

Enhancing Headmasters' execution in Nanning: Investigating the Influence of Social Support

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Abstract. In the context of the continuous development of basic education in Nanning, secondary schools have become a core stage of it. The development of secondary schools is inseparable from their headmasters, and the level of their execution directly determines the direction of a school's development. Therefore, this paper focuses on the variable of headmaster's execution, with the aim of understanding the general situation of the executive power level of secondary school principals. At the same time, the variable of social support was introduced to explore the execution of headmasters in depth. The following conclusions were drawn: firstly, social support can significantly and positively influence the level of principal's execution. Secondly, emotional support has the greatest impact on principals' execution. Thirdly, informational support has the greatest impact on headmasters' adaptability and innovation in the various dimensions of headmasters' execution. Based on this, this paper makes targeted recommendations to improve headmasters' executive performance.

1 INTRODUCTION

Basic education is a foundation project for improving the quality of the Chinese nation, a cause for building moral character, and a fundamental and pioneering position in China's national education system, and the development of China's education is currently at a critical stage in building a high-quality education system. The core meaning of General Secretary Xi Jinping's important remarks on basic education is reflected in the "five salient points": highlighting the awareness of "Chinese people", highlighting the "five types of education", and highlighting the "fair and quality". The core elements of the statement are the awareness of "Chinese people", the "five education areas", "equity and quality", the "main responsibility of schools" and the "collaboration between families, schools and society".[1] As the main venue for basic education, schools need to play a leading role in basic education, imparting knowledge and providing a good school environment. This requires school leadership, especially headmasters, to implement national policies, improve their own execution, take on the responsibility of promoting basic education, and make decisions that meet the needs of future educational development.[2]

Against the backdrop of the growing importance of basic education, Nanning, the core city in the west facing the Association of Southeast Asian Nations, is making its way into education. Nanning's "Strong Capital" strategy

and the central task of "building the best place in Guangxi" are being promoted, Nanning has to comprehensively improve the level of education modernization and promote high-quality development of education. Therefore, Nanning City has prepared the "Nanning City Three-Year Action Plan to Implement Education Quality Revitalization Implementation Plan", focusing on the urgent issues facing the development of education and the hot issues of concern the people, focusing on improving the quality of education development, providing good education to the satisfaction of the people, and creating a "Quality Education Learning in Nanning City" brand.[3] As a major provider of basic education, the development and growth of public secondary schools are crucial to the improvement of regional education standards, and the above-mentioned development goals of Nanning City have placed higher demands on the execution of secondary school headmasters.[4]

Therefore, this project intends to supplement the existing research on the execution of the administrative and corporate sectors with research related to the execution of secondary school headmasters, using Nanning as an example, in order to improve the execution of secondary school headmasters.

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2 RESEARCH METHODOLOGY

2.1 Study sample

In terms of determining the exact sample size, about 150 questionnaires were proposed to be distributed based on the number of questionnaire items and the specificity of the research population. The final sample of 142 was obtained. Specifically, the academic consensus is that the sample size is between 5 and 10 times the total number of questions or the number of independent variable questions. For example, in his paper, Zhang Dongxu surveyed over 190 secondary school administrators as samples, which adhered to the above principle of the number of respondents. So 150 questionnaires were distributed in this study and 142 were validly returned, it exceeded the number of independent variable questions (17) by a factor of five, which is in line with the needs of the research study. (N = 400, n = 142)

In terms of the selection of the sample, this study adopted the principle of cluster sampling. Firstly, the six municipal districts that are representative of the educational level of Nanning were selected as the sampling frame according to the characteristics of the public secondary schools, and each school was numbered, followed by a random number table method to select six public secondary schools from each municipal district.[5]

2.2 Research tools

For data collection, use a questionnaire survey, the target population was the principals of public secondary schools in Nanning. The questionnaire consisted of three main parts, namely the Basic Information Questionnaire, the Social Support Scale, and the headmaster's Executive Scale. The basic information questionnaire was designed to understand the basic profile of secondary school headmasters as relevant information for the study.[6]

The social support scale was adopted from the social support scale in the master's thesis of Taiwanese scholar Lai Yuk-wah, the scale was revised using the original dimensions and questions and a change in language presentation for localization. The dimensions of the social support scale are emotional support, informational support, and instrumental support.[7]

This questionnaire is based on a thorough analysis of the literature and the researcher's management experience and adds "adaptability" to the original five components of execution. The questionnaire is based on a thorough analysis of the literature and the researcher's management experience. The scale measures headmasters' execution in six main dimensions: comprehension, decision-making, command, coordination, adaptability, and innovation.

