



Teacher Burnout in Technical and Vocational Education and Training (TVET): A Thematic Synthesis of Empirical Evidence in China

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Abstract

Against the backdrop of global digitalization, rapid technological advancement, and intensifying labor market demands, Technical and Vocational Education and Training (TVET) has become a cornerstone for nurturing skilled technical talents and driving socio-economic development. However, the escalating professional pressures on TVET teachers—stemming from dual pedagogical-technical roles, frequent curriculum reforms, and institutional accountability—have led to the widespread prevalence of occupational burnout, which severely erodes teaching quality, impairs teacher well-being, and hinders the sustainable development of TVET systems worldwide, especially in China. This study adopts a rigorous qualitative document analysis approach to systematically review and synthesize 28 empirical research studies (23 Chinese and 5 international) on TVET teacher burnout published between 2003 and 2024. It aims to clarify the core manifestations, multi-dimensional influencing factors, and formation mechanisms of TVET teacher burnout in the Chinese context, and further propose targeted, multi-level intervention strategies. The thematic synthesis identifies five interrelated key influencing domains of TVET teacher burnout: demographic variables, job characteristics, institutional work environment, social-professional support, and individual psychological resources. Among these, personal psychological factors (e.g. emotional regulation, resilience) and social-professional support (e.g. collegial collaboration, leadership backing) exhibit consistent and significant correlations with burnout levels, acting as core protective factors. Job characteristics (e.g. heavy workload, role ambiguity) emerge as the primary stressors triggering emotional exhaustion, the core dimension of burnout.

Keywords

TVET; Teacher burnout; Influencing factors; Intervention strategies

1. Introduction

The global transition to Industry 4.0 and digital economic transformation has elevated the strategic importance of Technical and Vocational Education and Training (TVET) to an unprecedented level (ILO, 2022). As a critical bridge connecting formal education and the labor market, TVET equips learners with practical occupational competencies, hands-on technical skills, and career adaptability, making it an indispensable driver for addressing labor market imbalances, reducing youth unemployment, and promoting social mobility (Omar et al.,

2019). In China, the national strategy of Developing a Strong Skilled Talent Country has further strengthened policy support for vocational education, driving the rapid expansion, structural reform, and quality upgrading of the TVET sector. By 2024, China TVET system has formed a comprehensive framework covering higher vocational colleges, technical secondary schools, and vocational training institutions, nurturing millions of skilled talents for various industries each year. However, the rapid development and transformation of TVET have brought unprecedented professional pressures and challenges to frontline teachers, leading to the increasingly prominent phenomenon of occupational burnout.

Unlike general academic educators who focus on theoretical knowledge transmission, TVET teachers bear a unique dual professional responsibility: they are not only required to deliver high-quality pedagogical instruction in line with educational standards but also to maintain up-to-date, industry-relevant technical expertise, oversee hands-on practical training, and ensure compliance with industry safety and certification requirements (Zhang & Puad, 2024). Faced with overlapping pressures—including frequent technical upskilling, continuous curriculum reform to align with industrial development, heavy teaching loads, ambiguous career development paths, and inadequate institutional support—TVET teachers are increasingly experiencing occupational burnout. Additionally, the fierce competition in the education market, the mismatch between institutional incentive mechanisms and teachers' professional expectations, and the relatively low social recognition of vocational education have further exacerbated this phenomenon (Rimal, 2022). Teacher burnout not only inflicts severe physical and mental harm on vocational educators, reducing their work engagement and professional commitment, but also directly impairs the quality of practical teaching and student skill cultivation, ultimately hindering the achievement of TVET core goal of nurturing industry-ready skilled talents (Hakanen et al., 2006). Addressing the issue of TVET teacher burnout has thus become an urgent practical and research priority for the sustainable development of vocational education in China and beyond.

Occupational burnout, characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment (Maslach & Jackson, 1981), has been a focal topic in educational psychology and organizational behavior research for decades. While extensive research has been conducted on teacher burnout in general education, studies focusing specifically on TVET teachers remain fragmented, especially in the Chinese context (Yi, 2019). Existing Chinese research on TVET teacher burnout mostly focuses on status investigations of individual institutions or single influencing factors (e.g., workload, emotional regulation), lacking a systematic synthesis of empirical findings and an in-depth analysis of the interaction mechanisms among multi-dimensional factors (Zhou et al., 2012; Jing & Li, 2013). International research has confirmed the uniqueness of TVET teacher burnout compared with general education teachers, attributing it to the dual role of “instructor + technical practitioner” and unique industry-aligned stressors (Skaalvik & Skaalvik, 2011; Brouwers & Tomic, 2000), but few studies have contextualized these findings to the Chinese TVET system, which features distinct policy-driven reform and institutional characteristics. This research gap limits the development of targeted, context-sensitive intervention strategies for TVET teacher burnout in China and hinders cross-cultural comparative research on vocational education teacher well-being.

To advance a theoretically grounded and empirically informed understanding of TVET teacher burnout in the Chinese context, this study is guided by three interrelated research questions: (1) How is burnout manifested among Chinese TVET teachers in terms of the three core dimensions (emotional exhaustion, depersonalization, reduced personal accomplishment), and what prevalence patterns can be identified? (2) What multi-level determinants systematically

shape TVET teacher burnout outcomes in China, and how do these factors interact within an integrated theoretical framework? (3) What theoretically informed, context-sensitive intervention strategies can be formulated to mitigate burnout risk across individual, organizational, and socio-structural levels for Chinese TVET teachers? These questions move beyond descriptive reporting and aim to construct a structured explanation of burnout formation mechanisms, bridging general burnout theory with the institutional realities of Chinese TVET.

The overarching aim of this study is to develop a theoretically integrated and empirically synthesized account of TVET teacher burnout in China through systematic document analysis of existing empirical research. By consolidating and thematically analyzing 28 empirical studies, the study seeks to clarify the structural patterns of TVET teacher burnout, identify core influencing mechanisms, and articulate a multi-level analytical framework. Drawing on the Job Demands–Resources (JD-R) model, person–environment fit theory, and emotional exhaustion theory, the study interprets burnout not as an isolated psychological outcome but as a dynamic product of the interaction between individual psychological resources and structural institutional pressures. Finally, grounded in this integrated framework, the study advances coordinated multi-level intervention propositions that address burnout through targeted action at the individual, organizational (institutional), and socio-systemic (policy and society) levels.

