

Article

What Causes Burnout in Special School Physical Education Teachers? Evidence from China

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Abstract: Special physical education is considered a challenging process concerned with the development of the physical and mental health of students with physical disabilities. Special physical education teachers face pressures from society, parents, schools, and themselves, which can easily lead to burnout and increase levels of teacher attrition. In our paper, we explore the significant effects of role and job stress (divided into role ambiguity and conflict, and stressors and stress responses, respectively), teaching efficacy (divided into general and personal teaching efficacy), job satisfaction (divided into internal and external job satisfaction), and social support (divided into objective and subjective support) on burnout (divided into emotional exhaustion, depersonalization, and reduced personal accomplishment). We chose to conduct an empirical analysis using data from different regions of China. Our study results showed that role conflict, general teaching efficacy, job satisfaction, and objective support were the main factors influencing burnout among special physical education teachers in China. Stressors were the main factors influencing emotional exhaustion. General teaching efficacy, job stress, and role conflict significantly influenced depersonalization. Internal job satisfaction and personal teaching efficacy mainly influenced feelings of reduced personal accomplishment. Attributes such as seniority, marriage status, gender, academic titles, and education level also affected burnout. Additionally, we verified that there are regional disparities in the factors influencing burnout. Finally, our study of burnout among special physical education teachers could improve the physical and mental health of students with physical disabilities.

Keywords: special school physical education teachers; burnout; emotional exhaustion; depersonalization; reduced personal accomplishment



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1. Introduction

The International Charter of Physical Education, Physical Activity and Sport emphasizes that resources, authority, and responsibility for physical education and activity and sport must be allocated without discrimination based on gender, age, disability, or any other basis, to overcome the exclusion experienced by vulnerable or marginalized groups [1]. Therefore, “participation in sport is a fundamental right of the human person”. Physical education for special groups exists to provide equitable access to self-health-management knowledge and adaptive physical education appropriate to their physical and mental characteristics and needs to equally and fully improve their ability to participate in society.

Special education (adapted activity) provides education for students with disabilities. China has promulgated many policies to promote the development of special school education. In 2010, China released the Outline of the National Medium and Long-term Education Reform and Development Plan (2010–2020), putting forward requirements such as improving the special education system [2]. In 2014, China released the Special Education Enhancement Plan (2014–2016) to expand the scale of special education teacher training, improve the professionalism of special education teachers, and establish a special education quality monitoring and evaluation system [3]. The Second Phase of the Special Education

Enhancement Plan (2017–2020) proposed to verify the non-enrolment of school-age children and adolescents with disabilities in districts or counties, with the aim of achieving full, universal compulsory education for children with disabilities [4].

As part of special school education, physical education enhances students' physical fitness, improves their motor skills, and develops their psychological qualities. The extensive development of sports in special education schools helps to improve the willpower and self-confidence of students with special needs and enhances their physical functions and social interaction skills [5]. Sports can also compensate for their physical and mental deficiencies and develop special education students into socially competent, integrated, and self-sufficient individuals [6], which fulfils the needs of social development and correlates to the international community's humanitarian spirit regarding pursuing equality, participation, and sharing.

However, there has been a brain drain of special education teachers in China due to the pressures and intensity of this work. According to a survey related to special education, about 37.9% of teachers have considered leaving their jobs [7]. As a specific group in society, special education teachers face enormous pressures and challenges due to their low social status, long working hours, and the complexity of their educational targets, which leads to burnout in special education work [8]. This has led to a gradual blurring of special education teachers' roles, a distortion of the proper understanding of special education work, and a gradual loss of responsibility for special education [9,10]. As a result, studies of burnout among special physical education teachers have received widespread attention from the research community, with the aim of improving special students' overall access to physical education. Simultaneously, this also promotes the professional development of special physical education teachers.

Our study divided role and job stress, teaching efficacy, job satisfaction, and social support into two dimensions. We also verified that there are regional disparities in the factors influencing burnout. Our paper analyses the causes and drawbacks of burnout in special education teachers, so that schools, teachers, students' parents, and society can understand and pay attention to the problem of burnout. The contributions of our paper are as follows:

- (a) We did not follow the variables selected by most scholars for research. Instead, our study presents a comprehensive selection of factors influencing burnout. We produced a multidimensional classification of burnout and its influencing factors, which made our findings clearer.
- (b) Our study results provide reference value. We comprehensively analyzed the state of burnout in three regions of China: East, Central, and West. This means that our findings can be used by the government, school administrators, and special teachers, as well as the friends and family of teachers.
- (c) We enrich the application scope of conservation of resources, self-determination, and social cognitive career theory.

