

Impact of Job Stress on the Professional Development of College English Teachers: Job Engagement as Mediator

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Abstract

The research objective is to discuss the influencing mechanism of job stress on college English teachers' professional development in China via job engagement. To achieve the research objective, this study takes 412 college English teachers in China as the research subject. In-depth interview and questionnaire with the help of SPSS 24.0 and AMOS 22.0 are used to explore the influencing mechanism. It is found that challenge stress has a significant positive impact on job engagement, and college English teachers' professional development; hindrance stress has a significant negative impact on job engagement, and college English teachers' professional development; job engagement has a significant positive impact on college English teachers' professional development; job engagement has a partial mediation effect between challenge stress and college English teachers' professional development; and job engagement has a partial mediation effect between hindrance stress and college English teachers' professional development. In conclusion, this study contributes to college English teachers' professional development research since it gives evidence to support the conceptual framework. Besides, it extends the outreach of managerial theories and the application of empirical methodology in educational domain.

Keywords: Job Stress, College English Teachers, Professional Development, Job Engagement

Introduction

After more than 40 years of theoretical research and practical exploration, teachers' professional development has become the mainstream in educational reform all around the world. Accordingly, professional development of college English teachers has received great attention and efforts especially from some Chinese scholars e.g., Wu (2008), and Wen and Ren (2020). In recent years, it has been found that teacher is a very stressful profession, therefore, it is quite urgent and necessary to discuss the mechanism of job stress on college English teachers' professional development.

Significance of this study is on theoretical and practical levels. First, it enriches the concept of key factors and extends the application bound of related theories. Second, it provides practical recommendation for both colleges and college English teachers to improve their professional development.

Research Objectives

This study aims to:

1. explore the status of college English teachers' professional development;
2. analyze the problems and obstacles in college English teachers' professional development;
3. find out the influencing factors and the mechanism of the factors on college English teachers' professional development.



Literature Review and Research Hypotheses

Related terms and theories are concluded to summarize the research gap, and research hypotheses are put forward hereunder to form the conceptual framework.

Job Stress

Scholars attach great importance to defining stress. Cavanaugh, Boswell, Roehling & Boudreau (2000) creatively put forward the Two-Dimensional Structure Theory of Stress Source in 2000, and defined the concepts of challenge stressor and hindrance stressor. Challenge stressor refers to the stressor that plays a positive role in the completion of works and personal development, such as high work responsibility, time urgency and workload. Once overcome, this kind of stressor will bring a high sense of achievement and promote individual growth. Hindrance stressor refers to the stressor that has a negative effect on the completion of works and personal development, such as bureaucratic procedures, role conflicts, and role ambiguity, etc. These stressors are difficult to overcome and most of them cannot be conquered through individuals' own efforts. In addition, even if being overcome, some hindrance stressors will not bring a sense of achievement to individuals. Research results of many scholars, such as Cavanaugh et al. (2000), Podsakoff, LePine & LePine (2007), Rodell and Judge (2009), as well as Webster, Beehr & Christiansen (2010) show that although challenge stressor can bring job stress, once overcome, they can bring great feedback, which is significantly related to positive job performance; on the contrary, hindrance stressor can inhibit the achievement of individual goals and are difficult to overcome. Even if they are overcome, they will not necessarily bring returns, which will negatively affect job performance. Two-Dimensional Structure Theory provides a theoretical basis for the division of job stress in this study.

Job Engagement

In 1965, Lodahl and Kejner defined job engagement with psychological methods (Li & Long, 1999). In 1976, Saleh and Hosek summarized that job engagement is a complex concept based on cognition, emotion and behavioral intention (Sheng, 2006). In 1990, Kahn put forward the concept of job engagement, and pointed out that job engagement is a process in which organization members combine themselves with work roles and invest in personal emotion, cognition and physical strength in the process of obtaining job performance. Since 1990s, scholars from various countries have studied job engagement from different angles. Rothbard (2001) believed that job engagement refers to the degree and feeling of employees' psychological involvement in the organization. Schaufeli, Salanova, González-Romá & Bakker (2002) believed that job engagement is the individual's psychological feeling of the degree of job involvement, including job responsibility and willingness to commit to work, and individuals can feel job performance has a significant impact on themselves. Li & Ling (2017) believed that job engagement is a positive and complete emotional and cognitive work state of individuals. Schaufeli and Bakker developed the Utrecht Work Engagement Scale (UWES) in 2004, which includes vitality (6 items), dedication (5 items) and absorption (6 items). UWES has become the most widely used measurement tool in relevant empirical research. At present, the scale has been tested in many countries, including China (Zhang & Gan, 2005).

