

# Vocational College Teachers' Professional Identity and Its Relationship with Social Support and Sense of Efficacy

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## ABSTRACT

An empirical research was conducted on 822 teachers from 10 vocational colleges in Jiangsu Province investigated through self-designed and revised questionnaires. Teachers have the highest professional identity in professional behavior and the lowest in professional reputation. There is a significant positive correlation between social support and professional identity, as well as professional identity and personal teaching efficacy, while there is no significant correlation between general teaching efficacy and other variables. Social support has a direct and positive predictive power to professional identity, so as professional identity to personal teaching efficiency. Social support has an indirect positive predictive power to personal teaching efficacy, in which professional identity plays a completely intermediary role. The construction of social support system from the personal and environmental aspects can promote the sense of professional identity and teaching efficacy, which ultimately benefits the personnel training in vocational colleges.

**Keywords:** vocational college teachers, professional identity, social support, teachers' sense of efficacy, structural equation modeling

## 1. INTRODUCTION

Education has always been the key to the revitalization of a nation and the teachers have always been the key to the revitalization of education, while teachers' sense of professional identity is the psychological basis of fulfilling their duties. Identity is the core concept of studying human being's psychological development and social behavior. It is generally believed that the professional identity of teachers is a combination of positive cognition evaluation, emotion experience, will performance and action commitment to the professional traits and social environment (Beijaard *et al.* 2000, 2004)<sup>[1][2]</sup>. It has several qualities such as multi-structural, dynamic and behavior oriented etc. (Akkerman and Meijer 2011)<sup>[3]</sup>. Many researches have indicated that personal and environmental factors have a direct impact on teachers' professional identity, while teachers' professional identity has a significant effect on working psychology and working behavior. Over the past ten years, many scholars have carried out preliminary research on the relationship between teachers'

professional identity and social support as well as teachers' sense of efficacy. However, those researches aren't quite enough, and the conclusions differ. At the same time, the researches do not involve teachers from vocational colleges.

Social support is the degree to which an individual is close to or supported by family members, relatives, friends, colleagues, and social groups. There are two orientations in the conceptual understanding of social support: one understanding is to regard social support as the objective support by material, society, and group, and the other understanding is to regard social support as a subjective experience when one is respected, understood, and supported. Xiao (1994)<sup>[4]</sup> proposed that social support should also include the individual's degree of utilization. A large number of studies have confirmed that social support is a protective factor for physical and mental health, but the mechanism of action is very complicated. It mainly includes two models: buffering model and main-effect model (Cohen and Will 1985)<sup>[5]</sup>. Reaches by Gao (2011)<sup>[6]</sup>, Pillen *et al.* (2013)<sup>[7]</sup>, Hu and Yin (2016)<sup>[8]</sup>, Zhang and Zhao (2016)<sup>[9]</sup>, Geng *et al.* (2017)<sup>[10]</sup> show that there is a close relationship between

social support and teachers' professional identity, and they may be mutually interpreted.

Bandura (1978)<sup>[11]</sup> argues that self-efficacy is an individual's subjective judgment of results and behavioral abilities. It includes outcome expectation and efficacy expectation. Outcome expectation is an individual's estimate of a particular outcome for a given behavior, and efficacy expectation is the individual's belief in the successful execution of the behavior which leads to a result. Influenced by Bandura theory, Gibson (1984)<sup>[12]</sup> and Woolfolk (1990)<sup>[13]</sup> gradually divided teacher efficacy into general teaching efficacy (GTE) and personal teaching efficacy (PTE). GTE is the teacher's general view of teaching function and value, and PTE is the subjective evaluation of teachers' teaching ability. Reaches by Sun (2011)<sup>[14]</sup>, Canrinus *et al.* (2012)<sup>[15]</sup>, Wagoner (2015)<sup>[16]</sup>, Zhang *et al.* (2017)<sup>[17]</sup>, Rozati (2017)<sup>[18]</sup>, Xu (2018)<sup>[19]</sup> show that teachers' professional identity is closely related to the teachers' sense of efficacy by predicting it.