The rest of this paper is organized as follows: Section 2 provides a literature review; Section 3 shows details of our research model, including the independent, dependent, and control variables; Section 4 outlines details of our data analysis and presents the results of the model's tests; and finally, Section 5 presents the conclusion, research limitations, and discussion.

2. Theory and Literature Review

2.1. Theory

The conservation of resources (COR) theory is a model of stress and motivation that aims to explain people's behavior following stressful events [11]. When people lose resources because of a negative event, they gradually become vulnerable and defenseless. This may force them to replenish and restore their original resources by acquiring and using alternative resources when faced with a loss. Hobfoll classifies resources into four types: personal characteristics, conditions, energy, and psychological [12]. According to

COR theory, external resources are an important source for people [13]. For special physical education teachers, the most important external resource is social support.

Self-determination theory (SDT) is based on the assumption that people are active and dynamic individuals. It assumes that people tend to integrate themselves and learn with the support of their social and external surroundings and that the relationship between the individual and the environment is an organic interaction [14]. According to SDT, people are motivated by three basic psychological needs: the need for competence, autonomy, and to belong [15]. SDT can be used to explain basic psychological needs at work, including social support for teachers and career satisfaction.

Social cognitive career theory (SCCT) explains how career behavior is influenced by our environment as well as factors of the self. The three core concepts of SCCT are self-efficacy, outcome expectations, and goal setting [16]. In other words, special physical education teachers' teaching efficacy, job satisfaction, and role stress all influence personal perceptions. In addition to this, study results have shown that gender differences and personality traits influence people's perceptions of the self and thus influence their behavioral decisions about work [17]. Similarly, environmental considerations, such as family, socio-economic, and cultural factors, also influence work-related behavior by affecting people's perceptions and self-evaluations [18,19]. Thus, external factors such as gender, marriage, and job title all influence teacher burnout.

2.2. *The Concept of Burnout*

In 1974, Freudenberger, an American clinical psychologist, introduced the concept of burnout. This concept was used to describe a state of exhaustion in psychiatric caregivers at work [20]. Maslach's definition is the most widely accepted of the many scholarly studies on burnout, namely that burnout is a syndrome characterized by emotional exhaustion, cynicism, or depersonalization, as well as a state of low professional efficacy, and is a product of prolonged work stress and a common worldwide health problem [21]. Maslach states that burnout has three main manifestations: emotional exhaustion, depersonalization, and reduced personal accomplishment. Of these, emotional exhaustion, the most central aspect of burnout [22], requires the most attention.

The definition of burnout can be grouped into three types: contextually, burnout is seen as a consequence of an individual's lack of appropriate coping strategies to effectively relieve work stress or cope with frustrations at work [23]; regarding symptoms, burnout involves a change in the individual's physical, mental, internal, and external demeanor toward negative emotions [22]; and finally, in terms of process, burnout gradually develops in a specific context [24].

2.3. *Measurement of Burnout*

In 1986, Maslach and Jackson introduced the Maslach Burnout Inventory—Educators Survey (MBI-ES), which is a scale specifically designed to measure the level of burnout in a group of teachers working in education [25]. The scale includes three dimensions of emotional exhaustion, depersonalization, and reduced personal accomplishment, and it is a commonly used scale for burnout assessment. Conceptually, it is preferable to think of burnout as a multidimensional construct. However, for researchers in the field of burnout, it is sometimes more convenient to consider burnout a one-dimensional variable. As a result, there is an academic debate about the multi-versus unidimensionality of the MBI-ES scale. Schaufeli and Dierendonck argue against the unidimensional approach [26]. They claim that the correlations between the dimensions themselves and with other variables are complex and that combining these dimensions would lead to considerable information loss. On the other hand, burnout is predominantly dominated by emotional exhaustion and the additional weighting of the other two dimensions deserves to be limited [27]. Later, Brenninkmeijer conceptualized burnout as a dichotomous versus a continuous variable and proposed a decision gauge to distinguish between high- and low-level burnout [28]. Furthermore, to respect the multidimensional structure of burnout, researchers should

analyze the results of each dimension separately. In 2005, Kristensen and his colleagues critically discussed the Maslach Burnout Scale and proposed an alternative, more general instrument to measure burnout [29]. In the same year, Schaufeli critically examined their reasons for developing a new burnout scale and its theoretical underpinnings [30]. While they agreed with Kristensen et al.'s comments about the usability of the MBI, they disagreed with their concerns about its theoretical underpinnings. Today, the most commonly used scale to study burnout remains the MBI scale.

