

# Exploring the Influence of College Teachers' Competency on Task Performance: The Mediating Role of Continuance Commitment

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## Abstract

Although considerable researches have discussed the importance of individual competency, few studies have been conducted in the context of colleges and universities. Therefore, this paper aims to explore the influence of college teachers' competency on task performance. On the basis of literature review, potential components of college teachers' competency were identified. Confirmatory factor analyses were then performed on survey data to validate the measurement models. The results indicate that college teachers' competency consists of three components: competency of character traits, competency of teaching and education, and competency of scientific research. Hypothesis testing reveals that college teachers' competency is significantly related to task performance, continuance commitment is significantly related to task performance, and continuance commitment plays a partial mediating role in the relationship between college teachers' competency and task performance. The implications of the findings and future research directions were also discussed.

## Keywords

College Teachers' Competency; Task Performance; Continuance Commitment.

## 1. Introduction

In recent years, the external environments of colleges and universities have undergone important changes owing to resource constraints and increased competition. Especially in China, with the increase in the number and scale of colleges and universities, the environments have become increasingly complex and dynamic. How to use the existing resources more effectively, so as to realize the functions of colleges and universities, has become a key issue related to the sustainable and healthy development of colleges and universities.

Teachers are the determinants of the competitiveness of colleges and universities. Although college teacher competency has attracted extensive attention from the theoretical circles, there are still some limitations: First, there is a lack of rigorous theoretical model of college teachers' competency, and the model construction is subject to a certain degree of arbitrariness. Second, the impact of college teachers' competency on job performance has not been fully explored. In particular, few studies have explored the intermediate process [1], which restricts the guiding role of theory to practice. Therefore, this study introduces the competency theory into colleges and universities, and explores the definition of college teachers' competency and its influence on job performance, which has important theoretical value and practical significance.

## 2. Literature Review and Hypotheses

### 2.1. College Teachers' Competency and its Components

The concept of competency was first put forward by McClelland [2], who believed that competency refers to the deep personality characteristics that can distinguish excellent people from ordinary people in a certain job. Since then, researchers have carried out a lot of

researches on competency, and some scholars have extended the concept of competency to the field of higher education. Tigelaar et al. proposed that teachers' competency mainly refers to personality characteristics, knowledge, skills and attitudes required in different teaching backgrounds [3]. In this paper, college teachers' competency was defined as the implicit personality qualities and explicit knowledge and skills possessed by excellent teachers.

Teachers are the most valuable human resources in colleges and universities, and they are also the main force carrying the functions of colleges and universities. The functions of colleges and universities refer to the social tasks that colleges and universities undertake to meet the needs of social division of labor and social development.

It is generally believed that modern universities have three basic functions: cultivating specialized talents, developing scientific knowledge, and serving the society. Unlike enterprises, colleges and universities serve the society mainly through personnel training and scientific research. In line with the basic functions of colleges and universities, this paper proposes that teaching and scientific research are two important components of college teachers' competency. In addition, college teachers must also have good personality traits.

## 2.2. Continuance Commitment and Task Performance

American sociologist Becker first proposed the concept of organizational commitment [4]. Organizational commitment is an individual's identification with the organization's goals and values, and the resulting positive emotional experience for the individual [5]. Meyer and Allen proposed a three-component model, which divided organizational commitment into affective commitment, continuance commitment and normative commitment [6]. This three-component organizational commitment model has become a widely accepted concept [7].

Job performance of college teachers can be divided into relationship performance and task performance. Relational performance, also known as civic performance, refers to voluntarily performing informal task activities, assisting and cooperating with others to complete task activities; task performance refers to performance directly related to work output, including teaching effectiveness and scientific research etc.

College teachers not only pay attention to material returns such as wages, bonuses and welfare benefits, but also pay more attention to non-material returns such as working environment and self-realization. Therefore, this study focuses on continuance commitment and task performance of college teachers.

## 2.3. Hypotheses Development

For colleges and universities, how to retain excellent teachers, improve their loyalty to the organization and their dedication to work, so as to cultivate high-quality talents has become a critical important problems that needs to be solved [1, 8]. An individual's motivations, personality, self-image, values, and attitudes lead to a range of behavioral characteristics, which in turn can be used to predict an individual's job performance.

