RESEARCH ON THE IMPACT MECHANISM OF WORK VITALITY OF APPLIED UNDERGRADUATE UNIVERSITY TEACHERS

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Abstract

On the basis of sorting out and integrating the relevant research on the work vitality of teachers at home and abroad, this study seeks to identify the influencing factors of the work vitality of applied undergraduate university teachers, and uses empirical research methods to conduct in-depth research on the mechanism of the impact of the work vitality of applied undergraduate university teachers. In empirical research, theoretical hypotheses have been proposed that organizational support has a positive impact on teachers' work vitality, professional identity has a positive impact on teachers' work vitality, and organizational support and professional identity play a mediating role in the process of their impact on teachers' work vitality. The relationship between organizational support, professional identity, and teachers' work vitality has been constructed, and self-efficacy plays a moderating role in the impact of organizational support on teachers' work vitality. Validate the hypotheses proposed by the research institute through questionnaire surveys and data analysis. The research results show that a good organizational environment can promote the performance of teachers' work vitality, and professional identity, as a mediating variable of teachers' work vitality, is an important driving factor affecting teachers' work vitality.

Keywords： college, Teacher's work vitality, Influence mechanism

Introduction

The vitality of teachers' work has received widespread attention in the context of the new era education system and mechanism. Relevant search results on CNKI show that there have been early discussions on this topic, but there are few empirical studies specifically exploring it, and there are also few articles discussing concepts in depth. Focusing on the work vitality of applied undergraduate university teachers, this article first analyzes relevant theories and literature reviews. Researchers from various countries have conducted comprehensive and profound research on teacher work vitality, with a focus on describing the psychological and behavioral characteristics of teacher work vitality through positive qualities and combining it with organizational development.

In terms of conceptual analysis, it is generally believed to be a native concept, but Shirom has a different viewpoint. The influencing factors include oneself, organizational system, and social environment. Previous studies have shown weak analysis of social environment, and new extended models have been proposed in the future. The research is of

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great significance, but there is a lack of domestic research. After analyzing some institutional systems in the 1980s, the concept of academic vitality of university teachers was defined in 2014, pointing out the shortcomings of existing research, such as an incomplete theoretical system, a lack of comprehensive analysis and weak organizational environment analysis in domestic research. This study will start from the dimensions of connotation and structure, and combine empirical analysis to enhance teachers' work vitality, promote organizational development, and improve educational quality.

Literature Review

In terms of influencing factors, many researchers have cited multiple theories to explore the work vitality of teachers, and designed measurement scales and prediction models to conduct in-depth research on its influencing factors. Among them, self factors, organizational systems, and social environment are the three major factors that affect the work vitality of university teachers. It is concluded that the work vitality of teachers is closely related to school environment (such as leader's own style, professional promotion system, interpersonal relationships, work atmosphere, etc.), teacher's own level (age, educational experience, etc.), and social environment. This conclusion is widely recognized by most scholars. Among them, personal factors and school organizational system environment are closely related to the social environment, which has both changing and complex characteristics. However, existing research often only focuses on the personal and school organizational system environment, and the analysis of the social environment (national policies, institutional level) is too weak and not elaborated in detail.

Subsequent research will introduce the model into the process of describing teachers' work vitality. Dankoski et al. proposed a new extended model based on the definition of teacher work vitality. Essentially, the vitality of teachers belongs to an internal psychological satisfaction of teachers, which is integrated into participation and productivity, collaborating with each other to support teachers in showcasing their professional achievements as much as possible, while aligning their own goals with institutional goals, and teachers will do their best to complete them. The prediction of teachers' work vitality can be achieved through institutional and individual factors "(Dankoski M E, et al.,2012:633-649)。

In terms of the research significance of the work vitality of university teachers, scholars generally believe that in-depth study of the work vitality of university teachers has a profound impact on teachers, students, and universities. Not only does it help stimulate the creativity of teachers, students, and administrators; Moreover, it helps to enhance the vitality and passion of the entire school, promote better development of the school, and it is particularly important to explore the work vitality of university teachers in depth.

