

# Research Burnout Among English Teachers in Chinese University: an Actor-Network Theory Perspective

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## Abstract

To explore the situation of College English teachers' research burnout and ways to alleviate it, 144 College English teachers were investigated by using the University Teachers' Research Burnout Inventory, and the data were analyzed by SPSS 24. The findings show that College English teachers' research burnout was frequent and severe, especially scientific research's emotional exhaustion (EER). Besides, there were significant differences for different groups of teachers in terms of variables like serving years, weekly class hours, core papers published, and the punishment system of research. Simultaneously, there were no significant differences concerning variables such as gender, age, educational background, university level, and professional title. Based on the actor-network theory, this study considers that factors such as serving years, weekly hours, the number of core papers published, and the research punishment system are the stronger network actors. In contrast, variables such as gender, age, educational background, university level, and professional title are the network's weaker actors.

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## I. INTRODUCTION

English teachers in Chinese universities shoulder multiple tasks such as teaching, research, and academic development. Among them, "research is the core vehicle for the academic development of foreign language teachers" (Guo Xiaoxun, 2010). It is also the core vehicle for improving teaching practice and the only way to promote foreign language development as a discipline and boost academic exchanges. Many universities regard research output (especially numbers of core papers published) as a rigid standard for measuring teachers' professionalism, research ability, and promotion of academic titles. "It is needless to say the importance of research. However, English teachers in Chinese universities have "a weak awareness of research, and their level of research is not as good as that of other humanities disciplines" (Huang et al., 2016). The above mentioned indicates

that Chinese University English teachers may have suffered from research burnout, which is considered very prevailing among service providers. Singh, Mishra, and Kim first proposed the term "burnout" in 1998. It is defined as an emotional state related to long-term pressure in academic research and publishing process. Since then, scholars from various countries have carried out relevant research on job burnout. Research burnout is the performance of job burnout in scientific research work. It will seriously affect teachers' professional development and professional well-being and then negatively impact students' English learning and school advancement (Qiyong Zhang et al., 2015). To improve College English teachers' professional well-being, promote their professional development, and improve the level of foreign language education in Colleges and universities, we must try to eliminate foreign language teachers' research burnout. However, there is little systematic research on the

research burnout of College English teachers both at home and abroad, and most of them are in the research of teachers' professional development. They mainly emphasize that people mainly make the change of things and behavior with individual purpose and intention, ignoring the unified connection between nature and society, human and non-human, material and non-material, ignoring the existence of all kinds of actors (human and non-human) who play roles in the process of action. However, few literatures on the research burnout of teachers based on the theory of actor-network. Given the importance of the actor theory in elaborating the mitigation path of teachers' research burnout, this paper, based on the burnout theory and actor-network theory, explored the current situation and causes of College English teachers' research burnout to provide new perspectives and strategies for alleviating the problem.

## II. THEORETICAL BASIS

### (1) Job burnout theory

The term "job burnout" was first put forward by American psychiatrist Freudenberger (1974), and then Maslach and Jackson (1981) further studied and defined job burnout as: "a symptom of emotional exhaustion, depersonalization and reduced personal achievement in the professional field of serving people." On this basis, they developed Maslach Burnout Inventory Human Service Survey(MBI-HSS), Maslach Burnout Inventory Educator Survey(MBI-ES), and Maslach Burnout Inventory General Survey(MBI-GS) (Maslach, Jackson, & Leiter, 1996). In the MBI-ES, emotional exhaustion means that the educators are in a state of extreme fatigue, and their work enthusiasm is completely lost; Depersonalization refers to teachers' negative and cynical attitude and feeling towards students or colleagues; Reduced personal achievement refers to the tendency that teachers' evaluation of themselves is negative and that teachers generally think that they are not suitable for their teaching. Scholars from all over the world widely accept maslach's

definition of job burnout. The instrument they developed for measuring job burn out has also been proved to be of high quality and cross-cultural applicability. Research burnout in this study is intended to measure and access Chinese university teacher's job burnout interns of their research work. Therefore, the research findings and research tools in the field of job burnout are also applicable to the research of research burnout.

