

Study on Psychological Capital and Work Engagement of Primary and Secondary School Teachers

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Abstract:

In order to understand the situation of psychological capital and work engagement of primary and secondary school teachers in north Guangdong, and to explore the relationship between them, Utrecht work engagement scale and psychological capital scale for primary and secondary school teachers were used among 601 primary and secondary school teachers in Northern Guangdong. The results are as follows: (1) The overall level of psychological capital of primary and secondary school teachers in North Guangdong is relatively high. (2) The work engagement of primary and secondary school teachers in North Guangdong is above the medium level. The work engagement of teachers varies with the influence of academic qualifications and teaching years. (3) Teachers' psychological capital level can be raised to increase their work engagement.

Keywords: *Primary and secondary school, Teacher, Psychological capital, Work engagement.*

I. INTRODUCTION

Work engagement is a positive emotional and cognitive state related to work, which includes three dimensions: vitality, dedication and focus [1]. Research has shown that work engagement has a significant positive impact on individual's work performance and related work attitudes and behaviors [2], it also has a significant positive impact on the group performance of the organization [3]. Teachers' work engagement refers to teachers' active attitude and love for their own work [4]. The level of teachers' work engagement not only affects

their professional growth and quality of life, but also affects students' academic performance and psychological development, as well as the quality of education and teaching.

Psychological capital is a kind of positive psychological state in the process of individual's growth and development [5]. Studies on teachers' work engagement show that teachers' psychological capital is an important factor affecting their work engagement. The improvement of teachers' work engagement can bring better work performance to individuals and organizations, and improve education quality and social progress.

Study has shown that job burnout and turnover intention of primary and secondary school teachers are serious in economically backward areas [6]. Northern Guangdong is a relatively backward mountainous area in Guangdong Province. Due to the particularity of living environment and working conditions, the work engagement of primary and secondary school teachers is worthy of attention. The purpose of this study is to investigate the psychological capital and work engagement of primary and secondary school teachers in northern Guangdong, to understand the status quo them, and to explore the characteristics of psychological capital and work engagement from the perspective of demographic variables, find out the impact of psychological capital on work engagement, and put forward corresponding strategies accordingly.

II. RESEARCH OBJECTS AND METHODS

2.1 Research Object

The subjects were primary and middle school teachers in Northern Guangdong. Part of the questionnaires were distributed with online questionnaires. 524 questionnaires were received. 15 invalid questionnaires were excluded. 514 valid questionnaires were valid. The validity rate of the questionnaire was 98%. A part of the primary and secondary school teacher training classes were surveyed with paper questionnaires. 100 copies were distributed, 95 copies were returned, 87 valid questionnaires, and the effective return rate was 87%. There are a total of 601 valid questionnaires, and the sample distribution is as follows: 197 males and 404 females; 119 persons with college degree or below, 429 persons with bachelor's degree, 32 persons with master's degree; 136 persons with teaching age under 5 years, 184 persons with 6-10 years, 160 persons with 11-20 years, 121 people over 21 years; 165 in elementary school, 281 in junior high school, and 155 in high school.

2.2 Research Tools

Psychological Capital Scale. *The Psychological Capital Scale of Primary and Secondary School Teachers*[7] compiled by Zhang Wen is a scale compiled based on Chinese cultural background, which is more suitable for this research. The scale has 19 questions, including four dimensions: self-confidence (4 items), hope (4 items), optimism (5 items), and resilience (6 items). The scale uses a Likert 6-point scoring (from 1-6 to indicate never completely disagree, disagree, a little disagree, a little agree, agree, totally agree). The internal consistency reliability coefficient of each dimension is between 0.622-0.795, and the split-half reliability coefficient is between 0.567-0.823; the overall internal consistency reliability coefficient of the scale is 0.822, and the split-half reliability coefficient is 0.711, indicating that The scale has good reliability.

Work engagement scale. The Chinese version of "*Utrecht Work Engagement Scale*"[8] revised by Zhang Yiwen and Gan Yiqun is adopted. There are 17 questions in total, including 3 dimensions of vitality (6 items), dedication (4 items) and focus (5 items). The scale uses a Likert 7-point scoring (0-6 indicate never, hardly, rarely, sometimes, often, very frequently, and always). The higher the score, the higher the level of work engagement. The internal consistency reliability coefficient of each dimension is between 0.735-0.767, and the overall internal consistency reliability coefficient of the scale is about 0.9. In this study, the internal consistency reliability coefficient is 0.913, which has good reliability.

2.3 Statistical Methods

In this study, SPSS 22.0 was used for statistical analysis of the research data.