Specific to the organizational environment of colleges and universities, combined with the three components of college teachers' competency proposed above, it is reasonable to infer that personality, teaching and scientific research skills jointly determine the job performance of college teachers. Meanwhile, organizational commitment is an important employee attitude variable that has a significant impact on job performance [7, 9].

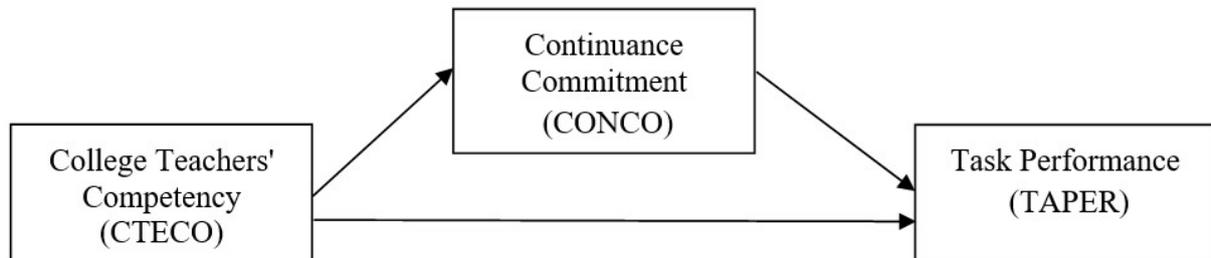
In view of the fact that there is very little empirical analysis on the intermediate process of the influence of college teachers' competency on job performance, this study incorporated continuance commitment as a possible mediating variable into the analysis process. In summary, this study constructed a theoretical model shown in Fig.1, and further proposed the following research hypotheses for verification.

H1. College teachers' competency has a positive influence on task performance.

H2. College teachers' competency has a positive influence on continuance commitment.

H3. Continuance commitment has a positive influence on task performance.

H4. Continuance commitment plays a mediating role in the relationship between college teachers' competency and task performance.



**Fig. 1** Theoretical Model

### 3. Methodology

#### 3.1. Sample and Data

Data for this study were collected through an online survey. The target samples of this study were college teachers. All evaluation indexes were based on the Likert 7-point scoring scale. The respondents were required to choose an appropriate number to indicate the degree of conformity between the content of each evaluation index and the actual situation of the individual. The larger the number, the more consistent, where "1" means "very inconsistent" and "7" means "very consistent". The survey was mainly conducted in colleges and universities in Jiangxi Province. 157 valid questionnaires were used in this study. In terms of age, education, and length of service, the sample has a wide coverage and good representation.

#### 3.2. Measures

For the measurement of the variables, a subjective rather than an objective approach was used. To ensure that college teachers' competency, continuance commitment and task performance were well represented by the measurement indexes, we examined the literature and specific "tailoring" was conducted in order to adapt the measurement indexes used in previous studies to the context of this study. Twelve indexes adapted from extant research were used to measure college teachers' competency, with three for competency of character traits, four for competency of teaching and education, and five for competency of scientific research. There are two measurement indexes for continuance commitment and task performance, respectively.

### 4. Analysis and Results

#### 4.1. Correlation and Reliability

Using SPSS 22.0 statistical software, components were subject to Pearson correlation analysis and reliability testing, the results of which are provided in Table 1. Based on the Pearson correlation coefficients, the components of college teachers' competency demonstrated significant positive correlations with continuance commitment and task performance, which preliminarily confirmed the proposed hypotheses. Cronbach's  $\alpha$  value for each component ranged from 0.622 to 0.931, exceeding the recommended value of 0.60 [10], which implies that the measurements of the variables of this study are acceptable in reliability.

**Table 1.** Correlation Analysis and Reliability Testing

Components and Variables	Competency of Character Traits (CHTCO)	Competency of Teaching and Education (TEACO)	Competency of Scientific Research (SRECO)	Continuance Commitment (CONCO)	Task Performance (TAPER)
CHTCO	0.804				
TEACO	0.601**	0.849			
SRECO	0.516**	0.764**	0.931		
CONCO	0.483**	0.521**	0.512**	0.818	
TAPER	0.411**	0.526**	0.579**	0.556**	0.622

Notes: \*\* indicates significant at the 0.01 level; the values in the diagonal line are Cronbach's  $\alpha$  coefficients.