### (2) Actor-network theory (ANT)

Karon (1986) first proposed the concept of actor-network, and Latour (1986) further improved and developed the theory. The connotation of Actor-Network Theory is to try to connect macro and micro, regard anything that can produce differences in society and the natural world as active actors, and continuously pay attention to and track the interaction and results of these different actors in the relationship network, so as to analyze the composition and connection of social organizations (Latour, 1986). The actor theory can help us to return to the big vision of everything as the foundation, broaden the traditional sociological concept of "actor" only used to describe the limitations of human beings, using the process of action to measure actors, and endowing human and non-human with the same attributes and status, which is the unity of Ontology and epistemology. The actor-network theory mainly includes three core elements: actor, network, and heterogeneous connection. The actor is the essential element, which refers to any node that can change things and make them change. Human and non-human (such as concept, technology, apparatus, biology) can be called actors; network refers to a description of the relationship between various actors different from relying on the existing relationship and cognitive structure, the connection method of interconnection focuses on the construction of actor-network connection, emphasizing tracking or tracing the action traces of actors. After analyzing the process of actor connection and cooperation, it is better to

find the operation rules of the network that cause differences in people, views, and things (Li Yun, 2017); Heterogeneous connection refers to the different forms and characteristics of networks in different ways of network connection and configuration. It is necessary to pay attention to the interlacing and connection between heterogeneous multi-elements and the resulting symbiosis (Latour, 1993). The interaction mechanism between actors and other actors is a kind of mutual dependence and mutual influence. The interaction mechanism between actors and other actors is the translator, and each actor can change the original expression through translation. When all actors operate to achieve the expected effect of connection for the same purpose, a stable and functional "network" can be formed.

Therefore, the actor-network theory can trace the origin and current situation of university English teachers' research burnout from the perspective of the heterogeneous connection network theory of macro and micro, nature and society, human and non-human, material and non-material, with actor, network and heterogeneous connection as the core elements to trace the origin and current situation of University English teachers' research burnout, and open up a new perspective to provide a compelling theory for the alleviation of College English teachers' research burnout.

### III. RESEARCH DESIGN

#### 1. Research questions

Based on the literature review and theoretical discussion, this paper intends to examine the following questions.

- (1) what is the current status of research burnout among Chinese university English teachers?
- (2) Are there significant differences in the demographic characteristics of research burnout among Chinese university English teachers?

#### 2. Research subjects

This study's subjects are 144 English teachers from different levels of universities (newly-established undergraduate colleges, regular undergraduate universities, and key universities). Here are the demographic details of the subjects: Gender: male(28 ,19.4%), female (116,80.6%); Age: under 30 years old(16,11.1%, group 1) , 31-40 years old (70,48.6%,group2) ,41-50 years old (46,31.9%,group 3), 51 years old and above (12,8.3%, group4) ; Professional Title: associate professors (52, 36.1%,group1), lecturers and below( 92,63.9%, group2); Degree: bachelor's degree (10,6.9%, group1), master's degree (120,83.3%,group2), doctor's degree (14,9.7%,group3); Service Years:3 years or less(20,13.9%,group1), 4-10 years(27,18.8%, group2),11-15 years (40,27.8%,group3),16-20 years(34,23.6%,group4); University Level: newly established undergraduate colleges (57 ,39.6%, group1), regular undergraduate universities(69,47.9, group2), key universities (18, 12.5%, group3); Weekly Class Hours: less than 10 classes (25 ,17.4%, group1), 11-16 classes (91,63.2%,group2),more than 17 classes(28 ,19.4%, group3); Core Papers Published: 0 (77 ,53.5%,group1) , 1-5(53,36.8%,group2), more than 6 papers(14 ,9.7%,group3).