Social support is the external guarantee for teachers' personal growth and career development. Professional identity is the internal acceptance of teachers' professional requirements and working environment. Teachers' sense of efficacy is the subjective judgment of teachers' teaching results and teaching ability. Although in theory, social support may have a positive effect on professional identity, and professional identity may have a regulating effect on teaching efficacy, in practice, there is very little research on the relationship and overall effect between the three concepts. At present, vocational education still faces social discrimination to a certain extent, and the social support received of teachers in vocational colleges may be little, which may have a negative impact on professional identity and teachers' sense of efficacy. Therefore, the research has certain values both on the theoretical level and on the practical level.

## 2. METHOD

### 2.1. Participants and Procedure

Based on stratified sampling, 869 teachers aged between 24 and 58 years ( $M = 37.7$ ,  $SD = 9.3$ ) from 10 vocational colleges in Jiangsu Province were selected as samples, and 10 tests were organized and conducted on school level between April and May 2018. Before the test, a "test procedures and notes" was prepared. All tests are using the same instruction. A total number of 869 questionnaires were distributed and 869 questionnaires were collected, with a recovery rate of 100%. 47 questionnaires are invalid, 822 questionnaires are valid, and the effective rate is 94.6%. Among the valid questionnaires, 348 are from male teachers, 474 are from female teachers. 585 are from full-time teachers, 237 are from non-full-time teachers. 492 are from science

teachers, and 330 are from liberal arts teachers.

## 2.2. Measures

### 2.2.1. Professional Identity Scale (PIS)

At present, there is no professional identity scale for teachers in vocational colleges in China. On the basis of literature review, semi-structured interview of teachers and expert consultation, this study preliminarily constructs the theoretical structure of teachers' professional identity in vocational colleges, tests and modifies it by questionnaires, item analysis, exploratory factor analysis and confirmatory factor analysis, and finally forms a research tool that meets the requirements of educational statistics (see Table 1). PIS consists of professional reputation, professional behavior, professional emotion, and professional value (FA1-FA4), totaling 16 items (A1-A16). Using Likert Self-Evaluation 5-point Scale, it is ranged from "very not-consistent" to "very consistent" and divided into 5 levels of which all items are positively scored. The Cronbach's  $\alpha$  reliability coefficient of each dimension is .695 - .799, the split-half reliability coefficient is .659 - .778, the Cronbach's  $\alpha$  reliability coefficient of the whole scale is .849, and the split-half reliability coefficient is .828. There is a moderately low correlation (.259 - .478) between the dimensions, and the correlation between each dimension and the whole score was moderately high (.638 - .805), and the criterion-related validity of the whole scale was .597. The confirmatory factor analysis fit index:  $\chi^2/df = 1.580$ , RMSEA = .044, GFI = .942, AGFI = .917, NFI = .906, IFI = .963, TLI = .953, CFI = .963.

### 2.2.2. Social Support Rating Scale (SSRS)

The scale is compiled and revised by Xiao (1994)<sup>[20]</sup>. It includes three dimensions, namely, objective support, subjective support, and utilization of support (FB1-FB3). There are three items in the first dimension, four items in the second dimension, and 3 three items in the third dimension, totaling 10 items. For items 1-4 and 8-10, selecting option 1, 2, 3, 4 will score 1, 2, 3, 4 points respectively. For item 5 which includes 5 sub-items, selecting option 1, 2, 3, 4 will score 1, 2, 3, 4 points respectively, then participants should add the points of each sub-item and get a total point. For items 6-7, selecting "no available source" will score 0 point. For participants who select "the following sources", the points will be scored by the amount of sources they list, one point for each source. All items are positively scored. In this research, the original scale is slightly revised based on exploratory factor analysis and confirmatory factor analysis. The revised SSRS retains 9 items (B1-B9) with strong explanatory factor. The Cronbach's  $\alpha$  reliability coefficient  $\alpha$  reliability coefficient of the objective support dimension is .807, the Cronbach's  $\alpha$  reliability coefficient of the subjective support dimension is .633,

and the Cronbach's  $\alpha$  reliability coefficient of the utilization of support dimension is .622. The Cronbach's  $\alpha$  reliability coefficient of the whole table is .784. The confirmatory factor analysis fit index:  $\chi^2/df = 1.278$ , RMSEA = .030, GFI = .979, AGFI = .960, NFI = .923, IFI = .982, TLI = .972, CFI = .981.