From three expert analysts, the questionnaire IOC value is 0.67-1.00, The alpha coefficient of the overall questionnaire was 0.929, which is a high level of reliability and meets the requirements of the study.

3 STATISTICAL ANALYSIS

This study used SPSS 23.0 to conduct a statistical analysis of the data. The specific statistical analysis process was as follows: Firstly, SPSS 23.0 was used to conduct the reliability test and covariance analysis of the questionnaire. Secondly, descriptive statistical analysis and correlation analysis were carried out. Finally, hypothesis testing was conducted using hierarchical regression analysis.[8]

4 STUDY RESULTS

In terms of descriptive analysis, spss23.0 software was used to analyze descriptive statistics-description. According to the descriptive statistics in Table 1 below, the gender distribution of public secondary school headmasters in this study was relatively even, with 73 males (51.4%) and 69 females (48.6%). The number of headmasters and vice headmasters was also balanced in terms of title, with 69 and 73 respectively. In terms of age, they are mainly concentrated in the age groups of 40-49 and 50-59, accounting for 37.3 percent and 29.6 percent respectively, with only 12 people aged 20-29, accounting for the least number. In terms of education, the level of education is mainly concentrated in university and master's degrees and above, with 110 people with university degrees, accounting for 77.5%, and 32 people with master's degrees and above, accounting for 9.8%. In terms of working years, the main range was 11-20 years, with 52 people (36.6%), while the other four working years were more evenly distributed.

Table 1 Descriptive statistics of the sample

Background information	Category	Frequency	Percent
Gender	Male	73	51.4
	Female	69	48.6
Title	Headmaster	69	51.4
	Vice Headmaster	73	48.6
Age	20-29 years old	12	8.5
	30-39 years	21	14.8
	40-49 years	53	37.3
	50-59 years	42	29.6
	60 years and above	14	9.8
Education level	Lower secondary and below	0	0
	High School	0	0
	University	110	77.5
	Master and above	32	22.5
Years of work	1-5 years	16	11.3
	6-10 years	22	15.5
	11-20 years	52	36.6
	21-30 years	29	20.4
	31 years and above	23	16.2

In terms of correlation analysis, the means and correlations between the variables are shown in Table 2. Firstly, in the dimensions of social support and execution,

it can be seen that public secondary school headmasters receive relatively high levels of emotional and instrumental support, with mean values of 4.03 and 4.04, and the least informational support, at 3.71. In terms of execution, adaptability is the strongest, with a mean value of 3.92, while innovation is relatively low, with a mean value of 3.73. In addition, the correlation between social support and the execution of secondary school headmasters is significant and positive, with a coefficient of 0.69, close to 0.7, which is a strong positive correlation.

Specifically for each dimension, emotional, informational, and instrumental support all showed significant positive correlations with execution, with emotional support having the highest correlation. In terms of the dimensions of execution, all three dimensions of social support showed significant positive correlations with different dimensions of execution. The above correlation tests provide a preliminary basis for subsequent hypothesis testing.[9]

Table 2 Correlation analysis of the variables

Variables	Average value	1	2	3	4	5	6	7	8	9	10	11
Emotional support	4.03	1										
Informative support	3.71	0.27**	1									
Instrumental support	4.04	0.41**	0.27**	1								
Comprehension	3.65	0.29**	0.42**	0.27**	1							
Decision-making	3.62	0.42**	0.24**	0.32**	0.29**	1						
Command	3.79	0.29**	0.24**	0.37**	0.36**	0.27**	1					
Coordination	3.89	0.45**	0.27**	0.37**	0.29**	0.33**	0.21*	1				
Adaptability	3.96	0.42**	0.51**	0.48**	0.52**	0.49**	0.49**	0.47**	1			
Innovation	3.73	0.32**	0.35**	0.26**	0.27**	0.26**	0.20*	0.31**	0.44**	1		
Social support	3.92	0.72**	0.73**	0.77**	0.45**	0.43**	0.41**	0.48**	0.64**	0.42**	1	
Execution	3.78	0.54**	0.49**	0.51**	0.68**	0.66**	0.63**	0.63**	0.84**	0.61**	0.69**	1

** Significant correlation at 0.01 level (two-tailed).

* Significant correlation at 0.05 level (two-tailed).