College Teachers' Development

Scholars who first study the development of college teachers are American scholars Bergquist and Phillips. In 1975, they first proposed a development model of college teachers that covers personal development, teaching development and organizational development.



Later, they further revised the model, emphasizing the institutional environmental factors of college teachers' development, and believed that no matter how the constructs and components intersect and repeat, they are completed in a certain institutional environment. Since 1990s, research on how to carry out effective teachers' development in colleges has been increasing.

Teachers' professional development researches in the western countries like Sweden, Norway, Germany and England, and the United States etc., shed great importance and significance to teachers' learning. Therefore, Adult Learning Theory is one of the important theoretical bases for teachers' professional development. The enlightenment of Adult Learning Theory on teachers' professional development is as follows: first, teachers are under pressure in the evaluation of professional titles and the improvement of academic experience, and teachers' professional development is not an isolated process but they need to constantly strengthen the interaction and communication with peers, schools, and communities etc. Second, the characteristics of adult learning help teachers form the habit of lifelong learning and promote the sustainable professional development.

In conclusion, relevant theories and researches have given this study theoretical grounding and practical references, but there are few researches that discuss the influencing mechanism of job stress on professional development of college English teachers via job engagement in China. This is of great significance because it can validate the theories and propose new knowledge to promote the professional development of college English teachers in China from a brand-new perspective.

Research Hypotheses

1. Hypotheses on Job Stress and College English Teachers' Professional Development

In the organizational context, researchers have recognized that many antecedent variables affect employees' attitudes, behaviors and job performance through emotions (Barsade & Gibson, 2007; Elfenbein, 2013; Miner & Glomb, 2010). Weiss and Cropanzano (1996) proposed a theory, namely Affective Events Theory (AET), which aims to explore the relationship between affective events, affective reactions and their attitudes and behaviors experienced by organizational members at work. According to AET, specific behavior is the result of emotional response to workplace events. Challenge stressor and hindrance stressor are events related to individuals' specific goals. When facing stressful events, individuals have emotional reactions, such as negative ones, i.e., anxiety and burnout etc., and positive ones, i.e., work engagement, concentration, dedication, and vitality etc., which further affect their behavior i.e., the professional development for college English teachers in their career.

To put AET into practice, Zhu (2020) discussed the impact of job stress level of teachers in Shanghai, China on their job satisfaction. High pressure of teachers often weakens their teaching self-efficacy, professional satisfaction and sense of responsibility. Shen and Ding (2021) took 522 employees engaged in front-line production management in manufacturing enterprises as the research subject, and empirically tested the influencing mechanism and boundary conditions of job stress on employees' safety performance by using SEM method. The results showed that both challenge stress and hindrance stress have a significantly negative impact on employees' safety performance. Wang (2014) pointed out in the doctoral thesis that challenge stress and hindrance stress have a different impact on individual's performance. Challenge stress can positively affect performance, while hindrance stress can negatively affect performance. Fan and Yang (2015) found that as an extreme reaction when teachers cannot effectively deal with job stress, job burnout, a common phenomenon in their career and professional development will appear. It has become an important factor restricting the professional development of college English teachers. So, hypotheses on the relationship between job stress and English teachers' professional development are put forward as:



H1: job stress has a significant impact on college English teachers' professional development.

H1a: challenge stress has a significant positive impact on college English teachers' professional development.

H1b: hindrance stress has a significant negative impact on college English teachers' professional development.

2. Hypotheses on Job Stress and Job Engagement

As Job Demand-Resources Model explains, work characteristics are divided into job requirements and job resources. Job requirements refer to factors related to physical, psychological, social or organizational aspects of work, which require individuals to continuously make physical or psychological (cognitive or emotional) efforts, so they are related to specific physical and psychological costs. Job requirements are not necessarily negative, but when they require a high degree of effort, they produce stress or burnout. Job resources refer to factors related to physical, psychological, social or organizational aspects of work and having the following functions: helping others achieve work goals, reducing job requirements and related physical and mental losses, and encouraging personal growth, learning and development (Demerouti & Bakker, 2011).