The research on the vitality of university teachers' work by domestic scholars is clearly insufficient. After the 1980s, some researchers started from multiple institutional systems to analyze and discuss issues such as mobilizing teachers' work vitality and promoting teacher team building, including the appointment system for higher education positions (Liu Yongbo et al., 1988: 68-70), job responsibility system (Wang Sirong, 1991: 22-24+27), and performance evaluation system (Wu Zailing, 1993: 1-4+22). In 2014, domestic scholars Yan Guangcai and Niu Menghu first defined the concept of academic vitality of university teachers. Scholars stated that the level of activity of teachers in carrying out academic work refers to their academic vitality, including daily teaching, management, scientific research, and social services. As the teaching experience of teachers gradually increases, their vitality also shows a linear upward trend (Yan Guangcai, 2014:29-37). Yue Ying's viewpoint points out the performance of academic vitality teachers: they are fully committed to social service and scientific research work, always maintain a high level of enthusiasm for teaching, and teachers themselves can gain psychological satisfaction and pleasure in their work, forming a strong sense of achievement (Yue Ying, 2017). Shi Zhongying pointed out the current lack of research on the vitality of teachers' work, only focusing on treating teachers as the main body

of educational practice and emphasizing their positive and active performance in the actual teaching process. However, objectively speaking, these theoretical studies mainly focus on exploring the vitality of teachers' work in a single field, lacking overall analysis and exploration. This shows that the theoretical system of teachers' work vitality is not yet sound enough. Especially in China, there is a lack of comprehensive research on the work vitality of university teachers, and the analysis of organizational environment (social environment, university environment) is too weak. These are the shortcomings of current research that urgently need to be addressed.

Research Methods

To effectively ensure the scientific, normative, and rigorous nature of the research, this study adopts a combination of normative and empirical research methods. Through normative research and theoretical deduction, the theoretical model of this study is constructed, and then empirical research methods are used to prove the proposed theoretical model and research hypotheses.

1.Investigation method

The main survey method used in this article is questionnaire survey. Firstly, the questionnaire survey method is based on the existing Shirom Melamed Vigor Measure (SMVM), which was originally used to study the work vitality of enterprise employees and later used to measure the work vitality of public management department employees. As a traditional public institution, schools have certain similarities with public management departments, and teachers, as regular staff, have similar assessment, performance, and management methods to public management department employees. Therefore, the scale can be modified and used to measure teacher vitality. Therefore, based on the current working environment of teachers and expert opinions, revise the design scale and design a scale suitable for the work vitality of applied undergraduate university teachers. At the same time, based on the revised questionnaire by Andrew J. Weifang and combined with the work scenarios of applied undergraduate university teachers, relevant adjustments were made to develop a scale that affects teachers' work vitality.

After designing the questionnaire, the variable measurement scale in this study was mainly revised through small-scale interviews, and the reliability and validity of the initial survey questionnaire were tested through small sample testing. Combined with relevant theories, the rationality of the questionnaire was tested, and finally the formal survey questionnaire used in the study was formed. Use interview information to compensate for the shortcomings of the questionnaire survey method. Identify factors not covered in other questionnaires related to teachers' work vitality, further explore the underlying factors that affect teachers' vitality, and provide evidence for the research in this article.

2. Statistical analysis method

This article adopts quantitative research methods. After collecting data, SPSS 26.0 and AMOS 23.0 tools are selected for data processing and analysis.

Research result

1.Demographic frequency analysis

It is not easy to achieve a balance between sample size and overall model fit. The views of scholars (Schumacher&Lomax, 1996) can serve as a reference. Through their research, they found that most SEM studies have sample sizes ranging from 200 to 500. Considering that the empirical research method used in this study is SEM validation, a total of 450 questionnaires were distributed online in the formal survey, with 410 valid questionnaires and an effective rate of 91.11%. This survey meets the requirement of a ratio of no less than 1:5 between the number of test items and the number of questionnaires in reliability and validity analysis, and therefore meets the standard in terms of sample size.