III. RESEARCH RESULTS AND ANALYSIS

3.1 The Characteristics of Psychological Capital of Teachers in North Guangdong Primary and Secondary Schools

3.1.1 General Characteristics

The psychological capital scale is 6 points (1-6), with a median value of 3.5. The results show that the total average psychological capital of the surveyed primary and secondary school teachers in northern Guangdong is 4.40, and the average scores of the sub-dimensions of confidence, hope, optimism, and resilience are 4.56, 4.52, 4.07, 4.48 respectively, which are all higher than the median. It means that its psychological capital level is in the upper middle level. The scores of each sub-dimension from high to low are:

self-confidence>hope>resilience>optimism; among them, the level of optimism is significantly lower than the other three dimensions.

3.1.2 The Individual Characteristics of the Psychological Capital of the Primary and Middle School Teachers in North Guangdong

It is found that there are significant differences in the psychological capital of primary and secondary school teachers of different genders, educational backgrounds, teaching ages, and stages ($p < 0.05$). The specific performance is as follows: (1) The total average score of male teachers' psychological capital is significantly higher than that of female teachers, and the same to the score of confidence and resilience. (2) The total average score of psychological capital of teachers with postgraduate education is significantly higher than that of teachers with undergraduate and junior college education. In terms of self-confidence and resilience, the average scores of teachers with postgraduate and undergraduate education are significantly higher than those with academic qualifications. As a college teacher. (3) Teachers with a teaching age of less than 5 years and 6-10 years have a significantly higher hope score than teachers with a teaching age of 21 years or more. The average score of resilience of teachers with a teaching age of 21 years or more is significantly higher than that of teachers of other age groups. (4) The self-confidence scores of primary school teachers are significantly higher than those of junior high school and high school teachers.

3.2 Characteristics of Work Engagement of Teachers in North Guangdong Primary and Secondary Schools

3.2.1 The Overall Characteristics

The work engagement scale is 7 points (0-6), with a median value of 3. The total average work engagement of teachers in North Guangdong primary and secondary schools is 3.97. It can be considered that the work engagement level of primary and secondary schools teachers in North Guangdong is above average; the average scores of the three sub-dimensions of dedication and focus are: 3.91, 4.10, and 1.90, which are all greater than the median value of 3, which is at the upper-middle level. The scores of each sub-dimension of the work engagement scale are ranked from high to low: dedication> vitality> focus.

TABLE I. Difference test of work engagement on demographic variables

Variable	Category	Confidence	Hope	Optimism	Resilience	Psychological Capital
gender	Male	4.69±0.66	4.46±0.69	4.09±0.81	4.61±0.68	4.51±0.59
	Female	4.34±0.75	4.56±0.68	4.05±0.78	4.35±0.70	4.29±0.66
	t	5.20**	-1.49	0.51	3.88**	3.01*
education	College degree and below	4.40±0.60	4.41±0.67	3.96±0.70	4.32±0.63	4.19±0.65
	Undergraduate	4.59±0.62	4.52±0.66	4.09±0.69	4.47±0.61	4.38±0.63
	master's degree	4.69±0.64	4.63±0.65	4.16±0.65	4.68±0.64	4.59±0.67
	F	3.88*	-1.28	1.57	3.19*	4.31*
Teaching age	5 year and below	4.48±0.64	4.62±0.67	4.25±0.82	4.30±0.64	4.31±0.65
	6-10year	4.51±0.68	4.58±0.66	4.12±0.72	4.49±0.75	4.39±0.74
	11-20year	4.59±0.65	4.570±0.62	3.88±0.82	4.55±0.68	4.40±0.68
	20year and above	4.66±0.59	4.39±0.71	4.08±0.74	4.58±0.69	4.50±0.62
	F	0.91	3.25*	2.15	4.65**	2.01
school section	primary school	4.69±0.68	4.63±0.65	4.13±0.68	4.57±0.64	4.50±0.69
	junior high school	4.53±0.64	4.52±0.66	4.11±0.65	4.47±0.68	4.38±0.73
	high school	4.45±0.63	4.41±0.67	3.97±0.72	4.43±0.65	4.32±0.67
	F	3.61*	1.68	2.21	1.49	2.16

3.2.2 Individual Characteristics

The work engagement of teachers in North Guangdong primary and secondary schools has the following characteristics: (1) Gender and educational background have no significant influence on work engagement. (2) The vitality level of teachers with a teaching age of less than

5 years is significantly higher than that of teachers with a teaching age of 6-10 years and 11-20 years. There is no significant difference between other teaching ages. (3) The dedication and concentration level of elementary school teachers is significantly higher than that of junior high school and high school teachers, and there is no significant difference between junior high school and high school teachers.