4.1 Common method bias test

The Harman one-way test was used in this study to test for common method bias. The results showed that the unrotated first factor explained only 25.3% of the total variance, which did not exceed 40% of the total variance explained, so it can be concluded that there is no serious common variance problem in this study. In order to avoid serious multicollinearity problems, the variance inflation factor (VIF) test was conducted on all variables, and the VIF values of all variables were found to be less than 3. Thus, it can be seen that multicollinearity did not have a significant impact on the conclusions of this paper, and the construction of the model in the subsequent article was reasonable to a certain extent.[10]

In terms of reliability, this study used Cronbach's coefficient for reliability testing, and the overall Cronbach's alpha coefficient for the studied scale was 0.94. It is generally agreed in empirical studies that a Cronbach's alpha greater than 0.7 proves that the scale has good reliability, and therefore the scale meets the requirements. In addition, the specific subdivision of the

Social Support Scale and the Principal Executive Scale were analyzed, where Cronbach's alpha was 0.88 and 0.91 respectively, which met the requirements of the study. In terms of validity, while this study used scales that are widely recognized and used in empirical research both nationally and internationally, it also used well-established scales that have been refined by scholars and tested for reliability and validity, with high content validity. The KMO test and Bartlett's sphericity test were used to test the structural validity of the scales. The KMO value of the scales was 0.83 and greater than 0.8, and the significance of Bartlett's sphericity test was less than 0.001, which passed the test and the overall validity was high. In addition, the social support scale and the headmaster executive scale were analyzed, in which the KMO values were 0.88 and 0.86 respectively, and Bartlett's sphericity test was less than 0.001, passing the test with high validity and meeting the requirements of the follow-up study, enabling further analysis of the data.

4.2 Hypothesis testing

The correlation analysis met the initial requirements for modeling, and this paper further quantified the relationship between the different factors by constructing a linear regression equation. In the construction of the regression model, this study introduces the independent variable social support and the dependent variable headmaster execution, constructs a hypothesis between the two, and also subdivides social support to explore the deeper impact of the dimensions of social support on execution.

Based on the above design, the regression model of social support on headmasters' execution was constructed as follows:

$$Y(EXE) = \beta_0 + \beta_i X(SC) + \mu_i \quad (1)$$

$$Y(EXE) = \beta_0 + \beta_1 X(SC-ES) + \beta_2 X(SC-IS) + \beta_3 X(SC-PS) + \mu_i \quad (2)$$

In the model, $Y(EXE)$ represents the level of headmasters' execution, β_0 represents the constant term, β_i represents the regression coefficient of the independent variable, and $X(SC)$ represents the independent variable social support (including emotional support-SC-ES, informational support-SC-IS, instrumental support-SC-PS). Model 1, after controlling for relevant variables, considers the impact of social support as a whole on headmasters' execution; Model 2 based on Model 1 and after controlling for relevant variables, breaks down social support to explore the impact of each dimension of social support on headmasters' execution. The analyses in this study were all conducted using SPSS.23.0 software.

Table 3 Regression tests of social support and headmasters' execution

Variables		Model 1		Model 2	
		β	t	β	t
Constants	β_0	1.33	2.95**	1.42	3.11**
Control variables	Gender	-0.08	-1.10	-0.09	-1.20
	Title	-0.04	-0.47	-0.04	-0.49
	Age	-0.02	-0.26	-0.02	-0.27
	Education level	-0.05	-0.50	-0.08	-0.81
	Years of work	0.07	1.00	0.07	1.03
Independent variable	Social support	0.67	11.00**		
	Emotional support			0.26	5.03**
	Informative support			0.22	4.91**
	Instrumental support			0.19	3.63**
R2			0.50		0.51
adjR2			0.48		0.48
F			22.53**		17.11**

** Significant correlation at 0.01 level (two-tailed).

* Significant correlation at 0.05 level (two-tailed).

In this study, regression analysis was conducted between social support and headmasters' execution, and the results of the hypothesis testing are shown in Table 3. In terms of Model 1, it was shown that there was a significant positive effect of the level of social support on headmasters' execution, validating the Hypothesis that there is a significant positive effect of social support on headmasters' execution in public secondary schools. In detail, the regression model was built with a coefficient of 0.67, meaning that for every 1 unit increase in the level of social support, the level of headmasters' execution would increase by 0.67. Specifically, the following Model 1 can be constructed.

$$Y(EXE) = 1.33 + 0.67X(SC) \quad (3)$$

The test of hypothesis shows that there is a significant regression relationship between social support and headmasters' execution. In this paper, we will further dig

deeper into the mechanism of action behind the relationship, and divide the dimensions of social support and headmasters' execution to see the paths of action between the different dimensions.