In demographic frequency analysis, gender, marital status, age, teaching experience, professional title, and educational background are analyzed using frequency and percentage to describe variable characteristics, as shown in Table 1.

Table 1 Population Frequency Analysis of Survey Questionnaire

name	option	frequency	Percentage (%)
Gender	male	224	54.63
	female	186	45.37
marriage	married	295	71.95
	unmarried	103	25.12
	other	12	2.93
Age	29 years old and below	101	24.63
	30-39 years old	120	29.27
	40-49 years old	121	29.51
	50 years old and above	68	16.59
Teaching experience	Less than 5 years	102	24.88
	5-10 years	83	20.24
	11-20 years	135	32.93
	Over 21 years	90	21.95
title	Teaching assistant and below (junior level)	91	22.20
	Lecturer (Intermediate)	186	45.37
	Associate Professor (Deputy High)	78	19.02
	Professor (full height)	55	13.41
education	undergraduate	50	12.20
	Master's students	157	38.29
	PhD student	203	49.51
total		410	100.0

2. Data quality evaluation of questionnaire survey

2.1 Validity testing of measurement

The validity analysis of the teacher work vitality survey questionnaire is shown in Table 2. According to the table, the KMO value of teacher work vitality in this measurement questionnaire is 0.973, the Bartlett sphericity test chi square value is 4599.846, the degree of freedom is 120, and the significance is 0.000<0.05. This indicates that the teacher work vitality data has passed the validity test and is suitable for subsequent factor analysis. Similarly, the KMO value for teacher professional identity is 0.951; The KMO value of the organizational environment is 0.943; The KMO value of self-efficacy is 0.956; The KMO value of the overall questionnaire is 0.950. Therefore, the internal consistency of the questionnaire measured this time is reasonable.

Table 2 Validity Analysis of Survey Questionnaire

dimension	Question items	KMO	Spherical inspection value	freedom	Significance
Teacher's work vitality	16	0.973	4599.846	120	0.000
Teacher professional identity	8	0.951	2327.836	28	0.000
Organizational environment	10	0.943	2565.889	45	0.000
Self efficacy	10	0.956	2498.137	45	0.000
Overall questionnaire	44	0.950	13720.200	946	0.000

2.2 Measurement reliability test

The reliability analysis of this survey questionnaire will be conducted using the Cronbach's alpha coefficient, as shown in Table 3. The reliability value of teachers' work vitality is 0.957; The reliability value of teacher professional identity is 0.937; The reliability

value of the organizational environment is 0.930; The reliability value of self-efficacy is 0.932. Therefore, the reliability of the formal survey questionnaire is reasonable.

Table 3 Reliability Analysis of Survey Questionnaire

dimension	Question items	Cronbach's alpha coefficient
Teacher's work vitality	16	0.957
Teacher professional identity	8	0.937
Organizational environment	10	0.930
Self efficacy	10	0.932
Overall questionnaire	44	0.964

2.3 Validation analysis of data quality

In terms of testing content validity, this article used mature scales from relevant domestic and foreign research, and made modifications based on the work field of Chinese applied undergraduate universities. The analysis of the pre-test data shows that the reliability of the scale is relatively high, so the content validity of the scale is relatively good. Next is the structural validity test. Through exploratory factor analysis, this study obtained the five factor structure of teacher work vitality, the two factor structure of organizational environment, the one factor structure of professional identity, and the one factor structure of self-efficacy. In order to verify the appropriateness and rationality of the structural dimensions of these research variables, this study used AMOS 23.0 statistical software to conduct confirmatory factor analysis through maximum likelihood method, in order to further test the structural validity of the scale.

The structural validity fitting test was conducted on the research model and data in this study, and the results are shown in Table 4. The CMIN/DF value of the confirmatory second-order factor analysis model in this study is 2.368, while the values of the other fitting indicators NFI, IFI, TLI, CFI, GFI, and RMSEA are 0.950, 0.970, 0.970, 0.934, and 0.98, respectively. All fitting indicators meet the requirements, and the scale matching status is excellent. The model fitting degree is high, and the model testing results can be analyzed.