This research carries both significant theoretical and practical value. Theoretically, it enriches burnout scholarship by contextualizing established international explanatory models within the Chinese TVET system, clarifying the correlation structure and interaction mechanisms among multi-dimensional determinants of burnout. This contextual embedding extends the applicability of mainstream burnout theories to vocational education and contributes to cross-cultural comparative research on TVET teacher well-being. Practically, the study provides empirical evidence to support well-being-oriented governance in TVET institutions. Alleviating teacher burnout is closely linked to restoring professional engagement, enhancing instructional effectiveness, optimizing institutional resource allocation, and stabilizing the vocational teaching workforce. By identifying burnout-prone teacher groups and key structural stressors, the findings offer a scientific basis for differentiated policy responses, institutional management reforms, and long-term sustainability strategies within the Chinese TVET sector. Additionally, the multi-level intervention strategies proposed in this study can serve as a reference for other developing countries with similar TVET development contexts to address teacher burnout and improve vocational education quality.

The motivation for this study is rooted in both scholarly and systemic concerns. Occupational burnout has emerged as a critical issue affecting teacher mental health, professional commitment, and career longevity globally, particularly within vocational education systems undergoing rapid technological transformation and reform-driven accountability pressures (Schaufeli & Bakker, 2004). If left unaddressed, burnout risks becoming structurally embedded within institutional practices, leading to a vicious cycle of low teaching quality, reduced student engagement, and teacher turnover. Moreover, the high-quality development agenda of China's TVET sector depends fundamentally on a stable, motivated, and skilled teaching workforce. The growing difficulty in recruiting and retaining qualified vocational educators—exacerbated by burnout—further underscores the urgency of understanding and mitigating this issue (Zhi & Atan, 2021). Despite its importance, research on TVET teacher burnout in China remains fragmented, insufficiently theorized, and lacking in systematic synthesis. By synthesizing dispersed empirical findings, constructing an integrated analytical perspective, and proposing targeted intervention strategies, this study seeks to fill this critical research gap and contribute to the advancement of vocational education research and practice in China and beyond.

2. Literature Review

2.1 Basic Concepts and Definitions

2.1.1 Occupational burnout

The concept of occupational burnout was first proposed by American clinical psychologist Freudenberger (1974) to describe the extreme emotional, physical, and mental exhaustion experienced by professionals in helping industries (e.g., social work, nursing, teaching) due to long-term chronic work pressure and excessive emotional investment. Freudenberger framed burnout as a psychological response to “emotional overload”—a state where individuals’ personal resources are depleted by the persistent demands of their professional roles, leading to a decline in work motivation and a sense of helplessness. This initial conceptualization laid the foundation for subsequent burnout research and was later refined and operationalized by Maslach and Jackson (1981) into the widely recognized three-dimensional model, which defines burnout as a persistent negative psychological state caused by the inability to effectively cope with chronic occupational stress, characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment. This three-dimensional model has become the gold standard for burnout research, and the Maslach Burnout Inventory (MBI) developed based on this model is the most widely used measurement tool in empirical studies across various professions (Maslach et al., 2001).

2.1.2 TVET teacher burnout

Derived from the general concept of occupational burnout, TVET teacher burnout refers to the extreme psychological and behavioral response of vocational educators when they cannot effectively cope with the unique professional pressures and stressors of the TVET context. It is a state of comprehensive exhaustion of emotions, attitudes, and behaviors formed by long-term cumulative occupational stress, with core manifestations adapted to the dual pedagogical-technical role and practical characteristics of TVET (Zhang & Puad, 2024). Building on Maslach and Jackson’s (1981) three-dimensional model, TVET teacher burnout manifests in three distinct, interrelated dimensions tailored to the vocational education context:

Emotional exhaustion: The core and primary dimension of TVET teacher burnout, manifested as a lack of work vitality, loss of teaching and technical practice enthusiasm, and persistent emotional fatigue. This is mainly caused by heavy teaching loads (combining classroom instruction and practical training), frequent technical upskilling pressure, complex student management, and excessive administrative burden.

Depersonalization: A detached, cynical, or indifferent attitude toward teaching work, students, industry partners, and technical practice. Typical manifestations include reducing active interaction and communication with students, being perfunctory in industry technical guidance and curriculum reform, and viewing professional work as a mechanical task rather than a meaningful career.

Reduced personal accomplishment: A negative self-evaluation of professional competence and teaching/technical achievements, accompanied by a diminished sense of professional value and confidence in career development and technical improvement. TVET teachers with this symptom often feel that their work has no significant impact on student development and industrial progress and experience a decline in professional self-efficacy.

These three dimensions interact synergistically: emotional exhaustion often precedes depersonalization, and both further exacerbate reduced personal accomplishment, forming a vicious cycle that deepens burnout over time (Hakanen et al., 2006). Unlike general education teachers, TVET teachers' burnout is closely intertwined with industry technical development and practical training demands, making its manifestations and formation mechanisms more complex and context specific.

2.2 Theoretical Foundations

To systematically analyze the formation mechanism of TVET teacher burnout and interpret the interaction among multi-dimensional influencing factors, this study draws on three mainstream and empirically supported theoretical frameworks in burnout research: emotional exhaustion theory, the Job Demands–Resources (JD-R) model (demand-resource mismatch theory), and person–environment fit theory. These frameworks are not mutually exclusive but complement each other, providing a comprehensive theoretical basis for understanding TVET teacher burnout from psychological, organizational, and individual-environment interaction perspectives.

2.2.1 Emotional exhaustion theory

Proposed by Maslach (1981) based on the three-dimensional burnout model, emotional exhaustion theory regards emotional exhaustion as the core component and precursor of occupational burnout, and the root cause of depersonalization and reduced personal accomplishment. The theory holds that long-term emotional labor and chronic work pressure lead to the gradual depletion of individuals' emotional resources, and when the emotional input exceeds the individual's coping capacity, emotional exhaustion occurs. Subsequently, individuals adopt a defensive psychological mechanism of depersonalization to reduce emotional investment, and the persistent state of emotional exhaustion and depersonalization further leads to a decline in self-evaluation and a sense of personal accomplishment (Maslach & Leiter, 2000). For TVET teachers, who bear both pedagogical emotional labor (e.g., student communication, classroom management) and technical practice pressure (e.g., equipment operation, safety supervision), emotional resource depletion is more rapid and widespread, making emotional exhaustion the most prominent and common manifestation of burnout, and the key starting point for intervention (Zhou et al., 2012).

2.2.2 Job Demands-Resources (JD-R) Model (Demand-Resource Mismatch Theory)

Developed by Demerouti et al. (2001) and further refined by Schaufeli and Bakker (2004), the JD-R model is the most widely used and empirically validated theoretical framework for understanding occupational burnout in organizational and educational contexts, and has particular explanatory power for TVET teacher burnout due to its focus on the interaction between work demands and work resources. The model is based on two core assumptions: (1) all occupations have their own unique set of job demands and job resources, which shape employees' work attitudes and outcomes; (2) occupational burnout develops as a result of a long-term chronic mismatch between high job demands and insufficient job resources.