#### 4.2. Convergent and Discriminant Validity

Using LISREL 8.80 and confirmatory factor analysis, two measurement models were built to test the construct validity of exogenous variable (college teachers' competency) and endogenous variables (continuance commitment and task performance) respectively. Following suggestion of Diamantopoulos and Siguaw [11], model fit was evaluated using the goodness of fit index (GFI), comparative fit index (CFI), the normed fit index (NFI), the root mean square residual (RMR), and the root mean square error of approximation (RMSEA). The estimates indicate good fit of the two models with the fit indices higher than the recommended threshold level, 0.90, and the RMR, RMSEA lower than the recommended threshold level, 0.10 (see Tables 2 and Tables 3).

Convergent validity mainly assesses the degree of consistency among items. Table 3 and Table 4 indicate that the standardized factor loadings meet the requirements of 0.50 and T-values meet a significant level ( $p < 0.001$ ). Discriminant validity refers to the extent to which the indexes of a given construct vary from the indexes of other constructs. The correlations between the components were less than 0.85 (as shown in Table 1), thus providing evidence for discriminant validity.

**Table 2.** CFA for College Teachers' Competency

Components	Index	Standardized Loading	Measurement Error	T-value
CHTCO	CHTCO1	0.82	0.33	11.28
	CHTCO2	0.72	0.48	9.55
	CHTCO3	0.74	0.45	10.01
TEACO	TEACO1	0.88	0.22	13.66
	TEACO2	0.66	0.56	9.06
	TEACO3	0.86	0.25	13.23
	TEACO4	0.77	0.41	11.04
SRECO	SRECO1	0.90	0.19	14.33
	SRECO2	0.85	0.28	13.11
	SRECO3	0.75	0.43	10.94
	SRECO4	0.84	0.29	12.93
	SRECO5	0.93	0.13	15.32

Goodness of fit:  $\chi^2(51) = 59.40$ , GFI = 0.94, CFI = 0.99, NFI = 0.98, RMR = 0.034, RMSEA = 0.032

**Table 3.** CFA for Continuance Commitment and Task Performance

Components	Index	Standardized Loading	Measurement Error	T-value
CONCO	CONCO1	0.80	0.36	10.25
	CONCO2	0.87	0.25	11.19
TAPER	TAPER1	0.67	0.56	7.62
	TAPER2	0.70	0.51	7.91

Goodness of fit:  $\chi^2(1) = 2.14$ , GFI = 0.99, CFI = 0.99, NFI = 0.99, RMR = 0.015, RMSEA = 0.085

### 4.3. Hypothesis Testing

#### 4.3.1. Direct Effect

In order to test the direct effect hypotheses, ordinary least squares regression analysis was performed with the aid of SPSS 22.0. Since, individual age, education, and length of service may show different characteristics, which in turn may influence performance. Therefore, these three variables were included as control variables.

As shown in Table 4, college teachers' competency is significantly related to task performance ( $\beta_1 = 0.578$ ,  $t = 8.448$ ,  $p < 0.001$ ). Hypothesis 1 is supported. As shown in Table 5, college teachers' competency is significantly related to continuance commitment ( $\beta_2 = 0.601$ ,  $t = 8.783$ ,  $p < 0.001$ ). Hypothesis 2 is supported. As shown in Table 6 continuance commitment is significantly related to task performance ( $\beta_3 = 0.543$ ,  $t = 8.113$ ,  $p < 0.001$ ). Hypothesis 3 is supported.

**Table 4.** Regression Analysis for Hypothesis 1 (Dependent Variable: Task Performance)

Model		Unstandardized Coefficients		Standardized Coefficients	T-value	Significance
		B	Standard error	Beta		
1	Constant	5.575	0.437		12.746	0.000
	Age	-0.117	0.167	-0.085	-0.699	0.486
	Education	-0.147	0.106	-0.120	-1.391	0.166
	Length of service	-0.049	0.145	-0.043	-0.340	0.734
2	Constant	-0.452	0.800		-0.565	0.573
	Age	-0.060	0.139	-0.044	-0.436	0.663
	Education	-0.003	0.089	-0.002	-0.030	0.976
	Length of service	0.004	0.120	0.004	.036	0.971
	College teachers' competency	0.965	0.114	0.578	8.448	0.000