Job Demand-Resources Model takes into account of stress and job engagement. Many studies on Job Demand-Resources Model predict job engagement (Bakker, Hakanen, Demerouti & Xanthopoulou, 2007; Hakanen & Schaufeli, 2012), and Job Demand-Resources Model is often used to explain the results caused by job engagement, such as job performance (Bakker & Demerouti, 2008). Schaufeli et al. (2002) believed that job engagement included job responsibility and willingness to commit to work, and that individuals can feel that job performance had a significant impact on themselves. Another study of Schaufeli and Bakker (2004) stated that the internal work characteristics of attrition, mainly involving workload, job stress, or role conflict, will have a negative impact on individual's job engagement through job burnout. Research by Liu, Shi, Wang & Gong (2011) showed that challenge stressors have a significant positive correlation with employees' job engagement and overall job satisfaction, while hindrance stressors have a significantly negative correlation with employees' job engagement and overall job satisfaction. Wu, Huang, Li & Qin (2014) reported that challenge stressors had a positive predictive effect on job engagement and job burnout; hindrance stressors had a significantly negative predictive effect on job engagement. So, hypotheses on the relationship between job stress and job engagement are put forward as:

H2: job stress has a significant impact on job engagement.

H2a: challenge stress has a significant positive impact on job engagement.

H2b: hindrance stress has a significant negative impact on job engagement.

3. Hypothesis on Job Engagement and College English Teachers' Professional Development

Wang, Qi & Yao (2018) found that there was a significant positive correlation between rural teachers' teaching autonomy, job engagement and professional development initiative. Study by Xu (2017) showed that vitality, dedication, absorption, and organizational commitment were all moderately and positively correlated with professional identity i.e., job engagement positively influenced teachers' professional identity. This was accomplished by developing a teacher professional development scale and analyzing the influence of three indicators namely job satisfaction, organizational commitment, and job engagement on teachers' professional development. Zhao and Zhang (2014) stated that job engagement and

other various factors had a very significant positive correlation with professional well-being, which included not only professional attitude but also professional experience. So, hypothesis on the relationship between job engagement and English teachers' professional development are put forward as:

H3: job engagement has a significant positive impact on college English teachers' professional development.

4. Hypotheses among Job Stress, Job Engagement and College English Teachers' Professional Development

Among the antecedents of job engagement, job stress, as a psychological state, is divided into positive and negative, which have different effects on job engagement. Among the outcome variables of job engagement, individuals with high job engagement are energetic, full of emotion, enthusiastic about work, willing to accept challenges, and can achieve satisfactory work results, therefore job satisfaction will also increase. High level of job engagement can improve employees' job performance and satisfaction, so this study assumes that job engagement plays an intermediary role between job stress and English teachers' professional development. Bass (1985) demonstrated that organizational support and engagement were significantly and positively related to each other i.e., employees would be more engaged and furthermore exhibit better professional behaviors at work if they felt that their employer supports them more, which indicated that job engagement mediates between organizational support and professional behaviors too. Chen and Wu (2018) proved that job engagement partly mediates between psychological capital and professional identity of college young teachers, which is a sub division in professional development. Therefore, the hypotheses are proposed:

H4: job engagement mediates between job stress and college English teachers' professional development.

H4a: job engagement mediates between challenge stress and college English teachers' professional development.

H4b: job engagement mediates between hindrance stress and college English teachers' professional development.

The conceptual framework can be seen in Figure 1.