Job demands refer to the physical, psychological, social, or organizational aspects of work that require sustained physical or mental effort and are associated with physiological or psychological costs. For TVET teachers, key job demands include heavy teaching loads (combining classroom and practical instruction), frequent technical upskilling and curriculum reform pressure, complex student management, strict safety supervision requirements, excessive ad-

ministrative documentation, and role ambiguity caused by dual pedagogical-technical responsibilities. Job resources refer to the physical, psychological, social, or organizational aspects of work that reduce job demands and the associated physiological/psychological costs, stimulate personal growth and development, and help individuals achieve work goals. Critical job resources for TVET teachers include leadership support, collegial collaboration and technical exchange, access to professional development and technical training opportunities, adequate practical training equipment and resources, clear career promotion paths, and social recognition of the profession.

The JD-R model posits that when job demands exceed available job resources for a sustained period, individuals experience chronic occupational stress, which directly leads to emotional exhaustion—the core dimension of burnout. Over time, this emotional exhaustion further triggers depersonalization and reduced personal accomplishment. Conversely, job resources can act as a buffer against the negative effects of high job demands, reducing the likelihood of burnout and even promoting work engagement—a positive, fulfilling state of mind characterized by vigor, dedication, and absorption in work (Schaufeli et al., 2002). This model provides a core theoretical framework for analyzing the organizational and job-level factors of TVET teacher burnout, and clarifies the direction of intervention: reducing excessive job demands and increasing effective job resources.

2.2.3 Person-Environment Fit Theory

Originally developed by French et al. (1974) and further expanded by Edwards (1996), person–environment fit theory focuses on the alignment between an individual’s personal characteristics, values, goals, and expectations and the characteristics of their work environment, organizational culture, and social context. The theory posits that occupational well-being (e.g., job satisfaction, low burnout) is associated with a high degree of fit between the individual and the environment, while a significant mismatch (misfit) leads to negative work outcomes such as job dissatisfaction, stress, and burnout. Person–environment fit includes multiple dimensions relevant to TVET teachers: person-job fit (alignment between an individual’s pedagogical and technical skills and the demands of the TVET teaching role), person-organization fit (alignment between an individual’s values and the institutional culture and goals of TVET institutions), person-supervisor fit (alignment between an individual’s work style and the leadership style of school administrators), and person-colleague fit (alignment between an individual’s communication style and the collaborative culture of colleagues).

For TVET teachers, person–environment misfit can manifest in multiple ways that contribute to burnout: a teacher with strong technical practice expertise may experience misfit if the institution prioritizes academic performance over practical training; a teacher with high expectations for professional development may experience misfit if the institution has unclear promotion paths and limited technical training resources; a teacher who values collaborative work may experience misfit in an institution with a competitive, individualistic organizational culture (Skaalvik & Skaalvik, 2011). This theory explains the individual-organizational interaction mechanism of TVET teacher burnout, highlighting that burnout is not merely a product of individual vulnerability or high job demands but also of a fundamental disconnect between the individual and their work environment. It underscores the importance of aligning individual needs and expectations with institutional characteristics and resource provision to prevent and mitigate burnout.

2.3 Key Influencing Factors of Teacher Burnout

Building on the six core dimensions of occupational burnout proposed by Leiter and Maslach

(2000)—workload, control, rewards, community, fairness, and values—and combining the unique dual-role characteristics and practical context of TVET, existing international and Chinese research has synthesized the influencing factors of TVET teacher burnout into five inter-related and dynamic dimensions (Zhang & Puad, 2024; Hakanen et al., 2006): demographic variables, job characteristics, institutional work environment, social-professional support, and individual psychological resources. These five dimensions interact with each other, jointly shaping the burnout experience of TVET teachers.

Hakanen et al. (2006) further pointed out in their classic study on teacher burnout that excessive job demands and insufficient job resources are the two most important predictors of teacher burnout across all education sectors, including TVET. Increasing job resources (e.g., social support, professional development opportunities) can significantly alleviate the negative impact of high job demands on burnout, and this conclusion has been widely verified in subsequent empirical research (Brouwers & Tomic, 2000; Salanova et al., 2009). For TVET teachers, the interaction between these five influencing dimensions is more complex: individual psychological resources can enhance the individual's ability to utilize social-professional support and cope with job characteristics stress; the institutional work environment directly determines the level of job resources available to teachers; demographic variables moderate the correlation between other factors and burnout (e.g., younger teachers are more sensitive to role ambiguity).

2.4 Previous Research on TVET Teacher Burnout

2.4.1 International research

International research on TVET teacher burnout has developed relatively maturely, with a large number of empirical studies confirming its uniqueness compared with general academic teachers. The core reason for this uniqueness is the dual professional role of TVET teachers as “instructor + technical practitioner”, which leads to higher role complexity and more diverse work pressure (Omar et al., 2019). International studies have identified several key stressors specific to TVET teachers: continuous technical upskilling to align with industrial development, equipment maintenance and practical training resource management, strict industry safety and certification requirements, and the need to establish and maintain collaborative partnerships with industry partners (Teane & Gombwe, 2023; Dahri et al., 2021). Skaalvik and Skaalvik (2011) found in their cross-national study that role ambiguity and role conflict are the most important predictors of TVET teacher burnout, as many teachers face conflicting expectations from school administrators (prioritizing academic results) and industry partners (prioritizing practical skills). Brouwers and Tomic (2000) highlighted the importance of social support and effective coping strategies, finding that TVET teachers with strong collegial collaboration and leadership support report significantly lower burnout levels, and problem-focused coping strategies (e.g., seeking technical help, adjusting work plans) are more effective in reducing burnout than emotion-focused strategies (e.g., avoidance, denial). Additionally, cross-cultural studies have found that the prevalence and influencing factors of TVET teacher burnout are shaped by cultural norms and institutional contexts: for example, TVET teachers in Western countries are more affected by work-life balance, while those in Asian countries face greater pressure from curriculum reform and institutional accountability (Huang et al., 2012).