2.4. Teacher Burnout

Research on teacher burnout has focused on influencing factors. Mahmoudi et al. argued that individual attitudes and senses of commitment to a profession are important factors reflected in an individual's desire and love for the ongoing work of their profession [31]. Burnout can significantly reduce the effectiveness of teachers' professional activities and lives and negatively affect their emotions [32]. Scholars have offered complex models of burnout and highlighted the interplay between organizational, and social factors [33]. Brouwers et al. found that a lack of control over work and low social support among colleagues, headmasters, and administrators result in higher levels of burnout felt by physical education teachers [34]. Tong and Qi suggested that the root causes of teacher burnout are teachers' lack of professional competence, the unreasonable school evaluation and appointment systems, and an overall poor social climate [35]. Rural physical education teachers are more likely to experience burnout than those in urban environments [36]. Moreover, Maher and Morley identified teacher burnout as an impersonal phenotype related to factors in the work environment [37]. Finally, a lack of organizational support, which weakens intrinsic motivation for development, can also lead to teacher burnout [38,39].

Teacher burnout also affects students and harms their learning processes and sense of achievement [40]. Mahmoudi et al. argued that strengthening social capital is an effective solution to reduce burnout among physical education teachers [41]. Furthermore, some scholars believe that improving the quality of work and life [33] and increasing teachers' professional resilience [42] are important means of alleviating teacher burnout. Moreover, Yang et al. proposed improving teachers' professional well-being as an important measure to address burnout [43]. Furthermore, improving the professionalism, work enthusiasm, and personal qualities of physical education teachers [44,45] can also alleviate burnout.

Researchers studying burnout among special school physical education teachers have focused on the negative manifestations and influences of burnout. Williams suggested that burnout reduces job satisfaction [46], and Nagar suggested that burnout diminished special education teachers' organizational commitment [47]. Other scholars found that burnout can increase the intention of special education teachers to leave their profession [48], diminish their professional well-being [49], and reduce their quality of life [50]. At the same time, burnout poses a threat to the physical health of special education teachers. For example, burnout leads to an increase in physical illnesses (e.g., chronic fatigue, recurrent influenza, etc.) [51] and depressive symptoms [52]. In addition, burnout affects the way teachers interact with students, and they may be less attentive and helpful to their pupils, which, in turn, affects the physical and mental development of children with special needs [51]. Several factors influence burnout in special schoolteachers. Maher and Hayley identified "special educational needs and disability as marginalized in initial teacher education" and "limited professional development opportunities for special school physical education teachers" as key themes affecting burnout among special physical education teachers [53]. Furthermore, teachers' personality characteristics, self-perception [54], job stress [55], commitment and career satisfaction [56], psychological capital [57], willingness to innovate in teaching [58], and feelings of loneliness [59] have an impact on burnout levels.

3. Research Model

3.1. Dependent Variables

Burnout manifests in different dimensions. The general manifestations of physical education teacher burnout are lack of motivation; emotional manifestations of restlessness, such as a reduced sense of efficacy and increased feelings of suspicion and self-blame; and a lack of enthusiasm for work, including passivity, perfunctoriness, and loss of professional ethics [60]. These manifestations correspond to the three dimensions of emotional exhaustion, depersonalization, and low personal accomplishment. Emotional exhaustion is the feeling of being emotionally drained when in contact with others, and some scholars believe that special education burnout is mainly reflected in this dimension [61]. Regarding depersonalization, one study found that special education teachers with high levels of burnout tend to be self-centered, which manifests through a lack of respect for students, disregard for their growth and development, and negative or sarcastic verbal behavior toward pupils or colleagues [62]. Moreover, teachers who experience burnout “objectify” students, treating them as objects rather than as living individuals. Xing and Zhang believe that burnout is mainly manifested in two dimensions: emotional exhaustion and depersonalization [63]. In the low-achievement dimension, special education teachers who experience burnout negatively perceive the meaning and value of their work and approach their profession in a passive and perfunctory manner [58]. Special education teachers who have a reduced sense of personal achievement tend to self-depreciate and develop feelings of helplessness. Therefore, we selected burnout, emotional exhaustion, depersonalization, and reduced personal accomplishment as independent variables.

3.2. Independent Variables

We selected role and job stresses (divided into role ambiguity and conflict, and stressors and stress responses, respectively), teaching efficacy (divided into general and personal teaching efficacy), job satisfaction (divided into internal and external job satisfaction) and social support (divided into objective and subjective support) as our study’s independent variables. Role stress is an important underlying factor in teacher development in special schools and is central to the teaching profession as a whole [64]. Work stress is the result of the interactions of individual teachers in a particular context, and the complexity of work stress varies in different occupations. Teaching efficacy is one of the key factors in achieving student inclusion in the general physical education curriculum [65]. A sense of teaching efficacy is highly correlated with a willingness to include students with disabilities [66]. Moreover, personal efficacy has a modifiable role in job burnout, and a high sense of personal efficacy helps to reduce work stress, balance emotions, and overcome burnout [67]. Social support allows individuals to perceive positive value and to attribute this value to the efforts of others. In addition to giving individuals a sense of affirmation and belonging, social support can help teachers strengthen their social networks [68,69].