#### 3. Research tools

The questionnaire is divided into two parts, with the first part containing information on demographic characteristics, including nine items such as gender, age, service years, education, and academic title. The second part is a 22-item research burnout inventory, adapted from the "University Faculty Research Burnout," developed by Zhang Qiyong et al. (2015). The Inventory consists of three parts: Emotional exhaustion(EE, eight items), Depersonalization (DP, six items), and Reduced personal accomplishment of Research (RPA 8 items). The questionnaire is measured in a Likert 5-point Inventory, namely 1 (never), 2 (not), 3 (not

sure), 4 (occasionally so), and 5 (always), which represents the level of research burnout from low to high. The inventory dimensions and total inventory reliability were 0.894, 0.820, 0.814, and 0.863, all greater than 0.7, indicating the Inventory has good reliability; the KMO value was 0.831 ( $>0.7$ ), and the cumulative contribution of the variance of the three factors was 60.07%. The factor loadings were all greater than 0.6, indicating that the questionnaire's structural validity was good (Hair et al., 2010).

#### (iv) Research process

##### 1. data collection

In this study, a stratified sampling method was used to select English teachers from five colleges and universities. A total of 150 questionnaires were sent out, and 144 valid questionnaires were collected, with a recovery rate of 96%. The valid data was coded, and then processed by SPSS 24, and the value was assigned to obtain the statistical information.

#### 4. Analysis method

The normal distribution, collinearity and discrete value of the data collected were tested; Then, exploratory factor analysis (EFA) was used to

Table 1 The rotated composition matrix

items	EER	AR	RPAR
t2	0.748		
t3	0.599		
t5	0.850		
t9		0.805	
t12		0.657	
t13		0.813	
t18			0.618
t20			0.753
t21			0.816

#### 6. Reliability tests

The reliability test shows that the Cronbach coefficients of the internal consistency of each dimension are 0.702, 0.733, and 0.770, which are all

explore the data, and name the factors extracted accordingly. Finally, statistical analysis (t-test and one-way ANOVA) was conducted to reveal the status of English teachers' research burnout and the statistical significance between different subject groups.

#### 5. validity test

Exploratory factor analysis (EFA) was used to test the construct validity of the Inventory. The results showed that the kmo value of the Inventory was 0.764, and Bartlett's sphericity test was significant ( $\chi^2 = 312.618$ ,  $DF = 36$ ,  $P = 0.000 < 0.001$ ), indicating that the data is suitable for factor analysis. After deleting the items with factor loading less than 0.5 and cross-loading higher than 0.5 (hair et al., In 2010), three common factors were extracted and named as emotional exhaustion of scientific research (EER, including items 2, 3 and 5), the apathy of scientific research (AR, including items 18, 20 and 21) and Reduced personal accomplishment of research (RPAR, including items 9, 12, 13). The three factors' cumulative variance was 64.033%, including nine items, which showed that the nine items could represent the research data and had good validity (see Table 1 for details).

greater than 0.7, indicating that the questionnaire's reliability is excellent.



#### IV. RESULTS AND DISCUSSION

##### 1. The status quo of research burnout among English teacher in Chinese Universities

As shown in Table 2, the means of the subjects on emotional exhaustion of scientific research(EER), the apathy of scientific research(AR) and Reduced personal accomplishment (RPAP) were 3.808, 3.711 and 3.021 respectively, which were higher than the median of 2.5, indicating that the subjects' research burnout was quite frequent and severe, especially in term of emotional exhaustion of scientific research(EER). Specifically, in the face of research work, English teachers are in a state of fatigue in their emotions and lose their enthusiasm for scientific research; Among them, the fatigue state of scientific research emotion and emotion is most evident in the psychological characterization of scientific research burnout, followed by the apathy of scientific research(AR).

In addition, there were significant positive correlations among the dimensions of emotional exhaustion of scientific research(EER), apathy of scientific research(AR) and Reduced personal accomplishment (RPAP), with Pearson correlation (r coefficient) of 0.493 ( $P = 0.000 < 0.001$ ), 0.252 ( $P = 0.002 < 0.01$ ) and 0.229 ( $P = 0.006 < 0.01$ ), respectively. This shows that the three factors (EER, AR, and RPAP) of English teachers in scientific research work are closely related and mutually influential. They are not isolated actors but interactive and mutually transformative. It is necessary to construct a network to alleviate teachers' scientific research burnout, find out the network nodes (other actors) and related to the three in the network connection, and clarify the network connection and operation trajectory of teachers' scientific research burnout.