**Table 5.** Regression Analysis for Hypothesis 2 (Dependent Variable: Continuance Commitment)

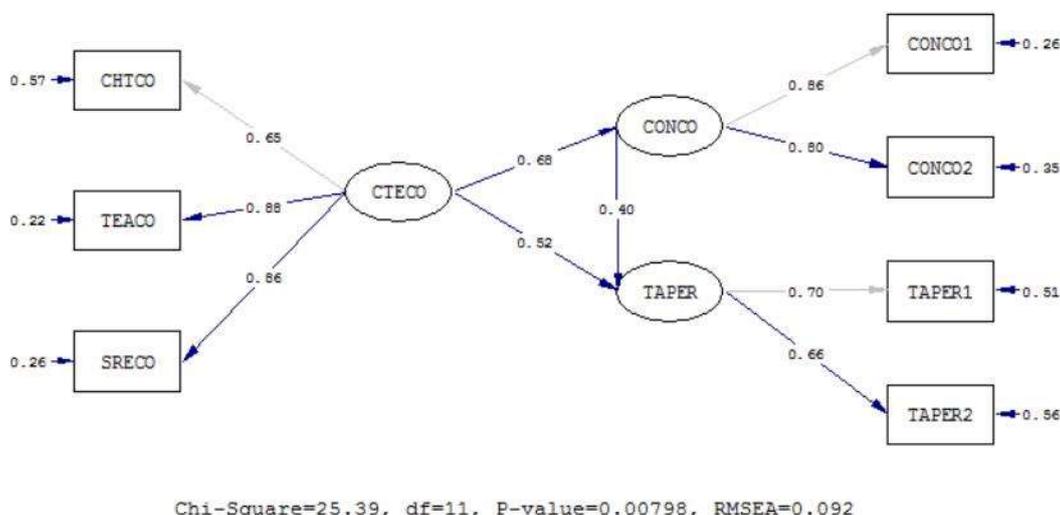
Model		Unstandardized Coefficients		Standardized Coefficients	T-value	Significance
		B	Standard error	Beta		
1	Constant	5.452	0.394		13.836	0.000
	Age	-0.035	0.151	-0.028	-0.232	0.817
	Education	-0.077	0.095	-0.071	-0.810	0.419
	Length of service	-0.034	0.131	-0.033	-0.258	0.796
2	Constant	-0.121	0.711		-0.170	0.865
	Age	0.017	0.123	0.014	0.140	0.889
	Education	0.056	0.079	0.052	0.710	0.479
	Length of service	0.016	0.107	0.016	0.148	0.883
	College teachers' competency	0.892	0.102	0.601	8.783	0.000

**Table 6.** Regression Analysis for Hypothesis 3 (Dependent Variable: Task Performance)

Model		Unstandardized Coefficients		Standardized Coefficients	T-value	Significance
		B	Standard error	Beta		
1	Constant	5.575	0.437		12.746	0.000
	Age	-0.117	0.167	-0.085	-0.699	0.486
	Education	-0.147	0.106	-0.120	-1.391	0.166
	Length of service	-0.049	0.145	-0.043	-0.340	0.734
2	Constant	2.248	0.550		4.087	0.000
	Age	-0.096	0.140	-0.069	-0.682	0.496
	Education	-0.100	0.089	-0.082	-1.126	0.262
	Length of service	-0.029	0.122	-0.025	-0.236	0.814
	Continuance commitment	0.610	0.075	0.543	8.113	0.000

**4.3.2. Mediating Effect**

To test mediating effect, we first followed the four-step procedure outlined by Baron and Kenny (1986). The four-step mediation hypothesis testing consists of: (1) whether there is a significant relationship between independent variable (college teachers’ competency) and dependent variable (task performance); (2) whether there is a significant relationship between independent variable (college teachers’ competency) and mediating variable (continuance commitment); (3) whether there is a significant relationship between mediating variable (continuance commitment) and dependent variable (task performance); and (4) controlling for the influence of mediating variable, whether the original relationships between independent variable and dependent variable is reduced to non-significance or becomes smaller, which provides evidence for full or partial mediation. As discussed before, the regression results (see Table 4, Table 5 and Table 6) support the first three steps respectively. The mediating hypotheses would be supported if the initially significant relationship between independent variable (college teachers’ competency) and dependent variable (task performance) disappears (full mediation) or decreases (partial mediation) after we add the possible mediating variable (continuance commitment) into the model.