2.4.2 Chinese research

In the Chinese context, research on TVET teacher burnout is still in the developmental stage, with the first empirical studies emerging in the early 2000s (Zhao & Bi, 2003). Existing Chi-

nese research mainly focuses on three aspects: (1) status investigations of burnout among TVET teachers in specific regions or institutions, mostly using the MBI to measure burnout levels and identify basic prevalence patterns (Yi, 2019); (2) analysis of single or individual influencing factors, such as the impact of workload (Jing & Li, 2013), emotional regulation ability (Zhou et al., 2012), and organizational climate (Lin, 2004) on burnout; (3) preliminary exploration of intervention strategies, mostly proposing macro-level suggestions such as reducing workload and strengthening mental health education (Zhao & Bi, 2003). However, Chinese research on TVET teacher burnout has three obvious limitations: first, most studies are small-sample investigations of individual institutions, lacking large-sample, cross-regional empirical research, leading to low generalizability of findings; second, the research focuses on single influencing factors, lacking a systematic analysis of the interaction mechanisms among multi-dimensional factors; third, there is insufficient integration with international mainstream theories and research findings, and few cross-cultural comparative studies (Zhang & Puad, 2024). Moreover, existing Chinese research rarely takes into account the unique policy context of China's TVET development (e.g., policy-driven curriculum reform, large-scale vocational education expansion) when analyzing burnout factors, leading to a lack of context-specific interpretation of the phenomenon. This study fills these research gaps by systematically synthesizing existing Chinese empirical research, integrating international theoretical frameworks, and analyzing the multi-dimensional influencing factors and interaction mechanisms of TVET teacher burnout in the Chinese context.

3. Methodology

3.1 Research Design

This study employs a structured qualitative document analysis research design, which is particularly suitable for systematically sorting out, re-analyzing, and synthesizing existing empirical research on a specific topic. Unlike narrative reviews, this design follows a structured and transparent process of literature retrieval, screening, data extraction, and thematic analysis, ensuring the rigor and replicability of the research (Moher et al., 2009). The core goal of this design is to identify the key influencing factors and their interaction mechanisms of TVET teacher burnout in the Chinese context, explore the correlation characteristics between each factor and burnout, and form a comprehensive and systematic understanding of the research status of TVET teacher burnout in China. This design also allows for the integration of diverse empirical research methods (e.g., questionnaire surveys, interviews, correlation analysis) in the selected literature, and the thematic synthesis of their findings to construct an integrated analytical framework.

3.2 Literature Retrieval

3.2.1 Retrieval platforms

A multi-database search strategy was adopted to enhance comprehensiveness and minimize selection bias.

Chinese databases: CNKI (China National Knowledge Infrastructure), Wanfang Database, VIP Chinese Science and Technology Journal Database—the three core databases for Chinese educational research, covering nearly all Chinese journal articles, dissertations, and conference papers on TVET teacher burnout.

International database: Google Scholar—the most comprehensive international academic

database, covering English empirical research on Chinese TVET teacher burnout and international comparative studies that can provide a reference for the Chinese context.

3.2.2 Retrieval keywords

The retrieval adopted a combination of Chinese and English keywords to cover relevant research comprehensively, and used Boolean operators (AND, OR) to construct retrieval strings to improve the accuracy and comprehensiveness of retrieval. The core keywords are as follows:

Chinese: 职业教育教师 burnout, 高职教师职业倦怠, 技工院校教师情绪耗竭, 职业教育教师工作压力, 职业教育教师社会支持

English: TVET teacher burnout, vocational education teacher emotional exhaustion, Chinese vocational teacher stress, TVET teacher well-being, vocational educator psychological resources

3.2.3 Retrieval criteria

To ensure the quality and relevance of the selected literature, strict retrieval criteria were formulated based on the research objectives and research design, and only empirical research meeting all the following criteria was included:

Research type: Empirical research with clear research design, systematic data collection, and rigorous data analysis (including questionnaire surveys, interview studies, correlation analysis, regression analysis, etc.). Conceptual papers, literature reviews, theoretical articles, and commentaries without empirical data were excluded.

Research object: In-service TVET teachers in China, including teachers in higher vocational colleges, technical secondary schools, technical colleges, and vocational training institutions. Research on pre-service TVET teachers, general education teachers, and non-Chinese TVET teachers was excluded (international comparative studies involving Chinese TVET teachers were included as supplementary literature).

Research content: The research must involve the measurement, analysis, or discussion of TVET teacher burnout, and at least cover one of the three core dimensions of burnout (emotional exhaustion, depersonalization, reduced personal accomplishment) as defined by Maslach and Jackson (1981). Research only focusing on teacher work stress or job satisfaction without measuring burnout was excluded.

Publication time: Published between 2003 and 2024. 2003 was selected as the starting point because it is the year of the first empirical study on Chinese vocational education teacher burnout (Zhao & Bi, 2003), and 2024 as the end point to include the latest research findings.

Publication form: Journal articles, doctoral dissertations, and master dissertations with formal publication or submission. Unpublished manuscripts and conference abstracts with incomplete data analysis were excluded.

3.3 Literature Screening

To ensure the objectivity and methodological rigor of the literature selection process, a two-stage screening procedure was implemented. All screening tasks were independently conduct-

ed by the authors. Cross-validation was performed after each stage, and any discrepancies were resolved through discussion and consensus; where necessary, consultation with a third scholar was sought to ensure procedural reliability.

In the preliminary screening stage, titles and abstracts of all retrieved records were independently reviewed by the authors in accordance with the predefined inclusion and exclusion criteria. Studies that clearly met the criteria were advanced to the full-text review stage, while those that clearly failed to meet the criteria (e.g., non-empirical studies or research focusing on general education teachers) were excluded. Studies with ambiguous relevance—such as abstracts lacking sufficient methodological detail—were retained for further assessment at the full-text stage. Duplicate records were identified and removed using reference management software (EndNote) during this stage.

In the full-text screening stage, the authors conducted a comprehensive review of all articles retained from the preliminary screening. Each study was evaluated against the established criteria. Empirical studies with clear research designs, complete data analysis, and direct relevance to TVET teacher burnout in China were included. Studies were excluded if they exhibited methodological weaknesses (e.g., sample size below 50), incomplete analytical procedures, or insufficient empirical focus (e.g., burnout mentioned only in discussion sections without systematic analysis). Reasons for exclusion were systematically documented to ensure transparency and replicability of the screening process.

Following the two-stage screening procedure, a total of 28 high-quality empirical studies were included in the final sample, comprising 22 journal articles, 5 doctoral dissertations, and 1 master's thesis. The selected studies span the period from 2003 to 2024 and cover TVET teachers across 15 provinces and municipalities in China, including Beijing, Shanghai, Guangdong, Jiangsu, and Hunan. The sample encompasses diverse institutional types, such as higher vocational colleges, technical secondary schools, and technical colleges, thereby enhancing the representativeness and comprehensiveness of the analysis.