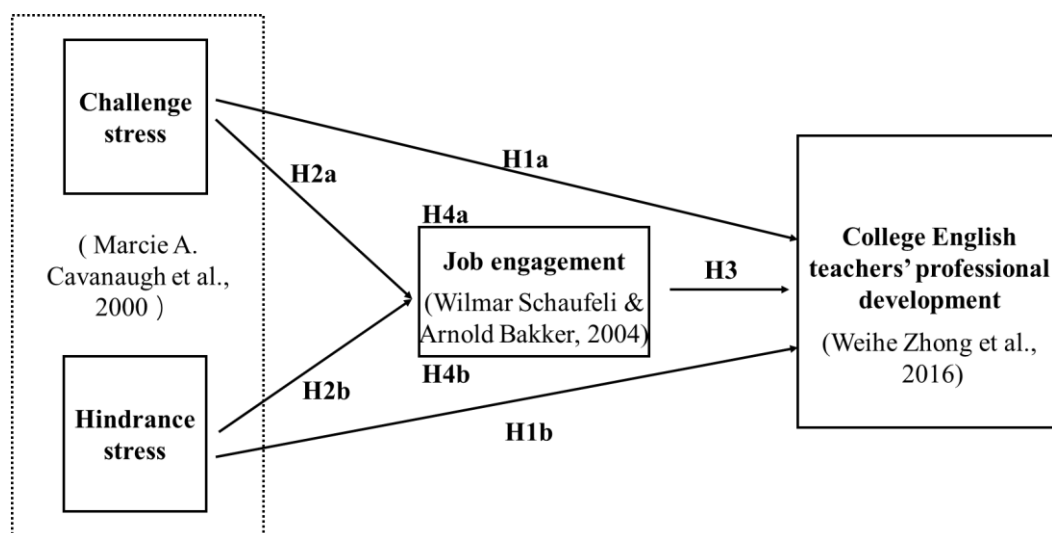


Figure 1 Conceptual framework

Source: Cavanaugh et al. (2000), Schaufeli & Bakker (2004), Zhong & Wang (2016), author (2023)



Research Methodology

This study applies both qualitative and quantitative methods.

Qualitative Study

Purposive sampling is used to invite 20 English experts to take part in the in-depth interview. Their answers are collected and summarized by content analysis to construct College English Teachers' Professional Development Scale. After revision by IOC, reliability and validity test in pilot study towards 240 respondents, College English Teachers' Professional Development Scale is formed.

Quantitative Study

1. Questionnaire

Questionnaire in this study is divided into 4 parts: basic information, Job Stress Scale, Job Engagement Scale, and College English Teachers' Professional Development Scale. All the items are scored with Likert five-level scale i.e., 1 indicates strong inconformity, 2 for inconformity, 3 for uncertainty, 4 for conformity, and 5 for strong conformity. Job Stress Scale is from Job Stress Scale by Cavanaugh et al. (2000), Job Engagement Scale is from Utrecht Work Engagement Scale by Schaufeli and Bakker (2004), and College English Teachers' Professional Development Scale is constructed and tested as above.

2. Sampling and Data Collection

The determination of sample size is based on formula by Berenson, Stephan, Krehbiel & Levine (2011) that $n = z^2 * p * (1 - p) / e^2$, in which $z = 1.96$, since the desired confidence is 95%. If 50% of respondents say "yes" and another 50% respond "no", p i.e., the standard deviation, which measures the degree of diversity in the response, is 0.5, which is acceptable. Since the previously indicated confidence level is 95%, a 5% margin of error will be permitted. As a result, the sample size of this study is approximately 385.

Purposive sampling is used to collect data. Considering the sufficiency of questionnaires, more than 600 questionnaires are collected online, and 412 valid questionnaires are obtained finally after the cancelling of the invalid questionnaires, i.e., the whole questionnaire is filled in regularly, submitted by the same IP address, or the answering time is too short.

Findings of the Study

Descriptive analysis, reliability test, confirmatory factor analysis (CFA), path analysis and mediation effect analysis by structural equation modelling are made to analyze the data and put forward the findings.

Demographic Profile of Respondents

Among all the 412 respondents, ratio of male to female is 1:4. The number of teachers aged 31-40 is the largest, accounting for 44.2%, followed by teachers aged 41-50, accounting for 34.0%. Most teachers have been teaching for 11-20 years, accounting for 41%. Teachers with lecturer title account for 1/2 of the total number. The proportion of masters is far ahead, accounting for 74.8% of the total number. 77.2% of college English teachers do not have an administrative position. 71.6% of the teachers are from state-owned colleges, 26.2% from



private colleges, and 2.2% from cooperative colleges. 65.5% are from ordinary undergraduate institution, 14.8% from key undergraduate institution, 18.4% from higher vocational/ technical colleges, 0.2% from adult higher educational institution, and 1% from other colleges.

In conclusion, gender of college English teachers is seriously unbalanced, young and middle-aged teachers are the main body, and most of the teachers need to make more effort to get a higher academic title. Most of the teachers have master's degrees, and the proportion of doctors is very small.