3.3. Control Variables

We selected gender, seniority, marriage status, education level, and academic titles as our study’s control variables. Scholars have varying positions on the effects of gender on burnout, with some finding that female physical education teachers are more likely to suffer from burnout than their male colleagues [70]. However, Lee and Song found that gender perceptions did not affect burnout when studying a sample of Korean physical education teachers [71]. Furthermore, Zhao found that job title and years of teaching experience were important factors influencing teacher burnout in a study among Chinese secondary school teachers [72]. Additionally, Yan Huawei et al. found that marital status and educational differences affected burnout levels among physical education teachers [73]. Therefore, continued research on these variables is still needed to obtain comparative results.

3.4. Model Establishment

Based on the above analysis, we identified the variables required by our model. Our model can be represented in a linear form as:

$$M = \alpha_0 + \alpha_1 \text{Independent variables} + \beta_1 \text{Control variables} + \varepsilon \quad (1)$$

where M represents the dependent variable. M comprises burnout (M_1), emotional exhaustion (M_2), depersonalization (M_3), and reduced personal accomplishment (M_4). α_0 denotes the constant term, $\alpha_1 - \alpha_{10}$ are coefficients of the independent variables to be estimated, β_1 is the coefficient of the control variables, and ε represents the error term. Equation (1) can be expanded to capture the specific variables of role stress, teaching efficacy, job satisfaction, and social support, as well as the control variables, as:

$$M_{i(i=1,2,3,4)} = \alpha_0 + \alpha_1 RM + \alpha_2 RC + \alpha_3 ST + \alpha_4 SR + \alpha_5 GTE + \alpha_6 PTE + \alpha_7 IJS + \alpha_8 EJS + \alpha_9 OS + \alpha_{10} SS + \beta_1 GEN + \beta_2 YTE + \beta_3 MARR + \beta_4 EDU + \beta_5 TIT + \varepsilon \quad (2)$$

See Table 1 for definitions of the specific variables.

Table 1. The model variables.

Variable		Variable Symbol	Variable Coefficient	Variable Description
Dependent variables				
Burnout		M_1	-	-
Emotional exhaustion		M_2	-	Refers to a lack of energy and emotional resources when the individual is working and is accompanied by frustration and tension.
Depersonalization		M_3	-	Refers to a cynical and negative attitude toward one's work or the people one serves.
Reduced personal accomplishment		M_4	-	Refers to an individual gaining a low sense of achievement in their ability to do their job and holding a negative opinion of their performance.
Independent variables				
Role stress	Role ambiguity	RM	α_1	Refers to a social environment in which teachers are at a loss because of adverse factors that interfere with the functioning of their role tasks.
	Role conflict	RC	α_2	
Job stress	Stressors	ST	α_3	A state of psychological reaction to the influence of the work environment and response to environmental stress.
	Stress responses	SR	α_4	
Teaching efficacy	General teaching efficacy	GTE	α_5	Refers to a teacher's subjective judgment of their ability to influence the learning behavior and abilities of students. This judgment affects the teacher's ability to instruct and work effectively with students.
	Personal teaching efficacy	PTE	α_6	
Job satisfaction	Internal job satisfaction	IJS	α_7	Refers to the psychological state in which teachers have a benign feeling about their work during the teaching process.
	External job satisfaction	EJS	α_8	
Social support	Objective support	OS	α_9	The sum of acts in social networks that use material and moral means to help groups of teachers without compensation.
	Subjective support	SS	α_{10}	

Table 1. Cont.

Variable	Variable Symbol	Variable Coefficient	Variable Description
Control variables			
Gender	<i>GEN</i>	β_1	Females take a value of 1; males take a value of 0.
Seniority	<i>YTE</i>	β_2	-
Marriage status	<i>MARR</i>	β_3	Unmarried takes a value of 1; married take a value of 0.
Education level	<i>EDU</i>	β_4	-
Academic titles	<i>TIT</i>	β_5	-

4. Methodology

4.1. Sample and Population

We distributed approximately 50 questionnaires to each province (or autonomous region or municipality) in China. The regional sample size fluctuated up and down from 50 depending on economic development and actual conditions. We distributed the questionnaire with the help of relevant government organizations and school leaders. This survey began on 10 December 2021 and ended on 20 July 2022. In total, we distributed 1600 questionnaires, and 1277 questionnaires were returned, with a return rate of 79.8%. After eliminating 137 invalid or low-quality questionnaires, 1140 remained. Our survey method was mainly an online questionnaire, supplemented by interviews, commissioned interviews, and mail. The sample characteristics are shown in Table 2.