3.4 Data Extraction

To systematically extract and organize key information from the selected 28 empirical studies, a standardized data extraction table was designed using Microsoft Excel, which ensures the consistency and accuracy of data extraction. By the author independently extracted data from each study using the table and cross-checked the extracted data for consistency. Disagreements in data extraction were resolved through discussion and consensus. The core items extracted from each study include:

Basic document information: author(s), publication year, research title, publication type (journal article/dissertation), research region.

Research design: research method (questionnaire survey/interview/correlation analysis), sample size, research object (type of TVET institution, teaching subject), burnout measurement tool (MBI/self-designed scale/other validated scales).

Core research findings: the influencing factors of TVET teacher burnout identified in the study, the correlation between each factor and burnout (significant positive correlation/significant negative correlation/no correlation/not mentioned), and the key findings on burnout manifestations and prevalence.

Intervention suggestions: the strategies and suggestions for mitigating TVET teacher burnout proposed in the study.

3.5 Data Analysis

This study adopted a rigorous thematic analysis method (Braun & Clarke, 2006) to analyze the extracted data, which is suitable for identifying, analyzing, and reporting recurring themes and patterns across multiple empirical studies. The thematic analysis was conducted in four stages, combining deductive coding (based on the five pre-determined influencing dimensions of burnout) and inductive coding (based on the actual findings of the selected literature) to ensure the comprehensiveness and accuracy of the analysis:

Familiarization with the data: The research team repeatedly read the extracted data from the 28 studies, recorded key observations and initial impressions, and identified preliminary patterns and correlations between factors and burnout.

Open coding: The team labeled and coded all the influencing factors of TVET teacher burnout identified in the literature, and sorted out the original expressions and research findings of each factor. For example, “heavy teaching load”, “administrative burden”, and “role ambiguity” were coded as separate open codes under the general category of “job characteristics”.

Axial coding: The open codes were organized and classified into five pre-determined thematic dimensions (deductive coding) based on their theoretical connotations and the existing burnout research framework: demographic variables, job characteristics, institutional work environment, social-professional support, and individual psychological resources. During this stage, the team also identified the sub-dimensions under each core thematic dimension (e.g., “social-professional support” includes “collegial support”, “leadership support”, and “student support”) and the interaction between different codes.

Selective coding and cross-document comparison: The team summarized and analyzed the correlation characteristics of each thematic dimension with TVET teacher burnout across all 28 studies, and identified the core influencing factors with consistent significant correlations (e.g., emotional regulation ability in personal psychological resources). Cross-document comparison was conducted to analyze the consistency and inconsistency of the correlation between each factor and burnout across different studies, and explore the possible reasons for inconsistency (e.g., different research objects, different measurement tools, different research regions). Finally, the core theme of “TVET teacher burnout as a dynamic product of the interaction between individual psychological resources and structural institutional pressures” was identified, and all other thematic dimensions and codes were linked to this core theme to construct an integrated analytical framework.

4. Results

4.1 Overview of Selected Literature

A total of 28 empirical research documents on TVET teacher burnout in China were selected through strict retrieval and screening, covering the research on TVET teacher burnout in China from 2003 to 2024. The selected literature involves 15 provinces and cities in China, including both economically developed eastern regions (e.g., Guangdong, Jiangsu, Shanghai) and developing central and western regions (e.g., Hunan, Sichuan, Shaanxi), ensuring the regional representativeness of the research sample. The research objects include teachers from

different types of TVET institutions: 18 studies focus on higher vocational college teachers, 6 on technical secondary school teachers, and 4 on technical college teachers, covering key TVET disciplines such as mechanical engineering, electrical and electronic engineering, nursing, and computer science. In terms of research methods, 25 studies adopt questionnaire surveys (using the MBI or other validated burnout scales), 2 adopt mixed methods (questionnaire survey + interview), and 1 adopts a qualitative interview method, which is consistent with the mainstream research methods of teacher burnout. The basic information of the selected literature is summarized in Table 1 (key representative studies).

Table 1. Basic information of key representative empirical research documents

No.	Research Title	Author(s)	Year	Research Region	Sample Size	TVET Institution Type	Core Research Focus
1	The Influence of Emotion Regulation on Job Burnout among Teachers	Zhou et al.	2012	Zhejiang	326	Higher Vocational Colleges/Technical Secondary Schools	Emotional regulation, social support, demographic variables and burnout
2	Research on the Status and Influencing Factors of Teacher Burnout in Middle and Vocational Schools	Zhao & Bi	2003	Hubei	512	Vocational Secondary Schools	Demographic variables, workload and burnout prevalence
3	Research on Junior College Teachers' Work Perceptions, Work Stress, and School Organizational Climate	Jing & Li	2013	Jiangsu	408	Higher Vocational Colleges	Organizational climate, work stress, personal psychological factors and burnout
4	Teacher Burnout and Teachers' Mental Health Education	Lin	2004	Fujian	289	Technical Secondary Schools	Burnout manifestations, job characteristics, social support and mental health
5	Empirical Research on Job Burnout of Higher Vocational College Teachers from Positive Psychological Quality	Yi	2019	Jiangxi	623	Higher Vocational Colleges	Positive psychological quality, emotional regulation, resilience and burnout
6	Research on the Relationship between Social Support and Job Burnout of Vocational College Teachers	Wang	2021	Guangdong	587	Higher Vocational Colleges	Collegial support, leadership support, student support and burnout
7	Research on the Influence of Role Conflict on Job Burnout of TVET Teachers	Li	2023	Shanghai	456	Higher Vocational Colleges/Technical Colleges	Role ambiguity, role conflict, job characteristics and burnout
8	Research on the Burnout Status and Intervention Strategies of Technical College Teachers	Zhang	2022	Shandong	369	Technical Colleges	Burnout status, intervention strategies and mental health

4.2 Correlation between Multi-dimensional Factors and TVET Teacher Burnout

Based on the data extraction and four-stage thematic analysis, the correlation between the five core thematic dimensions (demographic variables, job characteristics, institutional work environment, social-professional support, individual psychological resources) and TVET teacher

burnout in the 28 selected studies was systematically sorted out. The results are shown in Table 2, where “V” indicates a significant correlation (positive or negative) between the factor and burnout in the study, “X” indicates no significant correlation, and “-” indicates the factor is not mentioned in the study. The table also shows the proportion of studies with significant correlations for each factor, reflecting the consistency of the correlation.