TABLE II. The difference test of work engagement on demographic variables

Variable	Category	Vitality	dedication	focust	work engagement
Teaching age	5 year and below	3.88±0.66	4.17±0.67	3.79±0.72	3.94±0.64
	6-10year	3.83±0.68	3.98±0.66	3.81±0.69	3.91±0.66
	11-20year	3.95±0.71	4.00±0.62	3.94±0.73	3.96±0.70
	20year and above	4.02±0.78	4.06±0.63	4.01±0.73	4.04±0.69
	F	2.18	3.80*	2.88	1.14
school section	primary school	3.75±0.67	4.22±0.67	4.04±0.73	4.00±0.67
	junior high school	3.88±0.71	4.09±0.75	3.92±0.64	3.89±0.70
	high school	4.19±0.73	3.99±0.69	3.82±0.68	4.02±0.73
	F	2.17	3.59*	3.58*	1.89

3.3 Correlation Analysis of Psychological Capital and Work Engagement

It can be seen from TABLE III that the psychological capital and its sub-dimensions of primary and middle school teachers in northern Guangdong are significantly positively correlated with their work engagement and their sub-dimensions. This indicates that the higher the teacher's psychological capital level, the higher the work engagement level.

TABLE III. Correlation analysis results of psychological capital and work engagement

	Vitality	dedication	focust	work engagement
confidence	0.42**	0.43**	0.41**	0.44**
hope	0.49**	0.56**	0.47**	0.53**
optimism	0.40**	0.43**	0.34**	0.41**
toughness	0.46**	0.50**	0.45**	0.49**
Psychological capital	0.53**	0.57**	0.50**	0.56**

3.4 Regression Analysis of Psychological Capital and Work Engagement

It can be seen from TABLE IV that the determination coefficient R^2 of psychological capital is 0.32, indicating that psychological capital in primary and secondary schools can explain 32% of the total variability of work engagement, and the fit is good. The standardized coefficient β is 0.54, indicating that this effect is positive, that is, psychological capital can positively predict work engagement.

TABLE IV. Regression analysis of psychological capital of primary and secondary school teachers to work engagement

Dependent variable	Entry factor	R	R2	Unstandardized β	Standardized β	F	t	P
Work engagement	Psychological capital	0.56	0.32	0.56	0.54	221.25**	10.39**	0.00
	confidence	0.57	0.31	0.13	0.13	80.34**	2.67**	0.01
	hope			0.32	0.30		5.26**	0.00

	toughness			0.18	0.17		2.97**	0.00
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Then, using the four dimensions of psychological capital as predictors and work engagement as dependent variables, the regression analysis is carried out using a stepwise regression method. The three variables of hope, resilience and confidence entered into the regression model, optimism did not enter the equation. The adjusted R^2 is 0.31, indicating that the regression model established by the three variables of hope, resilience, and self-confidence can explain 31% of the total variation in work engagement. The β of hope, resilience, and self-confidence dimensions on work engagement are 0.30, 0.17, and 0.13, respectively, indicating that the hope, resilience, and self-confidence dimensions have a positive predictive effect on work engagement.

The results show that the psychological capital of teachers can predict work engagement. Hope is the psychological variable that has the greatest effect on work engagement, followed by resilience, and then self-confidence. It means that the psychological capital, hope, resilience, and self-confidence of primary and secondary school teachers, especially the improvement of their hope level, play an important role in the improvement of their level of work engagement.

IV. DISCUSSION

4.1 Characteristics of Teachers' Psychological Capital in North Guangdong Primary and Middle Schools

The results show that the level of psychological capital of teachers in North Guangdong primary and secondary schools is above average. This is similar to the results of Zhang Wen [7]. This shows that although the working conditions of primary and middle school teachers in Northern Guangdong are not as good as those in economically developed areas, they can still maintain a positive mental state in their work, believing that they can complete the teaching tasks. Difficulties can be solved actively and hope for the future. The scores of the four sub-dimensions of psychological capital are from high to low: self-confidence>hope>resilience>optimism. The scores of optimism are relatively low, indicating that the optimism of teachers in North Guangdong primary and secondary schools is weaker than other psychological capital dimensions. This may have something to do with the difficult working conditions.

It was found that the total average mental capital of male teachers is significantly higher than that of female teachers, which is mainly manifested in the two dimensions of self-confidence and resilience. This shows that male teachers are more confident that they can successfully complete challenging teaching tasks than female teachers in teaching work, and can withstand pressure when they encounter difficulties in teaching, and actively take effective methods to complete teaching tasks. This may be related to the role that men assume in work, or it may be related to the lack of male teachers in primary and secondary schools.

It was found that the total average score of psychological capital of teachers with postgraduate education is significantly higher than that of teachers with undergraduate and junior college education, which is mainly manifested in the two dimensions of confidence and resilience. This shows that higher academic qualifications give graduate teachers higher confidence and greater resilience to deal with teaching work. This is consistent with Snyder's that "education will affect the state of mental capital"[9].