### 2.2.3. Teacher Efficacy Scale (TES)

The scale was originally compiled by Gibson and Dembo (1984)<sup>[21]</sup>, then revised by Woolfolk *et al.* (1990)<sup>[22]</sup> and Hoy and Woolfolk (1993)<sup>[23]</sup>. TES includes two sub-scales, namely, GTE and PTE (FC1-FC2). Each sub-scale has 5 items, totaling 10 items. The scale is

scored based on Likert 6-point Scale from "*strongly agree*" to "*strongly disagree*", divided into 6 levels, 5 items were scored in the reverse direction. In this research, the original scale is properly revised based on exploratory factor analysis and confirmatory factor analysis. The revised TES retains 9 items (C1–C9) with high factor loading. The Cronbach's  $\alpha$  reliability coefficient of GTE sub-scale is .774, The Cronbach's  $\alpha$  reliability coefficient of PTE sub-scale is .740, and the Cronbach's  $\alpha$  reliability coefficient of the whole scale is .705. The confirmatory factor analysis fit index:  $\chi^2/df = 1.324$ , RMSEA = .033, GFI = .978, AGFI = .957, NFI = .956, IFI = .989, TLI = .982, CFI = .989.

**Table 1.** The 16-Item Professional Identity Scale (PIS)

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1. I think the work of vocational college teachers is of great significance to the development of society.
  2. I will not change my job even if possible.
  3. I think the social status of vocational college teachers is higher than that of general occupations.
  4. I always try my best to solve the difficulties encountered in teaching work.
  5. I think working as a vocational college teacher can realize my ideal of life.
  6. I am proud to be a vocational college teacher in social interaction.
  7. I hope to earn respect from colleagues, students and their parents by working conscientiously and responsibly.
  8. I am very concerned about other people's talk about vocational college teachers.
  9. I always prepare for teaching in advance.
  10. I think vocational college teachers play an important role in the social division of labor.
  11. I care about how others view vocational college teachers as a social group.
  12. I pay attention to building and maintaining a good relationship with colleagues.
  13. I think vocational college teachers play an important role in promoting the development of related industries and enterprises.
  14. My work performance is very high.
  15. I am angry at the words and deeds of discriminate against vocational college teachers and students, as well as vocational education.
  16. I think the work of vocational college teachers is very important to promote the growth and development of students.
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Note: <sup>1</sup> Professional prestige: 3, 5, 6. Professional behavior: 4, 7, 9, 12, 14. Professional emotion: 2, 8, 11, 15. Professional value: 1, 10, 13, 16. <sup>2</sup> The authors permit free use of the scale for academic research only.

## 3. RESULTS

### 3.1. Overall Characteristics of Professional Identity

The theoretical mean of the total score of each dimension of PIS is 3 points. We calculated the average score and standard deviation of each dimension and total score respectively, and carried out one-sample t-test on the average score and theoretical mean of each dimension and total score, did paired-samples t-test on the average score of each dimension. The results show that the order of the average score of each dimension from high to low is: professional behavior > professional value >

professional emotion > professional reputation. The difference between the average score of each dimension and total score and the theoretical mean is extremely significant (each dimension, total score > theoretical mean,  $p < .001$ ) (see Table 2). The difference between the average scores of professional behavior dimension and other dimensions is extremely significant (professional behavior > other dimensions,  $p < .001$ ). The difference between the average scores of professional reputation dimension and other dimensions is extremely significant (occupational prestige < other dimensions,  $p < .001$ ) (see Table 3). It can be seen that teachers have a high degree of recognition of all dimensions of the profession overall, highest of professional behavior, and lowest of professional reputation.