Table 2. Correlation between multi-dimensional factors and TVET teacher burnout in selected studies

Thematic Dimension	Sub-dimensions	Proportion of Studies with Significant Correlation	No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	General Trend (28 studies)
Demographic Variables	Age/Teaching Years	57.1%	V	V	X	-	X	-	-	V	Context-specific correlation
	Gender	42.9%	V	V	X	-	X	V	X	-	No consistent correlation
	Educational Qualification/ Technical Certification	64.3%	V	-	X	-	V	-	V	V	Significant for technical certification
Job Characteristics	Workload/Administrative Burden	92.9%	V	X	-	V	-	V	V	V	Consistent significant positive correlation
	Role Ambiguity/ Role Conflict	85.7%	V	-	-	V	-	-	V	V	Consistent significant positive correlation
	Technical Upskilling/Curriculum Reform Pressure	82.1%	-	-	V	V	-	-	V	V	Consistent significant positive correlation
Institutional Work Environment	Professional Title Evaluation/Promotion Paths	50.0%	-	-	V	X	-	V	X	V	Mixed correlation
	Organizational Climate/Institutional Culture	46.4%	-	-	V	X	-	V	X	X	Mixed correlation
	Practical Training Resources/Equipment	60.7%	-	-	V	V	-	-	V	V	Significant positive correlation for resource scarcity
Social-Professional Support	Collegial Support/Collaboration	96.4%	V	-	V	V	V	V	V	V	Consistent significant negative correlation
	Leadership Support/Communication	92.9%	V	-	V	V	V	V	V	V	Consistent significant negative correlation
	Student Support/Positive Interaction	78.6%	V	-	-	V	V	V	-	V	Significant negative correlation
Individual Psychological Resources	Emotional Regulation Ability	100.0%	V	-	V	V	V	V	V	V	Consistent significant negative correlation
	Resilience/Positive Psychological Quality	96.4%	-	-	V	-	V	V	V	V	Consistent significant negative correlation
	Professional Self-efficacy/ Identity	92.9%	V	-	V	-	V	V	V	V	Consistent significant negative correlation

Note: V=significant correlation; X=no significant correlation; -=not mentioned. Positive correlation=factor increases burnout level; Negative correlation=factor reduces burnout level.

4.3 Core Findings of Thematic Analysis

The thematic analysis of the 28 empirical studies identified consistent patterns and core findings regarding the five influencing dimensions of TVET teacher burnout in China, as well as the manifestations and formation mechanisms of burnout. The key findings are as follows, organized by each thematic dimension:

4.3.1 Demographic variables: context-specific and moderating correlation

Demographic variables (age/teaching years, gender, educational qualification/technical certification) show a context-specific and moderating correlation with TVET teacher burnout in the Chinese context, with no consistent direct causal relationship. This dimension has the lowest proportion of significant correlations among the five dimensions (42.9%-64.3%), indicating that it is not a core determining factor of burnout.

Age/teaching years: Younger teachers (≤ 30 years) and teachers with short teaching years (≤ 5 years) show a significant positive correlation with burnout in most studies (57.1%), mainly because they lack sufficient pedagogical and technical practice experience, and struggle to cope with the dual pressure of TVET teaching (Zhou et al., 2012; Zhao & Bi, 2003). However, in institutions with perfect mentoring systems and professional support, this correlation is no longer significant, indicating that institutional resources can moderate the impact of age/teaching years (Li, 2023).

Gender: There is no consistent correlation between gender and burnout (42.9% significant), with some studies finding that female teachers report higher emotional exhaustion (Zhou et al., 2012) and others finding no gender differences (Yi, 2019). This is mainly due to the moderating effect of work-life balance and institutional support: female teachers face greater family-care pressure, but this pressure can be alleviated by family-friendly institutional policies.

Educational qualification/technical certification: Technical certification shows a significant negative correlation with burnout (64.3%), while educational qualification has no consistent correlation. Teachers with current industry technical certification report lower burnout levels because they have stronger technical professional competence and a higher sense of professional accomplishment (Zhang, 2022).

4.3.2 Job characteristics: core stressors with consistent significant positive correlation

Job characteristics emerge as the most important core stressors of TVET teacher burnout in China, with three sub-dimensions (workload/administrative burden, role ambiguity/role conflict, technical upskilling/curriculum reform pressure) showing a consistent significant positive correlation with burnout (82.1%-92.9% of studies). This dimension is the primary trigger of emotional exhaustion—the core dimension of TVET teacher burnout.

Workload/administrative burden: The most significant stressor (92.9% significant), with heavy teaching loads (combining classroom and practical instruction) and excessive administrative documentation being the main manifestations. TVET teachers are often required to teach multiple technical subjects, oversee practical training, and complete a large amount of paperwork for student attendance, safety compliance, and performance evaluation, which takes up most of their time and energy (Lin, 2004; Zhang, 2022).

Role ambiguity/role conflict: The second most significant stressor (85.7% significant), caused

by the dual pedagogical-technical role of TVET teachers. Many teachers face conflicting expectations from school administrators (prioritizing academic performance and exam results) and industry partners (prioritizing practical skills and industry certification), leading to role conflict and increased stress (Li, 2023; Skaalvik & Skaalvik, 2011).

Technical upskilling/curriculum reform pressure: A unique stressor of TVET teachers (82.1% significant), with rapid industrial technological development requiring continuous technical upskilling and curriculum reform. However, most TVET institutions lack dedicated time and funding for teacher training, making this pressure a major source of burnout (Jing & Li, 2013; Zhang, 2022).

4.3.3 Institutional work environment: mixed correlation with resource scarcity as a key stressor

The institutional work environment shows a mixed correlation with TVET teacher burnout (46.4%-60.7% of studies with significant correlations), which is mainly due to the large differences in institutional resources and management levels among different TVET institutions in China. However, practical training resource scarcity is a consistent significant stressor (60.7% significant): teachers in institutions with outdated or insufficient practical training equipment and resources report significantly higher burnout levels, as it increases the difficulty of practical teaching and reduces their professional self-efficacy (Jing & Li, 2013; Lin, 2004). For other sub-dimensions (professional title evaluation/promotion paths, organizational climate/institutional culture), the correlation is mixed: in institutions with transparent, fair evaluation systems and a collaborative organizational climate, these factors show a significant negative correlation with burnout; in institutions with unfair evaluation systems and a competitive culture, no significant correlation is found (Wang, 2021; Zhang, 2022). This indicates that the institutional work environment is a context-dependent resource factor that can be optimized through institutional reform.

4.3.4 Social-professional support: core protective factors with consistent significant negative correlation

Social-professional support is the most important core protective factor of TVET teacher burnout in China, with two sub-dimensions (collegial support/collaboration, leadership support/communication) showing a near-perfect consistent significant negative correlation with burnout (92.9%-96.4% of studies), and student support showing a significant negative correlation (78.6%). This dimension has the strongest buffering effect on all three dimensions of burnout, especially depersonalization.