It was found that the hope scores of teachers with a teaching age of less than 5 years and 6-10 years are significantly higher than those of teachers over 21 years, and the average score of resilience of teachers over 21 years is significantly higher than that of teachers of other age groups. This shows that the teacher's psychological capital level will not increase or decrease as the teaching age increases, but will change in different aspects. It is hoped that it will decrease as the teaching age increases, and the resilience will increase as the teaching age increases. .

It was found that the level of self-confidence of primary school teachers is significantly higher than that of middle school and high school teachers. This is consistent with the findings of Wu Weijiong [10]. This may be related to the age characteristics of the educational objects and the different requirements of corresponding educational activities. Compared with junior high school students and high school students, the parental and teacher-oriented nature of elementary school students is much higher. They are more likely to rely on and trust the teacher, and have a closer relationship with the teacher. At the same time, the educational work of elementary school has more interpersonal and emotional interaction, and the teaching tasks are relatively few and simpler, so teachers can be better qualified.

4.2 The Characteristics of Teachers' Work Engagement in Primary and Secondary Schools in North Guangdong

It was found that the work engagement of teachers in North Guangdong primary and secondary schools is at the upper-middle level. This result is consistent with the research results of Zhu Bo [11], Li Ting's [12]. Compared with other areas in Guangdong, the economy of

northern Guangdong is underdeveloped, but the local government and education departments attach great importance to basic education. In addition, parents and schools pay more attention to the enrollment rate of students. At the same time, they are regarded as hardworking gardeners and engineers of the human soul. These stimulate teachers' responsibility, so that teachers can still maintain high enthusiasm for work and devote themselves to work under relatively difficult conditions. But in general, there is still a lot of room for improvement in the level of work engagement of primary and middle school teachers in northern Guangdong. The sub-dimension scores of work engagement are ranked from high to low in order: dedication > vitality > focus. This shows that dedication plays the most important role in the work engagement of teachers in North Guangdong primary and secondary schools, and also shows the lofty nature of the profession of teachers.

Research shows that gender and academic qualifications do not have a significant impact on work engagement, which is inconsistent with Li Ting's [12] research conclusions, it may be caused by different research tools. The study also found that the vitality level of teachers with a teaching age of less than 5 years was significantly higher than that of teachers with a teaching age of 6-10 years and 11-20 years, indicating that teachers were passionate and energetic in teaching in the first few years of their work. This reminds education administrators to pay attention to taking measures to keep teachers' teaching vitality after entering the job, while enhancing their dedication and focus. The study also found that the level of dedication and concentration of elementary school teachers was significantly higher than that of junior and high school teachers. It shows that the teachers of elementary school recognize the meaning of their work more than the teachers of middle and high school, and feel very proud, so they show great enthusiasm and confidence in their work; at the same time, they also spend more happily at work. This is also related to the educational objects they face.

4.3 The Relationship between Psychological Capital and Work Engagement

The results of the correlation analysis found that the psychological capital of teachers in North Guangdong primary and secondary schools is positively correlated with their work engagement, and the sub-dimensions of the two factors are also positively correlated with each other. Further regression analysis found that psychological capital can positively predict work engagement, and hope, optimism, and resilience are important psychological factors for predicting work engagement. This shows that to improve the work engagement of teachers in North Guangdong primary and secondary schools, it can be achieved by improving their psychological capital level.

Education managers can increase teachers' self-confidence through reasonable allocation of teaching tasks, positive feedback on work results, and promotion of teachers' status and remuneration. They can help teachers establish hope by encouraging advanced, appropriate decentralization, encouraging teachers to reflect on themselves, and setting reasonable goals. Active attribution training cultivates teachers' optimism, and strengthens teachers' resilience by caring for teachers to provide social support and provide various opportunities to temper their will. After measures in this area, teachers' psychological capital has been enhanced, thereby better enhancing their level of work engagement.

V. CONCLUSION

Through the above analysis and discussion, the following conclusions can be drawn:

(1) The overall level of psychological capital of teachers in North Guangdong primary and secondary schools is relatively high, and the level of psychological capital of teachers is different due to the influence of individual characteristics such as gender, educational background, and grade. In the future, attention should be paid to improving the psychological capital level of female teachers, teachers with low academic qualifications, and high school teachers, especially self-confidence and resilience.

(2) The work engagement of teachers in North Guangdong primary and middle schools is at the upper-middle level, and the work engagement of teachers varies with the influence of educational background and teaching age. It is necessary to pay attention to maintaining the vitality of teachers after entering the job and to improve their dedication and focus, and to increase the level of work engagement of high school teachers.

(3) There is a significant positive correlation between psychological capital and work engagement of teachers in North Guangdong primary and middle schools, and psychological capital can positively predict the level of work engagement. It is possible to increase work engagement by improving the level of psychological capital of primary and secondary school teachers, and ultimately benefit primary and secondary school students and basic education.

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