at .01. that suitable for the next step.

The measurement model

The measurement model of mediating factors between social factors and female administrators' leadership in high schools in Shenyang city on unstandard estimate and standard estimate as the figure below;



model unstandardized estimates



model standardized estimates

Table 3: Show all the result on estimate model and criterion for model fit with empirical data.

Indicators	Standard Score	Result	Conclusion	References
Chi-square	Chi-square	109.246		
Df		78		
CMIN/df	≤ 3	1.401	excellent	Bollen (1989), Diamantopoulos and Siguaw (2000)
CFI	≥0.9	0.991	excellent	Hair et al. (1998), Mueller (1996)

Indicators	Standard Score	Result	Conclusion	References
NFI	≥0.9	0.971	excellent	Hair et al. (1998), Mueller (1996)
GFI	≥0.9	0.941	excellent	Hair et al. (1998), Browne and Cudeck (1993)
IFI	≥0.9	0.991	excellent	Hair et al. (1998), Mueller (1996)
RMSEA	≤0.08	0.043	excellent	Hair et al. (1998), Browne and Cudeck (1993)

On the measurement model (CFA), The convergent validity, composite reliability and discrimination validity test, should be analysis before the hypothesis testing, The model quality testing by Convergent validity, composite reliability and discrimination validity test as the table 4

Table 4: Results of convergence validity analysis

Variable	**Model variable**	**Standard factor load coefficient**	S.E.	C.R.	p	CR	AVE
FF	FS	0.779				0.845	0.620
	FF	0.796	0.076	13.990	***		
SF	SS	0.798				0.886	0.616
	SE	0.756	0.075	13.134	***		
	RB	0.732	0.060	15.643	***		
PF	PE	0.710				0.851	0.552
	AT	0.705	0.066	13.946	***		
	KN	0.673	0.064	13.855	***		
	OP	0.789					

Variable	Model variable	Standard factor load coefficient	S.E.	C.R.	p	CR	AVE
OF	TW	0.701	0.063	14.847	***	0.864	0.623
	OC	0.644	0.056	13.243	***		
	ORR	0.682	0.274	12.487	***		
FAL	TA	0.745					
	OA	0.748	0.054	14.578	***	0.862	0.605
	DA	0.768	0.665	14.752	***		

***. Correlation is significant at the 0.001 level (2-tailed).

The table 4, Show the composite reliability (CR) and mean variance extraction value (AVE) of each variable, that shown in the table. The factor load value of each variable ranges from 0.644 to 0.836 were high convergence validity, CR of all dimensions was greater than 0.7, (Hu and Bentler 1998) and when find out the discriminant of model CFA by Fornell and Lacker (1980) method as table 5

Table 5: Discriminative validity analysis test

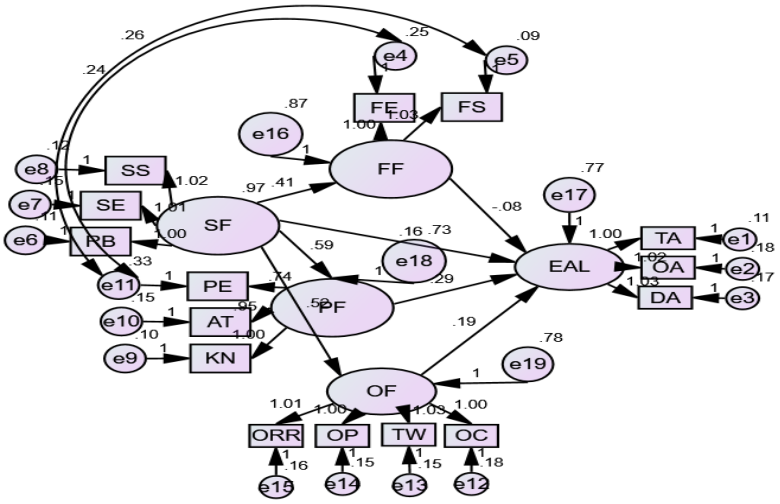
	CR	AVE	MSV	MaxR(H)					
FF	0.845	0.620	0.437	0.791	**0.717**				
SF	0.886	0.616	0.496	0.811	0.661***	**0.717**			
PF	0.851	0.552	0.496	0.754	0.625***	0.704	**0.708**		
OF	0.864	0.603	0.418	0.762	0.635***	0.646	0.604***	**0.709**	
FAL	0.862	0.625	0.434	0.772	0.621***	0.603	0.616	**0.664**	**0.784**

On table 5, The Fornell & Larker (1980) criterion which is evaluated by using the square root of AVE for each potential structure. This method is greater than the highest correlation between the structure and the other structures in the model. Data analysis in

Table 4.8 shows that AVE square root of factors and each value is greater than the correlation between variables.