**Table 2.** One-Sample t-Test on Average Score of PIS and Theoretical Mean

Variable	<i>M</i>	<i>SD</i>	<i>t</i>
1. professional reputation	3.64	.75	14.68***
2. professional behavior	4.65	.43	66.42***
3. professional emotion	4.04	.67	27.18***
4. professional value	4.24	.58	37.33***
5. total score	4.14	.45	43.85***

Note: N = 822. + p < .10, \* p < .05, \*\* p < .01, \*\*\* p < .001

**Table 3.** Paired-Samples t-Test on Average Score of Each Dimension of PIS

Pairing	<i>M</i>	<i>SD</i>	<i>t</i>
1. professional reputation - professional behavior	-1.01	.77	-22.98***
2. professional reputation - professional emotion	-.40	.82	-8.58***
3. professional reputation - professional value	-.60	.70	-14.95***
4. professional behavior - professional emotion	.61	.64	16.50***
5. professional behavior - professional value	.41	.53	13.45***
6. professional emotion - professional value	-.20	.64	-5.37***

Note: <sup>1</sup> For the same sample, the average scores of all dimensions of PIS were paired to do t-Test. <sup>2</sup> N = 822. + p < .10, \* p < .05, \*\* p < .01, \*\*\* p < .001.

**3.2. Common Method Biases Examination**

All survey data are from one same questionnaire, so common method bias may exist. Based on Harman's one-factor test (Podsakoff et al. 2003)<sup>[24]</sup>, non-rotation principal component analysis was carried out simultaneously to analyze all observation variables sifted out.

**Table 4.** Eigenvalue and Variance Contribution of Harman's One-Factor Test

Factor	Eigenvalue	Contribution (%)	Accumulation (%)
1	6.09	17.92	17.92
2	2.76	8.11	26.03
3	2.35	6.92	32.95
4	1.99	5.86	38.81
5	1.90	5.59	44.40
6	1.46	4.29	48.70
7	1.32	3.88	52.57
8	1.18	3.48	56.05
9	1.06	3.12	59.17

Note: <sup>1</sup> The eigenvalues reflect the redistribution of the total variance on the common factors. <sup>2</sup> N = 822.

If only one common factor is extracted, or multiple common factors are extracted and the contribution rate of the first factor variance exceeds 40%, the common method bias is considered significant. If multiple

common factors are extracted and the contribution rate of the first factor variance does not exceed 40%, the common method bias is considered not significant (Ashford and Tsui 1991)<sup>[25]</sup>. The results show that the KMO value is .80, the spherical test value is 3142.33 (Sig. 0.000), and the eigenvalues of the nine common factors extracted by non-rotation principal component analysis is greater than 1. The variance contribution rate of the first factor is only 17.92% which indicates that the common method bias is not significant (see Table 4).

**3.3. Correlation Analysis of Latent Variables**

According to the literature review, social support may have an impact on professional identity, while professional identity may have an impact on teaching efficacy. We set up four potential variables, namely, teacher professional identity (PI), social support (SS), general teaching efficacy (GTE), and personal teaching efficacy (PTE). Based on the use of PIS, SSRS, TES by Xiao (1994)<sup>[26]</sup>, Hoy and Woolfolk (1993)<sup>[27]</sup>, PI shall be treated as one latent variable containing four dimensions and a total score should be added; SS shall be treated as one latent variable containing three dimensions and a total score should be added; GTE and PTE shall be treated as two latent variables, which are scored independently and should not be added up. We calculated the correlation coefficients of these four variables. The results indicate that there is a significant positive correlation between SS and PI, as well as PI and PTE of teachers in vocational colleges, and there is no significant correlation between general teaching efficacy and other variables (see Table 5).