Reliability Analysis and Confirmatory Factor Analysis

This study takes 0.6 as the minimum acceptance standard of factor loading; the higher CR is, the higher the internal consistency is, and 0.7 is the acceptable threshold (Fornell & Larcker, 1981; Hair, 1997). Besides, Fornell and Larcker (1981) suggested that the AVE should be greater than 0.5, and the square root of the average variance extracted for each construct should be larger than the inner-construct correlations. Results show that factor loading of each item ranges from 0.629 to 0.896. Cronbach's Alpha coefficient of each construct ranges from 0.758 to 0.905. CR of each construct ranges from 0.756 to 0.907, and AVE of each construct ranges from 0.510 to 0.710. The square root of some construct is slightly less than the inner-construct correlations, but the difference is no larger than 0.093. According to Perugini & Bagozzi (2001), and Lertatthakornkit (2021) that assessment of content validity by a panel of experts indicated the indicators loaded on the separated constructs are distinct and nomologically valid. Therefore, the model has reliability, convergence validity, and discriminative validity.

The results of fit measures indicate that χ^2/df is 2.424, SRMR is 0.054, RMSEA is 0.059, IFI is 0.933, CFI is 0.932, and TLI is 0.921, which are acceptable. GFI is 0.881, and AGFI is 0.850, which are slightly under 0.9, with the difference of 0.019 and 0.050 respectively. Considering the model complexity, sample size, as well as the standards and practical advices from Iacobucci (2010) that GFI and AGFI > 0.8 is acceptable, the model fits with the dataset.

Hypotheses Testing via Structural Equation Modelling

From Table 1, all the p values are less than 0.01 i.e., significant, therefore, H1a, H1b, H2a, H2b and H3 are accepted.

Table 1 Path analysis and hypotheses test

	Hypotheses			UnEst	S.E.	Z	P	Est	Conclusion
H1a	CS	→	PD	0.21	0.05	4.233	***	0.295	Accepted
H1b	HS	→	PD	-0.132	0.05	-2.672	0.008	-0.204	Accepted
H2a	CS	→	JE	0.323	0.076	4.228	***	0.293	Accepted
H2b	HS	→	JE	-0.425	0.077	-5.487	***	-0.422	Accepted
H3	JE	→	PD	0.31	0.039	7.861	***	0.48	Accepted

Note: ***: $p < 0.001$. CS is for challenge stress, HS is for hindrance stress, JE is for job engagement, and PD is for college English teachers' professional development

Source: this study

From Table 2, there is no 0 between the upper and lower values in Bootstrapping, which means there is partial mediation effect. Thus, H4a and H4b are accepted.



Table 2 Bootstrapping for mediation effect test

Hypotheses	Path relationship	Estimate	Bootstrapping 2000 times 95% CI		Conclusion
			Lower	Upper	
H4a		Indirect effects			Partial mediation
	CS→JE→PD	0.1	0.051	0.175	
		Direct effects			
	CS→PD	0.21	0.107	0.327	
H4b		Total effects			Partial mediation
	CS→PD	0.31	0.205	0.441	
		Indirect effects			
	HS→JE→PD	-0.132	-0.211	-0.073	
		Direct effects			
	HS→PD	-0.132	-0.247	-0.037	
		Total effects			
	HS→PD	-0.264	-0.384	-0.168	

Note: CS is for challenge stress, HS is for hindrance stress, JE is for job engagement, and PD is for college English teachers' professional development

Source: this study

Discussion

The findings of this study serve the research problems, and fulfill the research objectives.

Discussion on Qualitative Findings

College English Teachers' Professional Development Scale is constructed in the in-depth interview, and the problems and obstacles of college English teachers' professional development are summarized too. The findings show that college English teachers can well use basic, and English professional knowledge, since they use that quite often, besides, they well master the knowledge that is closely related to lecturing and class design and complement. While, most of them are relatively good at applying social and cultural knowledge since not so many use these kinds of knowledge in their daily work let alone educational, psychological and pedagogical knowledge. Therefore, all these less acquired is important for their professional development. As for professional skill, college English teachers are seasoned in four basic skills i.e., teaching design and implementation, teaching strategy, teaching reflection, and testing and evaluation, but they are less qualified in the advanced skills like modern teaching technology application, teaching reform, scientific research, and social practice service. College English teachers should try hard to master these skills if they want to achieve a leap in their professional development. As for the professional quality, only if college English teachers break the limitation in group work and community awareness and set the lifelong learning goals can they achieve better professional development.