Table 2 Correlation and descriptive statistics (N=144)

		REE	RDP	RRPA	mean	SD
REE	Pearson Correlation	1			3.808	0.926
	Sig. (2-tailed)					
RDP	Pearson Correlation	.493**	1		3.711	0.882
	Sig. (2-tailed)	0.000				
RRPA	Pearson Correlation	.252**	.229**	1	3.021	0.824
	Sig. (2-tailed)	0.002	0.006			

\*\* Correlation is significant at the 0.01 level (2-tailed).

##### 2. Differences on demographic characteristics of English teachers' scientific research burnout

###### (1) Examination of gender, age, educational background, university level and professional title

variables in each dimension of English teachers' scientific research burnout.

Gender, age, educational background, university level and job title were used as grouping variables to test the differences in the three-dimensions of English teachers' research burnout. It was found that

there were no significant differences on the three-dimensions of EER, AR and RPAR among the above variables. This is basically consistent with the research findings of Li Wenmei (2016) on scientific research burnout of foreign language teachers in Colleges and universities, indicating that the variables of gender, age, educational background, university level and professional title have no significant impact on the research burnout of English teachers. That is to say, in the network of alleviating scientific research burnout of English teachers, factors such as gender, age, educational background, university level and professional title are weaker actors, which have no significant effect on the generation of scientific research burnout of English teachers.

## (2) Differences on English Teacher's research burnout in terms of serving years

Taking serving years as a grouping variable to test the inter-group differences of English teachers in the three dimensions of scientific research burnout, it was found that there were no significant differences on the dimensions of AR and RPAR among English teachers with serving years of 4-10 years (group 2), 16-20 years (group 4) and 20 years or more (group 5) (P values were 0.584, 0.150, 0.400, all greater than 0.05), but there are significant differences between group 1 (3 years and below, P values are 0.584, 0.150, 0.400, respectively). and

group 3(11-15 years ) on EER ( $P=0.004<0.05$ ), and on EER , the mean of group 1 was lower than that of group 3, that is to say, the EER of English teachers with 11-15 years of serving was more serious than that of teachers with 3 years or less serving years (see Table 3).

According to Huberman's theory of career stage, the first 1-3 years of work are the induction period and the "survival and discovery period" (Lian Rong, 2004). During this period, the complex emotions of the novice teachers about the new occupation include the seemingly paradox of the freshness of being a teacher and the inability to face the new work, and they are still in the stage of focusing on survival, not giving enough attention to scientific research; But for teachers who have served 11-15 years, they are generally going through a period of divergence in which some start to strive for change in their career and constantly challenge their profession and self, some develop a sense of tiredness on the tedious teaching cycle (Huberman, 1989). Therefore, the EER of teachers with 11-15 years of serving is more serious than that of teachers with less than 3 years of serving. This result fits well with Huberman's theory of career stage and further enriches the theory. This also further indicates that teaching age is a strong actor and an important node in the network of reducing scientific research burnout of English teachers.

Table 3. One way ANOVA (Serving years)

		Sum of Squares	df	Mean Square	F	Sig.	Scheffe(C)
REE	Between Groups	12.581	4	3.145	3.967	<b>0.004</b>	Group 1 (3 years or less) Mean < Group 3 (11-15 years) Mean, Mean Diff. 9.083
	Within Groups	110.215	139	0.793			
	Total	122.796	143				
RDP	Between Groups	6.612	4	1.653	2.193	0.073	
	Within Groups	104.776	139	0.754			

Total	111.388	143			
RRPA Between Groups	5.568	4	1.392	2.114	0.082
Within Groups	91.54	139	0.659		
Total	97.108	143			

(3) Differences in research burnout among English teachers by weekly class hours

To test the differences on research burnout among English teachers Using the weekly class hours are

used as a grouping variable, and findings show that there are significant differences on all three dimensions of research burnout between the three groups(p-value (0.011, 0.112, 0.002, all less than 0.05). as shown in Table 4

Table 4. One-way ANOVA (weekly class hours)