Focusing on the dimensions of social support, the regression models of emotional support, informational support, instrumental support, and headmasters' execution were constructed, and it was found that all social support dimensions had a significant positive impact on headmasters' execution, with coefficients of 0.26, 0.22 and 0.19 respectively. increased by 0.26 units. Informational support and instrumental support had a smaller impact, with each unit increase increasing the headmaster's level of execution by only 0.22 and 0.19 units. The following model can be conceptualized.

$$Y(EXE) = 1.42 + 0.26X(SC-ES) + 0.22X(SC-IS) + 0.19X(SC-PS) \quad (4)$$

Table 4 Regression tests of the dimensions of social support on the dimensions of execution

Variables	Comprehension	Decision-making	Command	Coordination	Adaptability	Innovation
	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8

		β	β	β	β	β	β
Constants	β_0	0.24	1.16	2.03*	0.97	1.07	3.04**
Control variables	Gender	-0.14	-0.06	-0.23	0.02	-0.09	-0.04
	Title	-0.08	0.15	0.07	0.15	-0.21	0.30*
	Age	-0.04	-0.09	0.09	0.02	0.01	-0.11
	Education level	0.26	-0.14	-0.16	0.02	-0.07	0.36*
	Years of work	0.17	0.12	0.01	-0.02	0.04	0.09
Independent variable	Emotional support	0.15	0.40**	0.17	0.34**	0.22*	0.28
	Informative support	0.37**	0.11	0.11	0.12	0.36**	0.27**
	Instrumental support	0.12	0.16	0.27**	0.20*	0.29**	0.08**
R2		0.27	0.23	0.21	0.26	0.44	0.24
adjR2		0.23	0.18	0.17	0.22	0.40	0.19
F		6.28**	4.86**	4.54**	5.96**	12.87**	5.23**

** Significant correlation at 0.01 level (two-tailed).

* Significant correlation at 0.05 level (two-tailed).

In terms of the dimensions of execution, the impact of the dimensions of social support on headmasters' execution varies. Emotional support had a significant positive impact on decision-making, coordination, and adaptability with coefficients of 0.40, 0.34, and 0.22 respectively; informational support had a significant positive impact on comprehension, adaptability, and innovation with coefficients of 0.37, 0.36, and 0.27 respectively; instrumental support had a significant impact on command, coordination, adaptability and innovation with The coefficients were 0.27, 0.20, 0.29 and 0.08 respectively. The above results show that different dimensions of social support have different effects on different dimensions of headmasters' execution, which makes this study more relevant. The previous review of the national and international literature suggests that adaptability and innovation are of great importance at this time, so this paper continues to explore how much different dimensions of social support have an impact when adaptability and innovation are used as dependent variables. Focusing on the dimension of adaptability, we find that emotional, informational, and instrumental support all have a significant positive relationship, with informational support having the largest coefficient of 0.36, implying that informational support has the largest impact on adaptability, with each unit increase in informational support being associated with a 0.36 unit increase in adaptability. Focusing on the dimension of innovation, both informational and instrumental support had a significant positive impact, with informational support having the greatest impact compared to instrumental support, with a regression coefficient of 0.27, meaning that for every unit increase in informational support, there was a 0.27 unit increase in strain, while emotional support had no significant impact on innovation. See Table 4 for details.

5 CONCLUSION

The above study yields three main conclusions that shed light on the relationship between social support and headmasters' execution.

Firstly, the study establishes a positive and significant association between social support and headmasters' execution at a broader level. It demonstrates that an increase in social support leads to an improvement in headmasters' execution. Secondly, the study delves into the different dimensions of social support, namely emotional support, informational support, and instrumental support, to uncover their mechanisms in influencing headmasters' execution. Among them, emotional support exerted the most substantial impact on the execution of public secondary school headmasters. Thirdly, when examining headmasters' execution from various dimensions, the study reveals that emotional support, informational support, and instrumental support exhibit distinct effects on different facets of execution. All three dimensions significantly and positively influenced adaptability, with informational support demonstrating the largest regression coefficient and the greatest impact on adaptability. In terms of innovation, both informational and instrumental support displayed significant positive effects, whereas emotional support did not have a significant influence.