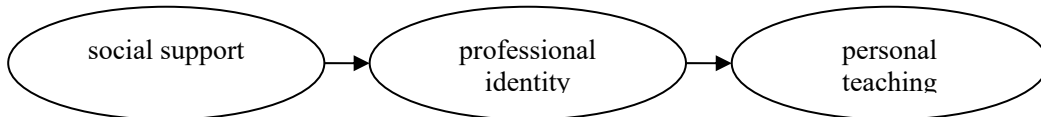
**Table 5.** Correlation Analysis of Latent Variable

Variable	100	200	300	400
1. PI	1			
2. GTE	.03	1		
3. PTE	.38**	.11	1	
4. SS	.16**	.06	.10	1

Note. N = 822. + p < .10, \* p < .05, \*\* p < .01, \*\*\* p < .001.

**3.4. Initial Model Assumption**

Based on the correlation analysis of latent variable, this research proposes the following initial model assumption (see figure 1): social support (exogenous latent variable) may have a stimulative effect on professional identity (endogenous potential variable). At the same time, regulating function of professional identity (mediator variable) has an indirect stimulative effect on personal teaching efficacy (endogenous potential variable).

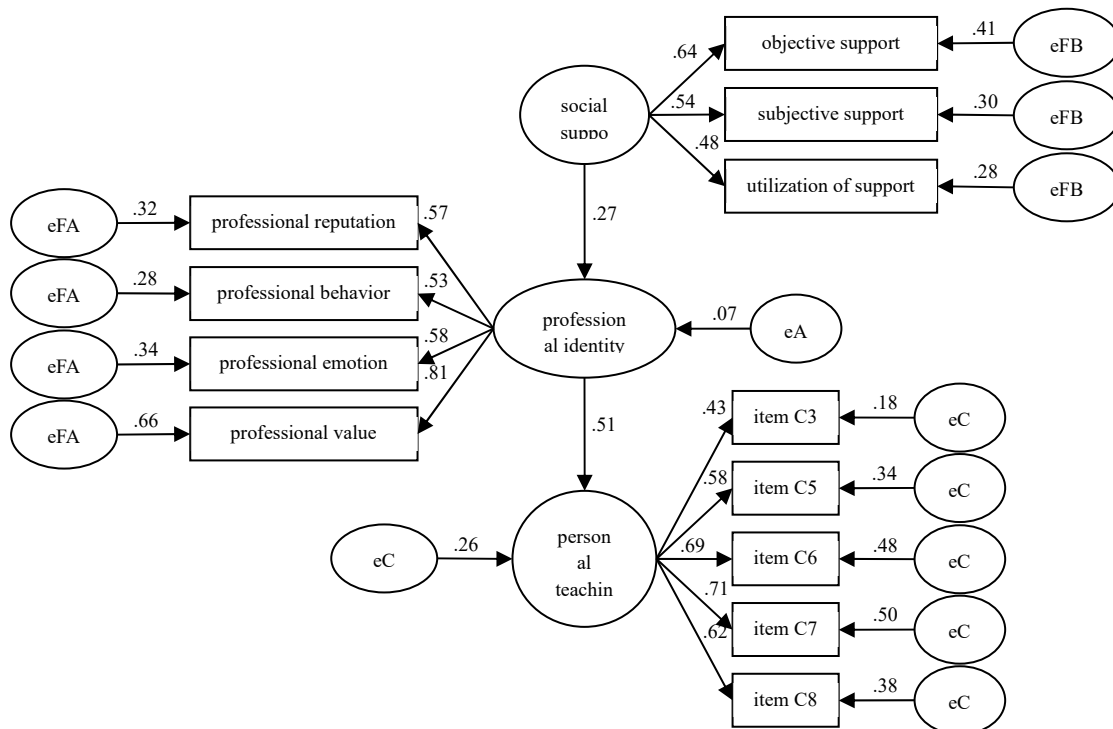


**Figure 1.** Initial model assumption of professional identity, social support and personal teaching efficacy

**3.5. Model Inspection and Correction**

On the basis of initial model assumption, the observation variable and deviation variable of the three potential variables of professional identity, social support and personal teaching efficacy are graphed, and the deviation variable of the two internal potential variables of professional identity and personal teaching efficacy are

added to form a complete initial model and start the model estimation program. The results showed that  $\chi^2/df = 1.844$ , RMSEA = .053, GFI = .951, AGFI = .924, NFI = .880, IFI = .941, TLI = .920, CFI = .940. From the fit index we can see that the other fitting indicators are all up to standard, and the model modification has a good fit, except for NFI (see Figure 2).