		Sum of square	df	MS	F	Sig.
REE	Between groups	7.658	2	3.829	4.689	<b>0.011</b>
	Within groups	115.138	141	0.817		
	Total	122.796	143			
RDP	Between groups	6.784	2	3.392	4.572	<b>0.012</b>
	Within groups	104.604	141	0.742		
	Total	111.388	143			
RRPA	Between groups	7.955	2	3.977	6.29	<b>0.002</b>
	Within groups	89.153	141	0.632		
	Total	97.108	143			

After multiple comparisons (Table 5), we found that the mean of group2 (11-16 class hours) and group3(17 or more classes per week ) was greater than that of group 1 (teachers with 10 or less classes per week) on EER, which indicates that teachers with more classes were more exhausted when facing scientific research work; On AR, the mean of group 2 (teachers with 11-16 classes per week ) was greater than that of group 1 ( teachers with 10 classes or less per week), indicating that with the increase of teachers' class hours, the more indifferent teachers are toward scientific research, and the less attention they pay to it; On RPAR, group 2 (teachers with 11-16 class hours per week) and group 3 ( teachers with 17 or more class hours per week) are greater than that group 1 (teachers

with 10 classes or less per week), which indicates that the more class hours teachers have, the more likely they are to have RPAR. This also shows that weekly class hours are a strong actor which plays an essential role in the network connection of alleviating English teacher's research burnout.

**Table 5. Multiple Comparisons (Scheffe)**

DV	(I)	Weekly (J)	Weekly MD (I-J)	Std. Error	Sig.	95% Confidence interval	
						Lower Bound	Upper Bound
REE	10classes less	or		0.204	0.038	-1.032	-0.022
		11-16 classes	-.528*				
		17classes & more	-.726*	0.248	0.016	-1.341	-0.11
	11-16 classes	10 classes or	.527*	0.204	0.038	0.022	1.032
		less					
		17 classes & more	-0.198	0.195	0.597	-0.681	0.284
RDP	17 classes more	& 10 classes or	.726*	0.248	0.016	0.111	1.341
		less					
		11-16classes	0.198	0.195	0.597	-0.284	0.681
	10 classes less	or		0.194	0.013	-1.065	-0.10
		11-16 classes	-.584*				
		17 classes & more	-0.521	0.237	0.092	-1.108	0.064
	11-16 classes	10 classes or	.584*	0.194	0.013	0.103	1.065
		less					
		17 classes & more	0.062	0.186	0.946	-0.398	0.522
	17classes more	& 10 classes or	0.521	0.237	0.092	-0.064	1.108
		less					



	11-16 classes	-0.062	0.186	0.946	-0.522	0.398
RRPA	10 classes or		0.179	0.003	-1.078	-0.190
	11-16 classes	-.634*				
	less					
	17 classes or		0.218	0.045	-1.092	-0.009
	more	-.550*				
	10 classes or		0.179	0.003	0.190	1.078
	11-16 classes	.634*				
	less					
	17 classes or		0.171	0.889	-0.341	0.508
	more	0.083				
	17classes or 10 classes or		0.218	0.045	0.009	1.092
	more less	.550*				
	11-16 classes	-0.083	0.171	0.889	-0.508	0.341

#### (4) Differences on Scientific Research Burnout of College English Teachers with Different Numbers of Core Papers Published

Taking the number of core papers published as a grouping variable to test the differences among English teachers in the three factors of research burnout (see Table 6), it was found that there was no significant difference between group 1 ( English teachers who published 0 core papers), and group 2 (teachers who published less than 5 core papers) on EER and AR (P values were 0.328, 0.421, both

greater than 0.05), but on RPAR, there is significant difference between group1 and group group 3 ( teachers who published more than 5 core papers)( $P=0.006<0.05$ ).That is to say, the scientific research achievement of group1 is much lower than that of group3. This shows that publishing core papers has an essential impact on College English teachers' achievement, and its impact cannot be ignored. That is also to say, the number of core papers published is also a strong actor in the network of reducing scientific research burnout of English teachers, which should be paid attention to.