The hypothesis testing

The model of mediating factors between social factors and female administrators' leadership in high schools in Shenyang city on hypothesis testing as figure below,



model standardized estimates

The hypothesis testing on the model could be conclusion as follows;

H1: The model of mediating factors between social factors and female administrators' leadership in high schools in Shenyang city fit well with empirical data with CMIN/DF = 1.706, which is within the acceptable range of less than 3, the value-added fitness statistic CFI, NFI, GFI, and IFI were all greater than 0.9, and the absolute fitness statistic RMSEA was less than 0.057. Therefore, the indicators in the model were acceptable.

H2: The family factors, organizational factor and personal factor were mediators' effect on the relationship between social factors and female administrators' leadership in high schools in Shenyang city.

(1) Testing for direct effects hypothesis as the table 6

Table 6; Hypothesis testing of direct effects.

Effect of variable			Unstandardized Coefficients	S.E.	C.R.	P	Standardized Coefficient
OF	<---	SF	.521	.066	7.887	***	.501
FF	<---	SF	.408	.071	5.748	***	.394
PF	<---	SF	.595	.064	9.252	***	.566
FAL	<---	FF	.081	.062	1.301	.193	.081
FAL	<---	SF	.165	.093	1.778	.075	.161
FAL	<---	PF	.285	.076	3.765	***	.292
FAL	<---	OF	.190	.072	2.651	.008	.192

(Note: *** p≤.001).

(2) Testing for indirect effects hypothesis

The result on indirect effect in the model as the table 7 as follows:

Table 7: Hypothesis testing of indirect effects

Relationships	Standardized indirect effects
FAL<---FF<---SF	0.03
FAL<---OF<---SF	0.10
FAL<---PF<---SF	0.18

On the table 7, Found that; The social factors had indirect effect via mediators (FF, PF and OF)

H3: Mediating Factors could be change be changing the effect of the social factors affecting on female administrators' leadership in public high schools in Shenyang city. As the table 8

Table 8: Show the reduce direct effect when the model don't have mediator

effect			Direct effect	Indirect effect	Total Effect	% Direct effect	Model
FAL	<---	SF	.386***	-	.386	100	No mediator
FAL	<--FF<--	SF	.338***	.048	.386	88	FF mediator
FAL	<--FF<--	SF	.212*	.174	.386	55	FF, PF mediators
FAL	<--PF<--	SF					
FAL	<--FF<--	SF	.161	.229	.386	41	FF, PF, OF

	effect		Direct effect	Indirect effect	Total Effect	% Direct effect	Model
FAL	<--PF<--	SF					mediators
FAL	<--OF<--	SF					

On the table 8, Show that; first model (no mediator), The direct effect of SF on FAL had .386, when take the FF, EF, and OF as mediators on relationship between SF and FAL had direct effect 0.161 that show the mediating effect could reduce direct effect of SF on FAL at 59% and mediating effected on direct effect from significant at .001 to no significant too.

7. Discussion

The FF, PF and OF in the model had mediating effect could reduce direct effect of SF on FAL at 59% and could be change the directed of the social factor (SF) on female administrators' leadership (FAL) from significant at .001 to no significant too. That can show; the effect of social factor in university may be not appear to effect on female administrators' leadership directly but actually it can also have an effect through intermediate variables, therefore developing the female administrators; leadership emphasis should be placed on social factors and mediator's variables which corresponds to social learning theory of Bandura (1986).

8. Recommendations

1. Optimize the cultivation of leadership behaviour in colleges and universities to promote female leadership enhancement.

2. Improve the incentive mechanism to promote leadership influence.

3. Creating a gender-equal social and cultural environment to support women in the workplace.

4. Establishment of reasonable and legal rules and regulations to promote leadership improvement.

9. Suggestions for future research

1. The distribution of the sample in this study is relatively short, so in the subsequent study, the collection of the sample needs to be set aside for a longer period of time, as comprehensive as possible, involving multiple groups, adding a variety of ways to make the

sample data collection more cautious.

2. This study on the promotion of women's leadership in colleges and universities suggested that there is still less research in the existing market, so this paper can refer to less literature, in the subsequent research continue to focus on the development of women in colleges and universities this thesis.

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