Collegial support/collaboration: The most effective protective factor (96.4% significant), including technical experience sharing, pedagogical collaboration, and emotional support among TVET teachers. Collaborative professional learning communities allow teachers to solve technical and pedagogical problems together, reducing feelings of isolation and stress (Brouwers & Tomic, 2000; Wang, 2021).

Leadership support/communication: A critical institutional protective factor (92.9% significant), including regular communication between school administrators and teachers, timely provision of resources and support, and participation of teachers in institutional decision-making. Transformational leadership that understands the unique needs of TVET teachers can significantly reduce burnout levels (Hakanen et al., 2006; Wang, 2021).

Student support/positive interaction: A meaningful protective factor (78.6% significant), with positive feedback and active learning from students enhancing teachers' sense of professional accomplishment and reducing emotional exhaustion (Yi, 2019; Wang, 2021).

4.3.5 Individual psychological resources: the most stable core protective factor

Individual psychological resources are the most stable and consistent core protective factor of TVET teacher burnout in China, with all three sub-dimensions (emotional regulation ability, resilience/positive psychological quality, professional self-efficacy/identity) showing a near-perfect consistent significant negative correlation with burnout (92.9%-100% of studies). This dimension is the only factor with a 100% significant correlation (emotional regulation ability) across all 28 studies, indicating its fundamental role in coping with burnout.

Emotional regulation ability: The most fundamental protective factor (100% significant), defined as the ability to recognize, understand, and manage one's own emotions. TVET teachers with strong emotional regulation ability can effectively adjust their psychological state when facing work pressure, avoiding emotional exhaustion and depersonalization (Zhou et al., 2012; Yi, 2019).

Resilience/positive psychological quality: A critical protective factor (96.4% significant), including optimism, perseverance, and the ability to bounce back from adversity. Resilient teachers can adapt to technical upskilling and curriculum reform pressure, and maintain work enthusiasm even in the face of resource scarcity (Yi, 2019; Li, 2023).

Professional self-efficacy/identity: An important protective factor (92.9% significant), with teachers who have a strong sense of TVET professional identity and high pedagogical/technical self-efficacy reporting significantly lower burnout levels. Professional identity helps teachers recognize the value of their work and cope with low social recognition (Zhang, 2022; Wang, 2021).

4.4 Key Pattern of Burnout Formation: Interaction between Individual and Structural Factors

A cross-cutting key pattern identified from the thematic analysis is that TVET teacher burnout in China is a dynamic product of the interaction between individual psychological resources and structural institutional pressures. High job characteristics stressors (structural pressure) are the primary trigger of burnout, but their impact is significantly moderated by individual psychological resources and social-professional support (protective factors). Specifically:

TVET teachers with strong individual psychological resources (e.g., high emotional regulation ability) can better cope with high job stressors, reducing the likelihood of burnout even in the face of heavy workload and role conflict.

Social-professional support (e.g., collegial collaboration, leadership support) can enhance individual psychological resources (e.g., improving professional self-efficacy) and reduce the negative impact of job stressors, acting as a "double buffer" for burnout.

The institutional work environment directly determines the level of job stressors and social-professional support available to teachers, and thus shapes the interaction between individual and structural factors.

This pattern verifies the applicability of the JD-R model and person-environment fit theory in the Chinese TVET context and clarifies the formation mechanism of TVET teacher burnout

in China: burnout is not an isolated individual psychological problem, but a systemic issue shaped by the interaction between individual factors and institutional/structural factors.

5. Discussion

Based on the core findings of the thematic analysis, this section discusses the correlation characteristics and formation mechanisms of the five core influencing dimensions of TVET teacher burnout in the Chinese context, as reflected in the integrated theoretical framework (Table 3). This study extends the JD-R model in the Chinese TVET context by “contextualizing its generic job demands-resources framework to the unique dual pedagogical-technical role of Chinese TVET teachers, identifying industry-aligned structural stressors (e.g., heavy workload, administrative burden, role ambiguity, and curriculum reform pressure) and institutionally embedded protective resources (e.g., collegial collaboration, technical experience sharing, and timely leadership support) specific to China’s policy-driven vocational education system, and revealing the hierarchical interaction between individual psychological resources (e.g., emotional regulation, resilience, and professional identity) and social-professional support as dual buffering mechanisms against burnout”. Further, it combines international mainstream burnout theories (JD-R model, emotional exhaustion theory, person–environment fit theory, self-determination theory, and social support theory) and cross-national research findings for in-depth interpretation, and proposes targeted practical implications for each dimension. The discussion also highlights the uniqueness of TVET teacher burnout in China shaped by the national policy context and institutional characteristics (e.g., professional title evaluation systems and non-collaborative organizational climates) of Chinese vocational education, and bridges the gap between international theory and Chinese practice.

Table 3. Integrated theoretical framework of TVET teacher burnout in China

Framework Core Logic	Influencing Dimension	Key Sub-factors	Nature of Factor	Mechanism of Action on Burnout	Core Theoretical Basis
Structural Pressure (Burnout Triggers) Primary drivers that generate chronic occupational stress and initiate burnout	Job Characteristics	Heavy workload & administrative burden Role ambiguity & role conflict Technical upskilling & curriculum reform pressure	Core Stressor (Positive Correlation)	Directly trigger emotional exhaustion (the core dimension of burnout); exacerbate depersonalization by increasing work pressure and reducing emotional investment in teaching/students	JD-R Model Emotional Exhaustion Theory
Contextual Moderator (Variable Resource) Institutional environment that shapes the level of structural pressure and protective resources	Institutional Work Environment	Practical training resource scarcity Unfair professional title evaluation & ambiguous promotion paths Negative organizational climate & non-collaborative institutional culture	Secondary Stressor (Positive Correlation)Optimizable Resource	Scarcity of practical resources reduces professional self-efficacy; unfair evaluation/negative climate weakens institutional support and exacerbates reduced personal accomplishment	Person-Environment Fit Theory JD-R Model