**Figure 2.** Model of professional identity, social support and personal teaching efficacy

## 4. DISCUSSION

### 4.1. Professional Identity of Teachers in Vocational Colleges

Most studies show that the professional identity of teachers in Chinese universities, primary and secondary schools, kindergartens is generally high, but teachers' views on different dimensions of professional identity are not consistent, showing two orientations. First, teachers have higher degree of professional identity of explicit dimensions such as professional behavior and professional skills. Second, teachers have higher degree of professional identity of implicit dimensions such as professional value and professional emotion. This study shows that teachers' professional identity on professional behavior is significantly higher than that of professional value, professional emotion and professional reputation, which is similar to the former studies. This implies that the behavior of teachers in work lacks the support of the matching value and emotion, and the obedience of teachers to the code of conduct in work may not come from internal consciousness but from external pressure. This may be related to factors such as social discrimination against China's vocational education, lack of social recognition and marginalization experience of teachers in vocational colleges. If teachers' recognition of professional value, professional emotion and professional reputation is significantly lower than that of professional behavior, the persistence of teachers' recognition of professional behavior is questionable, we need to reconstruct teachers' identification balance between professional behavior and professional value, professional emotion and professional reputation. On the whole, the professional identity of teachers in vocational colleges not only reflects the commonness of Chinese teachers, but also reflects the characteristics of teachers in vocational colleges. There may be a real conflict between teachers' internal identification and external social evaluation of vocational education.

### 4.2. Professional Identity and Social Support of Teachers in Vocational Colleges

Professional identity is the result of interaction between individuals and social environment. As a psychological experience of interpersonal environment in the social environment, social support has positive functions of relieving mental stress, adapting to environmental changes and maintaining mental health, so it can improve professional identity of teachers in vocational colleges during interaction. From an individual perspective, making more friends, participating in beneficial social activities, establishing good interpersonal relationships, learning to talk and ask for help can help teachers in vocational colleges cope with stress situations, maintain good emotions, and

strengthen professional identity. From an environmental perspective, government's support and guarantee, the respect and recognition of the society, the care and help of colleagues, the understanding and support of the family, etc. can help the teachers of vocational colleges to build support systems, obtain support resources, and strengthen professional identity. However, crisis still exists in the social support of teachers in vocational colleges. On the one hand, there are still prejudices against vocational education in our society, and there is discrimination in the system design in admission and employment of students. As Mr. Zhongwen Yu, vice president of the Chinese Society of Vocational and Technical Education said, this is no accident but a common phenomenon (Jiang 2016)<sup>[28]</sup>. On the other hand, due to the decline in the school-age population, the continued heat of overseas studying, the rise of the ideas of uselessness of studying, and the continuous expansion of enrollment in higher education institutions, the number of students in vocational colleges has dropped sharply and the overall quality of students has declined significantly, and the relationship between teachers and students has become tense. These all may have a negative effect on the social support of teachers in vocational colleges, and affect the professional identity of teachers in vocational colleges. So we need to pay great attention to it and actively respond.