Discussion on Quantitative Findings

1. H1a is accepted that challenge stress has a significant positive impact on college English teachers' professional development.



This is consistent with the previous major researches that challenge stress can promote individuals' professional development especially individual's academic output (Bao & Wang, 2012), professional training (Wang, 2011), and scientific performance (Wang, 2014) etc.

2.H1b is accepted that hindrance stress has a significant negative impact on college English teachers' professional development.

This finding is consistent with the famous stress theory i.e., Two-Dimensional Structure of Job Stressor as well as the major findings about hindrance stress that challenge stress and hindrance stress have a different impact on individual's performance. Challenge stress can positively affect performance, while hindrance stress can negatively affect performance (Wang, 2014; Zhang & Liao, 2014).

3.H2a is accepted that challenge stress has a significant positive impact on job engagement.

Many research findings indicate the positive impact of challenge stress on job engagement like Van den Broeck, De Cuyper, De Witte & Vansteenkiste (2010) etc. This finding is also well supported by a lot of researches, like dedication and absorption are two vital components according to Schaufeli and Bakker (2004), and it matches the earlier findings of Liu et al. (2011) that there is a positive relationship between challenge stress and job engagement. Besides, finding from Wu (2014) also supports the relationship between challenge stress and dedication as well as absorption that challenge stress has a positive predictive effect on both job engagement and job burnout.

4. H2b is accepted that hindrance stress has a significant negative impact on job engagement.

Studies also found that hindrance stress has a strong negative impact on sub divisions of job engagement, which is supported by Rodell and Judge (2009) that hindrance stress leads to a reduction in individual motivation, such as the lack of attention, low engagement in job and even job burnout. Similar findings also support the hypothesis by Chang, Jiang & Yan (2009) that the existing assessment system in universities and colleges brings teachers a lot of pressure, which can easily lead to academic misconduct, a series of negative effects and a tendency to deviate.

5. H3 is accepted that job engagement has a significant positive impact on college English teachers' professional development.

This finding goes along with the previous findings that professional identity and the indicators of job engagement are strongly related. In other words, professional identity is directly tied to three dimensions of job engagement i.e., vigor, dedication and absorption (Xu, 2017). Similarly, professional development initiative requires an individual's experience of the meaning and value of their job, and job engagement is an important influencing factor that promotes teachers' professional development initiative (Wang et al., 2018).

6. H4a is accepted that job engagement has a partial mediation effect between challenge stress and college English teachers' professional development.

Britt, Adler, & Bartone (2001) suggested that individuals are more likely to gain from job stress if they are more engaged at work. Accordingly, Britt and Bliese (2003) found that job engagement serves as a stress-relieving buffer. People with high job engagement are more likely to benefit from job stress than those with low job engagement when the intensity of



stressors is high. Therefore, all these previous findings support this hypothesis from different perspectives.

7. H4b is accepted that job engagement has a partial mediation effect between hindrance stress and college English teachers' professional development.

College teachers' stress comes mainly from teaching, scientific research, and academic title improvement, which basically serve as the strong motive power for college teachers to achieve professional development, while on the other hand, some of the stress are negative or hindrance stress, which can lead to the negative input into job such as sluggishness, slow in reaction or even departure from work, which definitely limits the professional development of individuals (Huang, 2019), which well supports this hypothesis.

Recommendation and Future Research

Recommendations for colleges and college English teachers are provided. Colleges and managements should not avoid stressing college English teachers, as long as they try to transform stressor into challenge stress. College English teachers should accumulate professional knowledge, enhance professional skill and improve professional quality. Besides, advantages must be provided inside and outside to transfer challenge stress into professional development advancement of college English teachers via job engagement.

Though this study has some limitations, it makes contributions for future research by putting forward the mechanism of job stress, and job engagement on college English teachers' professional development. It validates the applicability of the foreign classic scales in the context of Chinese culture, conducts College English Teachers' Professional Development Scale to provide methodological references for future related researches, and also enriches the managerial theories application. On this basis, future research could improve on theoretical modelling, antecedents of college English teachers' professional development, and sampling method etc.

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