**Fig. 2** Mediating Model

Since the mediating model includes different relationships between several latent predictors and predicted variables measured with multiple items, structural equation modeling is considered to be a valid approach for comprehensively testing the multiple relationships [12]. We performed structure equation modeling to estimate the mediating effect. Fig.2 shows the standardized path coefficients. The structural model shows an acceptable fit: ( $\chi^2 = 25.39$ ,  $df = 11$ ,  $GFI = 0.96$ ,  $CFI = 0.98$ ,  $NFI = 0.97$ ,  $RMR = 0.037$ ,  $RMSEA = 0.092$ ). Based on the standardized path coefficients and associated T values, the standardized path coefficient between college teachers' competency and task performance decreased ( $\beta = 0.52$ ,  $T = 3.73$ ,  $p < 0.001$ ), and was still significant. This suggests that continuance commitment partially mediates the relationship between college teachers' competency and task performance. Therefore, H4 is supported.

## 5. Conclusions and Implications

### 5.1. Conclusions

In recent years, it has become an important research issue to better realize the functions of colleges and universities through the improvement of teachers' competency. Consequently, a better understanding of college teachers' competency is needed. Through literature review, a conceptual model was built to describe the relationship between college teachers' competency and task performance. By confirmatory factor analysis, regression analysis, structural equation modeling, this study mainly obtained the following conclusions.

First, we adjusted and optimized the measurement indexes of each component, and then tested the reliability and validity through confirmatory factor analysis. The results indicate that college teachers' competency can be measured by three components with 12 measurement indexes: competency of character traits (three indexes), competency of teaching and education (four indexes), and competency of scientific research (five indexes). This study also validated the measures for continuance commitment and task performance, with two indexes for each.

Second, college teachers' competency has significant positive influence on task performance. The academia and practitioner have realized the importance of teachers' competency to the survival and competitiveness of colleges or universities. However, scholars have drawn different conclusions. In this study, we provided empirical evidence for positive relationship between teachers' competency and task performance, which not only widens the research scope of competency, but also deepens the arguments of the extant research.

Third, continuance commitment plays a partial mediation role in the relationship between teachers' competency and task performance. Although, some studies have proved that competency is positively correlated with outcomes, most of them do not fully considered the intermediate mechanism. This study shows that the influence of competency on performance can occur through two paths: one is that college teachers' competency directly affects task performance; the other is that college teachers' competency affects task performance indirectly through continuance commitment.

### 5.2. Academic and Practical Implications

Academically, we explored the definition of college teachers' competency and validated a measurement model of this kind of competency which consists of three components with twelve indexes. The measurement model has academic value in that it integrates the views put forth by previous scholars and fully considers the functions that colleges and universities should play. Our empirical findings show that college teachers' competency has a significant positive influence on task performance and indicate the intermediate mechanism. Therefore, we have provided a useful foundation on which further theoretical and empirical research can be built.

For practitioners, our findings can verify the long-held belief that teachers are the most valuable resources in colleges and universities. Relative to teaching and research skills, personality traits are stable and difficult to change. Therefore, personality traits should be given a more prominent consideration in teacher recruitment stage. At the same time, colleges and universities should adopt incentives and policies to improve teaching and research skills of teachers. In addition, since continuance commitment partially mediates the relationship between competency and task performance, colleges and universities should strive to improve working conditions and environments that are suitable for teachers' professional development.

### 5.3. Limitations and Future Research Directions

This study has several limitations. First, the respondents were asked to report on both competency and task performance. Future studies should gather information by establishing direct contact with students and other stakeholders. Second, this study only considered the mediating effect of continuance commitment. In fact, employees' organizational commitment is a multi-dimensional concept, and follow-up research can try to explore the possible differential intermediate effects of different dimensions of organizational commitment.

### Acknowledgments

This research was funded by the Industry-University Cooperation and Collaborative Education Project, Ministry of Education, China (202102629065) and the Teaching Reform Research Project of Jiangxi Province, China (Grant No. JXJG-15-18-4).

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