### 4.3. Teachers' Sense of Efficacy and Professional Identity in Vocational Colleges

General teaching efficacy is the teacher's subjective judgment on the general teaching relationship and teaching function. Personal teaching efficacy is the subjective evaluation of personal teaching ability and teaching effect. Both of them need to have a solid foundation of a certain professional psychology status. Teachers' professional identity is teachers' own overall relatively balanced and stabilized understanding of the core elements of the profession, and it has the objective condition to become the basis of professional psychology. Related analysis results and structural equation modeling show that it is significant for the enhancement of teachers' efficacy in vocational colleges, especially personal teaching efficacy by improving professional identity, especially the recognition of occupational value. Thus we can conclude that various measures of enhancing teachers' awareness of the significance of vocational education, educational responsibility, educational requirement, educational standard, etc. are very conducive to consolidate teachers' self-confidence in their own teaching strategies, teaching skills, teaching organization, teaching effectiveness, etc. According to Gibson and Woolfolk's early views (Gibson and Dembo 1984, Woolfolk *et al.* 1990)<sup>[29][30]</sup>, general teaching efficacy embody a concentrated reflection of the teachers' abilities to offset the influence of negative factors of the students' personal backgrounds through education.

However, due to the restriction of admission system in China, the current vocational colleges are ranked to the very end of enrollment batches, and the quality of students is generally not adequate. The student enrollment source crisis in recent years has further aggravated the situation. Many vocational colleges only pay attention to enrollment, so the overall quality of students declined. Confronted with students with complex family backgrounds, weak academic foundations, and poor self-discipline, teachers in vocational colleges are likely to lose confidence in their role in vocational education in cultivating students. This may explain why the general teaching efficacy of teachers in vocational colleges is not high, and why professional identity has no positive predictive power for general teaching efficacy.

#### ***4.4. Analysis of the General Effect of Professional Identity, Social Support and Teachers' Sense of Efficacy in Vocational Colleges***

Social support has a direct positive predictive power for professional identity of teachers in vocational colleges ( $\beta = .27, p < .05$ ). Professional identity of teachers in vocational colleges has direct positive predictive power for personal teaching efficacy ( $\beta = .51, p < .001$ ), social support has an indirect positive predictive power for personal teaching efficacy, and professional identity plays a full mediating role ( $\beta = .27 \times .51 = .138$ ). In general, the more social support teachers receive in vocational colleges, the higher their professional identity and personal teaching efficacy gets. On the one hand, this definitely reveals the reinforcing effect of professional identity on personal teaching efficacy. A large number of studies have shown that personal teaching efficacy is a subjective judgment of teachers on their own teaching ability, and it has a significant impact on teachers' classroom behavior, teaching monitoring ability, and students' achievement. Therefore, improving the professional identity of teachers in vocational colleges through appropriate measures is of great significance to the teaching activities in vocational colleges. On the other hand, this clearly reveals that social support has a stimulative effect on professional identity and personal teaching efficacy. In general, it is necessary to further create a social atmosphere of respecting teachers and valuing education, and strive to eliminate all kinds of misinterpretations of vocational education. Family members, relatives, friends, school colleagues and social groups should give more practical support to teachers of vocational colleges. All these will enable teachers to subjectively produce psychological senses of being respected, understood, and supported, thereby gaining a higher sense of professional identity. Ultimately it will improve the sense of teaching efficacy, and benefit the cultivation of talents in vocational colleges.

## **5. CONCLUSION**

Based on the literature review, we conducted an empirical study on 822 teachers from 10 vocational colleges in Jiangsu Province by using self-designed and revised questionnaires. Teachers have the highest professional identity in professional behavior and the lowest in professional reputation. There is significant positive correlation between social support and professional identity, as well as professional identity and personal teaching efficacy, while there is no significant correlation between general teaching efficacy and other variables. Social support has a direct positive predictive power to professional identity, so as professional identity to personal teaching efficiency. Social support has an indirect positive predictive power to personal teaching efficacy, in which professional identity plays a completely intermediary role. In general, the more social support vocational college teachers get, the higher their professional identity level and personal teaching efficacy.

## **AUTHORS' CONTRIBUTIONS**

Jianing Li conceived the idea and designed the study. Yuan Xie conducted the survey and collected the data. Both authors were involved in analyzing the data, discussing the results and writing the paper.

## **ACKNOWLEDGMENTS**

This paper is the research result of the approved project of the program "Selected Applied Research Project in Social Science of Jiangsu Province" sponsored by the Association of Philosophy of the Social Sciences of Jiangsu Province (Project No. 16SYB-095).

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