These conclusions underscore the importance of social support, particularly emotional support, in improving headmasters' execution. They also highlight the varying effects of different dimensions of social support on specific aspects of execution, such as adaptability and innovation. By recognizing and harnessing the power of social support, educational institutions can create an environment that fosters effective leadership and promotes positive outcomes in school management.

6 RECOMMENDATIONS

Based on the results of the data analysis, it is evident that social support has a significant positive impact on headmasters' execution. However, different dimensions of social support have varying effects on different aspects of execution. This paper provides guidelines to enhance headmasters' execution by utilizing relevant data, considering the real situation, and aligning with national policies.[11]

Firstly, multiple sources of information support should be provided to aid comprehension and innovation. Informational support has a substantial influence on headmasters' innovation abilities. Headmasters should actively seek information from external sources, such as the Internet, to stay updated on campus development and curriculum education. They should be open to new ideas and gather feedback from others through face-to-face interactions, meetings, or anonymous suggestions. Teachers and students should also contribute innovative ideas and suggestions for school development, fostering an atmosphere that encourages active participation and diverse perspectives.

Additionally, informational support positively affects headmasters' comprehension. Higher-level education authorities can disseminate guidelines and provide explanatory documents to facilitate headmasters' understanding of policies. Local education authorities can establish regional campus alliances and cooperation forums to enhance communication and information exchange among schools. Subordinates should offer feedback on the implementation of policies to help headmasters identify areas for improvement and adjust their strategies accordingly.

Secondly, building intimate relationships helps alleviate negative emotions. Emotional support, which can be obtained from family members, superiors, and subordinates, has the most significant impact on headmasters' performance. Family members should develop closer relationships with headmasters and provide understanding, support, and assistance in managing work-related difficulties. Teachers in the school can offer guidance and support, fostering the headmaster's confidence in their management abilities. Constructive feedback should be provided to address any issues promptly, improving the headmaster's executive skills.

Thirdly, gathering intellectual consensus and coordinating the interests of all parties is crucial. A headmaster's think tank can be established within the school, consisting of teachers from different disciplines. The think tank can provide diverse perspectives and help the headmaster gain a deeper understanding of issues and enhance implementation capacity. Parent think-tanks can also be created to evaluate policies from a parental standpoint. Evaluation and feedback mechanisms should be established to assess policy decisions and identify areas for improvement.

Fourth, headmasters should proactively seek opportunities to learn from the best practices and experiences of others. They should engage in communication and exchanges with headmasters from

other schools to acquire valuable insights. Analyzing successful cases and identifying shortcomings in other schools' governance and policy implementation can help improve the headmaster's own emergency response capabilities and facilitate better contingency planning.

Lastly, strengthening the school's culture and shaping a common vision is vital. Executive culture is rooted in a shared vision embraced by all members of the school. Headmasters should focus on building a school culture that garners strong support and encourages collaboration among teachers, students, and parents. Utilizing various platforms, including the Internet, can facilitate the creation of a campus culture with educational, humanistic, and local characteristics. Cultural differences should be respected and integrated, creating a harmonious and diverse cultural atmosphere that motivates individuals to take appropriate actions.

Overall, by implementing these guidelines, headmasters can improve their execution capabilities and contribute to the effective implementation of policies and the development of their schools.

7 CONTRIBUTION

Theoretical contributions: First, previous studies on principals' executive power have mainly stratified executive power in terms of understanding, decision-making, command, and coordination. Based on the reality, this paper puts forward new requirements for principals in the post-epidemic era. On this basis, this paper introduces emergency capability in the measurement of executive ability, which enriches the theory and measurement dimensions of executive ability and is more in line with the needs of the times. Secondly, this paper introduces social support theory and other in-depth discussions on principals' executive ability and the development of principals' personal ability from the perspective of psychology, which is of great significance and value in improving the theoretical system of interdisciplinary disciplines such as educational leadership and management psychology.

Practical contributions. First, through the field survey of public secondary school principals in Nanning, the raw data collected are more relevant and the suggestions from the perspective of social support are more adaptable for use in practice. Second, for individual principals, it is conducive to their self-assessment of their implementation level, helping them to position themselves, make up for their competence deficiencies in a timely manner, and improve their implementation level. Third, the in-depth discussion of adaptability and innovation is in line with the current reality in China, which is the biggest and most urgent issue facing secondary schools and the main direction for their future development.

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