Table 2. Sample characteristics.

Attribute	Categories	Number of Samples	Proportion (%)	Attribute	Categories	Number of Samples	Proportion (%)
Gender	Male	800	70.2	Marriage status	Unmarried	294	25.8
	Female	340	29.8		Married	846	74.2
Seniority	1~6 years	144	12.6	Academic titles	Level-2 teacher	161	14.1
	7~13 years	714	62.6		Level-1 teacher	910	79.8
	13~18 years	282	24.8		Senior teacher	69	6.1
Education level	Undergraduate	604	53	Area	East China	455	39.9
	Master's degree	422	37		Central China	406	35.6
	PhD	114	10		West China	279	24.5

4.2. Measures

After reviewing references on burnout [27,74], role stress [75], job stress [76], teaching efficacy [77], job satisfaction [78], and social support [79], we constructed indicators for measurement and then translated them into survey questions.

The burnout ($M = 2.538$, $SD = 0.320$) questionnaire consisted of emotional exhaustion ($M = 2.470$, $SD = 0.417$), depersonalization ($M = 2.527$, $SD = 0.495$), and reduced personal accomplishment ($M = 2.797$, $SD = 0.538$).

The five elements questionnaire consisted of role stress ($M = 2.436$, $SD = 0.547$), job stress ($M = 2.516$, $SD = 0.595$), teaching efficacy ($M = 2.987$, $SD = 0.512$), job satisfaction ($M = 2.570$, $SD = 0.537$), and social support ($M = 2.619$, $SD = 0.515$).

We collected data through questionnaires using the five-point scale, ranging from 1 = not at all to 5 = to a great extent.

4.3. Data Validity

We tested the validity of the data using SPSS 26.0 (IBM, Armonk, NY, USA). We assessed the internal consistency values using Cronbach's alpha [80]. If Cronbach's alpha

reached 0.7 or above [81], we deemed the tool to have internal consistency. We tested composite reliability to discover whether the items were reliable and consistent with each other [82]. Our results confirmed that all the items were authentic because the value of the construct was higher than the cutoff value of 0.78 [81]. It is recommended that the ratio between the number of items and cases should be greater than 1:10 [83]; thus, this sample size (N = 1140) was adequate for Kaiser–Meyer–Olkin (KMO). KMO should be no less than 0.5 [84]. The average variance extracted (AVE) should be greater than 0.5 and composite reliability (CR) should be greater than 0.7 [85]. Table 3 shows our data are credible.

Table 3. Factor loadings, Cronbach α and Kaiser–Meyer–Olkin.

		Kaiser–Meyer–Olkin	Cronbach α	AVE	CR
Burnout	Emotional exhaustion	0.876	0.779	0.616	0.888
	Depersonalization	0.896	0.814	0.567	0.867
	Reduced personal accomplishment	0.892	0.771	0.539	0.853
Role stress	Role ambiguity	0.837	0.873	0.761	0.905
	Role conflict	0.832	0.894	0.759	0.904
Job stress	Stressors	0.858	0.868	0.742	0.896
	Stress responses	0.830	0.808	0.632	0.837
Teaching efficacy	General teaching efficacy	0.807	0.858	0.740	0.850
	Personal teaching efficacy	0.785	0.889	0.797	0.887
Job satisfaction	Internal job satisfaction	0.868	0.839	0.706	0.878
	External job satisfaction	0.876	0.887	0.788	0.918
Social support	Objective support	0.817	0.906	0.822	0.902
	Subjective support		0.828	0.684	0.812

4.4. Correlation Analysis

We used StataSE 15.0 (Computer Resource Center, Rochester, MN, USA) to analyze the correlations between the variables in several dimensions, including burnout and work and role stresses. Table 4 shows the majority of the significantly correlated variables had correlation coefficients less than 0.7. Therefore, there was no multicollinearity between these variables.

Table 4. Correlation test results.