Table 6. One-way ANOVA (core papers published)

	Sum of squares	df	MS	F	Sig.	Multiple comparisons (Scheffe)
REE						
Between groups	1.924	2	0.962	1.122	0.328	
Within groups	120.871	141	0.857			
Total	122.796	143				

RDP	Between groups	1.359	2	0.679	0.871	0.421	
	Within groups	110.029	141	0.78			
	Total	111.388	143				
RRPA	Between groups	6.856	2	3.428	5.356	<b>0.006</b>	group1 (0
	Within groups	90.252	141	0.64			paper) mean>group3 (6
	Total	97.108	143				papers) mean, MD 0.740

(5) Differences in research burnout among university English teachers on the group variable of the " research penalty system."

Using the university research punishment system as a grouping variable to test the differences of English teachers on the three dimensions of scientific

research burnout, and found that there is a significant difference on EER and AR (P values: 0.031, 0.007, both less than 0.05), as shown in Table 7 and Table 8.

Table 7. Independent sample T-test (Punishment system for research)

		Levene's Test For Equality of t-test for Equality of Means Variance								
		F	Sig.	t	df	Sig. tailed)	(2- Mean Diff	S.E. Diff.	95% Confi. Internal of Diff. <div>LowerUpper</div>	
REE	Equal variances assumed	0.738	0.392	2.185	142	<b>0.031</b>	0.335	0.153	0.031	0.639
	Equal variances not assumed			2.159	126	0.033	0.335	0.155	0.027	0.643
RDP	Equal variances assumed	0.451	0.503	2.745	142	<b>0.007</b>	0.398	0.144	0.11	0.684

	Equal variances not assumed			2.708	126	0.008	0.398	0.146	0.107	0.688
RRPA	Equal variances assumed	0.923	0.338	0.891	142	0.374	0.123	0.138	-0.150	0.397
	Equal variances not assumed			0.884	126	0.378	0.123	0.139	-0.152	0.399

From Table 8, it can be seen that the punishment system can make English teachers feel more emotionally exhaustive and indifference to scientific research (mean  $E=3.955>3.619$ , mean  $E=3.885>3.487$ ). This indicates that establishing the punishment system for scientific research has set more precise research requirements for teachers. This action's starting point is to stimulate teachers'

scientific research work, but in fact, it has not played a decisive role but has caused College English teachers' emotional exhaustion of scientific research and indifference to scientific research. Therefore, the scientific research punishment system is a strong actor in the network of alleviating scientific research burnout of College English teachers.

Table 8. Group Statistics (Punishment system for research)

		N	Mean(E)	SD	S.E. Diff.
REE	Yes	81	<b>3.955</b>	0.875	0.097
	No	63	<b>3.619</b>	0.963	0.121
RDP	Yes	81	<b>3.885</b>	0.820	0.091
	No	63	<b>3.487</b>	0.915	0.115
RRPA	Yes	81	2.642	0.801	0.089
	No	63	2.519	0.855	0.108

## V. CONCLUSION

This investigation shows that there is a high degree of scientific research burnout among English teachers in Chinese universities. Besides, College English teachers' research burnout did not show significant differences in gender, age, educational background, professional title, and University level. This shows that the above factors play the role of "weak actors" in the network of University English teachers' scientific research burnout;. In contrast, the factors of serving years, weekly class hours, number of core papers published, and scientific research punishment system have significant effects on College English teachers' scientific research burnout, indicating that the above factors play a role of "strong actors" in the network of University English teachers' scientific research burnout. These factors, which have significant or insignificant effects, play different roles in the network of scientific research burnout of College English teachers. The connection between them, bright or dark, needs to be sorted out based on the network to find strong actors. Therefore, from the perspective of "both human and non-human can act as actors", this paper looks at the effect of various factors on the research burnout of English teachers, studies the influence process of various factors on the alleviation of College English teachers' research burnout as an action network, breaks the limitations of the original unilateral teachers themselves as actors, and constructs an actor network to alleviate College English teachers' research burnout and thus providing a new perspective for alleviating the burnout of English teachers in scientific research.

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