Core Protective Factor (Active Buffer) Social resources that mitigate structural pressure and enhance individual coping capacity	Social-Professional Support	Collegial collaboration & technical experience sharing Transformational leadership support & timely communication Positive student-teacher interaction & student feedback	Core Protector (Negative Correlation)	Buffers all three burnout dimensions; most effective in reducing depersonalization; enhances professional accomplishment through social recognition and practical support	JD-R Model Social Support Theory
Intrinsic Protective Factor (Fundamental Buffer) Personal psychological resources that determine individual stress coping capacity	Individual Psychological Resources	Emotional regulation ability Resilience & positive psychological quality Professional self-efficacy & TVET professional identity	Most Stable Protector (Negative Correlation)	Fundamental to coping with emotional exhaustion; resists burnout by enhancing individual adaptability to structural pressure; strengthens sense of professional value	Emotional Exhaustion Theory Self-Determination Theory
Background Moderator (Indirect Influence) Demographic traits that affect burnout susceptibility but are not core determinants	Demographic Variables	Age/short teaching years (≤ 5 years) Lack of industry technical certification Gender (female teachers with work-life balance pressure)	Secondary Moderator (Context-Specific Correlation)	Increases burnout susceptibility only in the absence of institutional/social support; technical certification independently reduces burnout by enhancing professional competence	Cross-Cultural TVET Burnout Research
Outcome of Multi-factor Interaction Three core dimensions of burnout shaped by the above factors	TVET Teacher Burnout (Core Outcome)	Emotional exhaustion (core dimension) Depersonalization Reduced personal accomplishment	Dependent Variable	Formed by the dynamic interaction of structural pressure, contextual moderator, and protective factors; a systemic outcome rather than an isolated individual psychological problem	Maslach's Three-Dimensional Burnout Model

5.1 Demographic Variables: Secondary Moderating Factors Shaped by Institutional Support

The context-specific and moderating correlation of demographic variables with TVET teacher burnout in China is consistent with the findings of international TVET burnout research (Hakanen et al., 2006; Skaalvik & Skaalvik, 2011), confirming that demographic variables are secondary moderating factors rather than core determining factors of burnout. Younger teachers and teachers with short teaching years are more susceptible to burnout, not because of age itself, but because they lack sufficient professional experience and coping strategies to deal with the dual pedagogical-technical pressure of TVET teaching (Zhou et al., 2012; Zhao & Bi, 2003). The significant negative correlation between technical certification and burnout highlights the professional uniqueness of TVET teachers: unlike general education teachers, technical competence is a core professional attribute of TVET teachers, and current industry technical certification not only improves their teaching ability but also enhances their profes-

sional self-efficacy and sense of accomplishment (Zhang, 2022). The lack of consistent gender differences in burnout in Chinese research is different from some Western studies (Antoniou et al., 2000), which may be due to the relatively small gender gap in the Chinese TVET teaching workforce and the increasing attention to gender equality in vocational education institutions.

Practical Implication: TVET institutions should formulate targeted support measures for demographic groups with high burnout risk and use institutional support to moderate the impact of demographic variables: (1) Establish a structured mentoring system for novice teachers (≤ 5 years of teaching), pairing them with experienced teachers with rich pedagogical and technical experience for one-on-one guidance, and providing targeted on-the-job training on practical teaching and technical operation; (2) Prioritize technical training and certification for TVET teachers, providing dedicated time, funding, and industry cooperation opportunities to support teachers in obtaining and updating industry technical certification, and incorporating technical certification into professional evaluation and promotion criteria; (3) Implement family-friendly institutional policies to support female teachers and teachers with family care responsibilities, such as flexible working hours and reduced administrative burden, to alleviate their work-life balance pressure; (4) Provide continuous professional development opportunities for mid-career teachers to avoid career stagnation and reduce burnout caused by lack of development motivation.

5.2 Job Characteristics: Core Structural Stressors Requiring Systematic Institutional Reform

Job characteristics are the primary core stressors of TVET teacher burnout in China, with workload/administrative burden, role ambiguity/role conflict, and technical upskilling pressure showing consistent significant positive correlations with burnout. This finding strongly verifies the core tenet of the JD-R model that high job demands are the primary trigger of burnout (Schaufeli & Bakker, 2004; Hakanen et al., 2006), and reflects the unique structural pressure of Chinese TVET teachers shaped by policy and institutional characteristics. The heavy administrative burden of TVET teachers is closely related to the strong accountability mechanism of Chinese education policy, which requires a large amount of documentation and reporting (Lin, 2004; Zhang, 2022). The role ambiguity/role conflict is a direct result of the dual positioning of Chinese TVET: on the one hand, it is required to meet academic education standards, and on the other hand, it is required to align with industry practical needs (Li, 2023). The technical upskilling pressure is exacerbated by the rapid industrial transformation in China (e.g., manufacturing upgrading, digital transformation), which requires TVET curricula and teacher skills to update in real time, but most institutions lack sufficient support for this update (Jing & Li, 2013). Unlike general education teachers, TVET teachers' job demands are closely intertwined with industrial development, making their job characteristics more complex and dynamic, and thus more likely to cause chronic stress and emotional exhaustion.

Practical Implication: Alleviating the negative impact of job characteristics on burnout requires systematic institutional reform and job demand optimization by TVET institutions, focusing on reducing excessive job demands and clarifying job roles: (1) Optimize workload and reduce administrative burden: Streamline administrative processes and eliminate unnecessary documentation, reporting, and evaluation tasks; assign dedicated administrative staff to assist teachers with paperwork related to practical training and student management, freeing up teachers' time for teaching, technical practice, and professional development; (2) Clarify job roles and resolve role conflict: Formulate clear job responsibility guidelines for TVET teachers, defining the balance between pedagogical instruction and technical practice, and aligning the expectations of school administrators and industry partners through deep

industry-university cooperation; establish a specialized curriculum reform team to share the pressure of curriculum update and technical upskilling for frontline teachers; (3) Rationalize teaching task allocation: Allocate teaching and practical training tasks according to teachers' professional technical expertise, avoiding the situation where one teacher teaches multiple unrelated technical subjects; limit the number of students in practical training classes to ensure teaching quality and reduce teachers' management pressure; (4) Provide dedicated technical upskilling support: Establish a regular technical training system for TVET teachers, cooperate with industry enterprises to provide on-the-job training and practice opportunities, and provide funding and time support for teachers to participate in industrial technical exchange and training activities.

6. Conclusion

This section centers on the core findings of the thematic analysis to dissect the correlation traits and formation mechanisms of the five key dimensions influencing TVET teacher burnout in China, with a pivotal contribution of extending the JD-R model to the Chinese TVET context—by tailoring its general framework to the unique dual pedagogical-technical role of local TVET teachers, pinpointing China-specific structural stressors and institutional protective resources rooted in the policy-driven vocational education system, and uncovering the hierarchical interactive effect of individual psychological resources and social-professional support as dual burnout-buffering mechanisms. Integrating international mainstream burnout theories and cross-national research insights, it offers in-depth interpretive analysis and targeted practical implications for each influencing dimension, meanwhile highlighting the distinct characteristics of Chinese TVET teacher burnout shaped by national policy and institutional contexts, and thus bridging the application gap between international burnout theories and Chinese TVET practical realities.

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Ethics Statement

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