	Burnout	Role Ambiguity	Role Conflict	Stressors	Stress Responses	General Teaching Efficacy	Personal Teaching Efficacy	Internal Job Satisfaction	External Job Satisfaction	Objective Support	Subjective Support
Burnout	1.000										
Role ambiguity	0.169	1.000									
Role conflict	0.203	−0.355 ***	1.000								
Stressors	0.557 ***	−0.290 **	0.159	1.000							
Stress responses	0.262 **	0.538 **	−0.195	0.159	1.000						
General teaching efficacy	0.522 ***	−0.220 *	0.405 ***	0.476 ***	0.277 **	1.000					
Personal teaching efficacy	−0.212 *	0.560 ***	−0.005	−0.140	0.515 ***	−0.180	1.000				
Internal job satisfaction	−0.020	0.307 **	−0.168	−0.116	0.526 ***	0.134	0.248 **	1.000			
External job satisfaction	0.268 **	0.444 ***	−0.432 ***	0.340 ***	0.365 ***	−0.019	0.410 ***	−0.220 *	1.000		
Objective support	−0.096	0.498 ***	−0.204	−0.012	0.073	−0.160	0.521 ***	0.088	0.440 ***	1.000	
Subjective support	−0.370 ***	−0.533 ***	0.500 ***	−0.058	−0.445 ***	0.030	0.068	−0.357 ***	−0.568 ***	−0.371 ***	1.000

Note: * denotes $p < 0.05$; ** denotes $p < 0.01$; *** denotes $p < 0.001$.

4.5. Model Regression

We divided the sample into East China, Central China, and West China according to their levels of economic development. We performed robustness regressions with Equation (2) using StateSE 15.0. Tables 5–8 show the test results.

Table 5. Results of the model in China.

	Burnout (M ₁)	Emotional Exhaustion (M ₂)	Depersonalization (M ₃)	Reduced Personal Accomplishment (M ₄)
Independent variables				
Role ambiguity (RM)	0.090 *	0.050	0.447 ***	0.008
Role conflict (RC)	0.136 *	0.380 ***	0.171 **	0.110 *
Stressors (ST)	0.250 **	0.297 ***	0.291 ***	0.036
Stress responses (SR)	0.051 **	0.170 **	0.220 **	0.190 **
General teaching efficacy (GTE)	−0.253 **	−0.157 **	−0.164 **	−0.203 **
Personal teaching efficacy (PTE)	−0.060 *	−0.020	−0.331 ***	−0.089 *
Internal job satisfaction (IJS)	−0.124 **	0.021	−0.012	−0.191 **
External job satisfaction (EJS)	−0.189 *	−0.348 ***	0.070	−0.119 *
Objective support (OS)	−0.168 *	−0.367 ***	−0.044	0.128 *
Subjective support (SS)	−0.180 *	−0.248 **	−0.006	−0.235 **
Control variables				
Gender	0.295 **	0.219 **	0.551 **	0.142 *
Seniority	0.309 **	0.018 **	0.085 **	−0.025 *
Marriage status	−0.317 **	−0.253 **	−0.406 **	−0.121 *
Education level	−0.419 **	−0.484 **	−0.358 **	0.380 **
Academic titles	0.010 **	−0.085 **	0.010	−0.060 *
Statistics				
F	544.971	459.743	361.885	419.972
R ²	0.890	0.852	0.800	0.832

Note: * denotes $p < 0.05$; ** denotes $p < 0.01$; *** denotes $p < 0.001$.

Table 6. Results of the model in East China.

	Burnout Burnout (M ₁)	Emotional Exhaustion (M ₂)	Depersonalization (M ₃)	Reduced Personal Accomplishment (M ₄)
Independent variables				
Role ambiguity (RM)	0.061	0.044	0.040	0.050
Role conflict (RC)	0.123 *	0.087	0.237 **	0.080 *
Stressors (ST)	0.353 **	0.275 ***	0.444 ***	0.026
Stress responses (SR)	0.136 *	0.236 **	0.114 *	0.109 *
General teaching efficacy (GTE)	−0.171 **	−0.045	0.031	0.022
Personal teaching efficacy (PTE)	−0.488 ***	−0.058	−0.289 **	0.005
Internal job satisfaction (IJS)	−0.104 *	−0.126 *	−0.004	−0.044 *
External job satisfaction (EJS)	−0.192 **	0.135 *	−0.109 *	−0.013
Objective support (OS)	0.140 *	0.038	−0.268 **	−0.153 *
Subjective support (SS)	−0.155 *	−0.204 **	0.044	−0.011
Control variables				
Gender	0.469 ***	−0.024	0.137 *	0.062 *
Seniority	0.082 *	0.014	0.029	−0.199 **
Marriage status	−0.331 ***	−0.240 **	−0.310 **	−0.240 **
Education level	−0.135 *	−0.020	−0.266 **	−0.063 *
Academic titles	0.082	0.064	−0.117 *	−0.222 **
Statistics				
F	553.083	284.321	330.395	261.511
R ²	0.891	0.791	0.809	0.761

Note: * denotes $p < 0.05$; ** denotes $p < 0.01$; *** denotes $p < 0.001$.

Table 7. Results of the model in Central China.

	Burnout (M ₁)	Emotional Exhaustion (M ₂)	Depersonalization (M ₃)	Reduced Personal Accomplishment (M ₄)
Independent variables				
Role ambiguity (RM)	0.054 *	0.038	0.133 *	0.547 ***
Role conflict (RC)	0.183 **	0.046	0.142 *	0.022
Stressors (ST)	0.169 *	0.175 **	0.199 **	0.145 *
Stress responses (SR)	0.123 *	0.162 **	0.197 **	0.077
General teaching efficacy (GTE)	−0.068	−0.009	0.168 **	−0.198 **
Personal teaching efficacy (PTE)	−0.018	−0.183 **	0.004	−0.111 *
Internal job satisfaction (IJS)	−0.140 *	−0.134 *	−0.120 *	−0.123 *
External job satisfaction (EJS)	−0.134 *	−0.043	−0.190 *	−0.128 *
Objective support (OS)	−0.274 **	−0.024	−0.055	−0.135
Subjective support (SS)	−0.055	−0.174 *	−0.099 *	−0.017
Control variables				
Gender	0.037	0.116 *	0.134 *	0.196 **
Seniority	−0.279 ***	−0.123 *	−0.070	0.261 **
Marriage status	−0.008	−0.109 *	−0.104 *	−0.225 **
Education level	−0.180 **	−0.215 *	0.083	−0.139 *
Academic titles	−0.161 *	−0.062	−0.115 *	−0.432 ***
Statistics				
F	392.812	258.716	230.038	404.409
R ²	0.815	0.744	0.732	0.831

Note: * denotes $p < 0.05$; ** denotes $p < 0.01$; *** denotes $p < 0.001$.

Table 8. Results of the model in West China.

	Burnout (M ₁)	Emotional Exhaustion (M ₂)	Depersonalization (M ₃)	Reduced Personal Accomplishment (M ₄)
Independent variables				
Role ambiguity (RM)	0.047	0.140 *	0.091 *	0.148 *
Role conflict (RC)	0.012	0.099 *	0.237 **	0.286 ***
Stressors (ST)	0.305 ***	0.204 *	0.158 *	0.150 *
Stress responses (SR)	0.396 ***	0.179 *	0.071 *	0.266 **
General teaching efficacy (GTE)	−0.180 **	0.093 *	0.132 *	0.062 *
Personal teaching efficacy (PTE)	−0.121 *	−0.016	−0.035	−0.158 *
Internal job satisfaction (IJS)	−0.134 *	−0.077 *	−0.057 *	−0.120 *
External job satisfaction (EJS)	−0.275 ***	−0.021	−0.012	−0.140 *
Objective support (OS)	−0.214 ***	−0.116 *	−0.071 *	−0.300 ***
Subjective support (SS)	−0.332 ***	−0.045	−0.090 *	−0.443 ***
Control variables				
Gender	0.026	0.070 *	0.082 *	0.067 *
Seniority	−0.260 **	−0.242 **	−0.091 *	−0.171 **
Marriage status	−0.142 *	−0.318 ***	−0.121 *	−0.038
Education level	−0.166 *	−0.010	−0.093 *	0.313 ***
Academic titles	−0.228 **	−0.013	−0.069*	−0.044
Statistics				
F	480.759	243.939	275.635	433.865
R ²	0.881	0.739	0.766	0.849

Note: * denotes $p < 0.05$; ** denotes $p < 0.01$; *** denotes $p < 0.001$.

4.6. Results

The test results for China, East China, Central China, and West China differed. According to the test for China as a whole, burnout was significantly and positively related to role stress and job stress and negatively related to teaching efficacy (e.g., [86]), job satisfaction, and social support. The control variables of gender, seniority, marriage status, education level, and academic titles all had a significant effect on burnout. However, marriage status and education level were negatively associated with burnout. Emotional exhaustion, de-

personalization, and reduced personal achievement were significantly positively associated with role conflict and stress response and negatively associated with general teaching efficacy. Academic titles had no significant effect on depersonalization.

According to the test for East China, burnout was significantly positively related to role conflict (e.g., [87]) and job stress and negatively related to teaching efficacy, job satisfaction, and social support. However, job titles had no significant effect on burnout. Gender, seniority, education level, and academic titles did not have a significant effect on emotional exhaustion. According to the test for Central China, burnout was significantly and negatively related to general teaching efficacy, job satisfaction, and objective support. Gender and marriage status did not affect burnout (e.g., [88]). Emotional exhaustion, depersonalization, and reduced personal accomplishment were significantly positively associated with stressors and negatively associated with internal job satisfaction. Seniority and education level had no significant effect on depersonalization.

According to the test for West China, burnout was significantly positively associated with job stress and negatively associated with teaching efficacy, job satisfaction, and social support. Gender had no significant effect on burnout (e.g., [71]). Education level and academic titles had no significant effect on emotional exhaustion. Gender and academic titles did not have a significant effect on reduced personal accomplishment. Emotional exhaustion, depersonalization, and reduced personal accomplishment were significantly positively related to role conflict, stressors, and general teaching efficacy (e.g., [67]) and negatively related to internal job satisfaction and objective support.

5. Conclusions and Discussion

Based on our findings, our conclusions are as follows.

- (1) The results from each region showed that role conflict, general teaching efficacy, job satisfaction, and objective support were the main factors influencing burnout among physical education teachers in Chinese special schools.
- (2) Stressors are a major factor influencing emotional exhaustion. General teaching efficacy, job stress, and role conflict significantly influence depersonalization. Reduced personal accomplishment was mainly influenced by internal job satisfaction and personal teaching efficacy.
- (3) Seniority and education level had a significant effect on burnout. Marriage status had a significant effect on emotional exhaustion, depersonalization, and reduced personal accomplishment.
- (4) There is a slight difference between the factors influencing each region. This situation may be related, in some way, to economic development. Therefore, when determining intervention strategies for burnout, it is logical to analyze the different regions according to their socioeconomic contexts.

However, our paper does not consider the cross-sectional effects between the independent variables, and teacher burnout may be the result of interactions between several factors. Furthermore, although we divided the regions to analyze the factors influencing burnout, we did not explore the reasons for our differing results. In the future, regional factors should be reflected in our research model to explore the reasons for regional differences in teacher burnout.

Based on our findings, we propose the following intervention strategies.

Role awareness is considerable for relieving role stress. To identify the unique educational needs of special students, schools need to actively support teachers in their educational content and teaching methods. Unlike general physical education, teaching methods and the content of special physical education are adapted and revised according to the students' needs. Special regularly perform repetitive and complex tasks, especially during the COVID-19 pandemic, and the increased workload leads to increased physical and mental exertion. Therefore, special schools should appropriately overhaul their existing practices according to their characteristics. Special physical education teachers' self-worth should be fully supported to enhance their initiative and promote unity. At

the same time, training should be customized to each individual teacher, which would provide a high-quality foundation for special education for students with disabilities and also ensure organizational support for individualized and specialized teaching methods.

It is also necessary to increase teachers' collective efficacy. A teacher's sense of personal efficacy is linked to a sense of collective efficacy. This is because gaining a sense of collective competence can cause special physical education teachers to have greater expectations of success. It can also allow special education teachers to remain at a persistently high level of teaching quality and encourage them to make greater efforts to improve. Secondly, teaching efficacy is related to the level of confidence that teachers have in their abilities. Furthermore, confidence stems more from teachers' professionalism. Therefore, schools need to regularly train special physical education teachers. During the COVID-19 pandemic, there were differences in teacher burnout rates at different school levels [89]. Therefore, even during COVID-19, conditions should be created for the training of special physical education teachers.

Schools can also help special physical education teachers gain more social support. Special education schools should encourage teachers to participate in social or organizational activities both in and out of school, perhaps even through a reward system. In the process of participating in activities, teachers are encouraged to meet more friends or colleagues, helping them to build rich and diverse social networks. Such social networks strengthen the bonds that maintain social relationships. On the other hand, schools can organize events and invite the family members of teachers to participate, simultaneously enhancing their understanding of special education. This can increase the willingness and ability of relatives of special physical education teachers to provide support, as well as increase the understanding and support of teachers' families for their job. Taken together, schools have an important role to play in the process of social support, both in providing the necessary social support themselves and in helping teachers access support outside of the school environment.

Finally, special physical education teachers' academic titles are associated with burnout. Moreover, burnout is not cumulative over time; rather, it increases in waves. Therefore, schools need to support teachers with different levels of seniority and with varying academic titles in different ways. Firstly, for teachers who are new to the profession and who may have a high level of enthusiasm for their job, burnout may be experienced but will not be evident. However, schools can help new teachers strengthen their understanding of special education work and settle in when entering a new workplace. Secondly, special physical education teachers with 5–10 years of seniority often find the work they perform in special physical education boring, uninteresting, etc., resulting in a high level of burnout. Schools should pay more attention to their mental health and organize more group activities, fellowship competitions, etc., which can eliminate negative emotions from the perspective of individual endogenous and teachers' exogenous factors [90,91]. Finally, teachers with more than 10 years of seniority have a clear understanding of the limitations of their job; however, it would be logical for the school to invite such teachers to participate with their families in school group activities, as well as training, to reduce their burnout levels.

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