Table 4 Fitting test of second-order model of teacher work vitality

CMIN	df	CMIN/DF	NFI	IFI	TLI	CFI	GFI	RMSEA
234.465	99	2.368	0.950	0.970	0.964	0.970	0.934	0.058
standard		<5	>0.9	>0.9	>0.9	>0.9	>0.9	<0.08

As shown in Table 5 of the confirmatory factor analysis of variables, the item factor loading coefficients of the dimension of teacher work vitality measured in this study are all at a level of 0.5 or above. The AVE values of the variables are all above 0.5, and the CR values are all above 0.7. The second-order model of teacher work vitality is shown in Figure 1, and several key indicators meet the recommended values, indicating that the overall fit of the theoretical model in this study is good.

Table 5 Analysis of Verification Factors for Teacher Work Vitality

dimension	Question items	Factor load	AVE	CR
energy	HL1	0.773	0.558	0.791
	HL2	0.732		
	HL5	0.735		
absorbed	HL6	0.756	0.549	0.784
	HL8	0.724		
	HL9	0.740		
dedication	HL3	0.749	0.555	0.789
	HL4	0.745		
	HL7	0.741		
Willing to teach	HL10	0.822	0.624	0.833
	HL11	0.762		
	HL12	0.785		
Love school	HL13	0.732	0.587	0.852
	HL14	0.778		
	HL15	0.787		
	HL16	0.776		

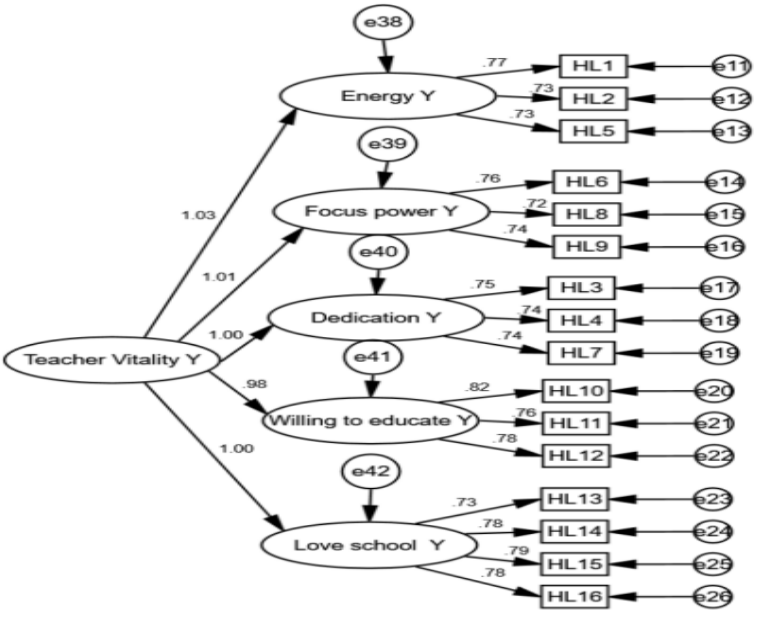

Figure 1 Second order model of teacher work vitality

2.4 Descriptive statistical analysis

Descriptive statistical analysis is a key tool for exploring the characteristics of changes in random variables. It can objectively, accurately, and concentratedly describe the basic characteristics of the distribution, trend, and structure of random variables, which is the foundation for people to deeply understand social forms and essence. This study used SPSS 26.0 statistical software to conduct descriptive statistical analysis on 44 measurement items of four research variables, namely teacher work vitality, organizational environment, professional identity, and self-efficacy, in 410 valid questionnaires. The aim was to explore the main distribution characteristics of the research sample and reveal the objective rules that exist, including the average score, standard deviation, kurtosis, and skewness of each measurement item. Before conducting descriptive analysis, the researchers performed reverse scoring on the reverse measurement items in the survey questionnaire. The descriptive analysis of the variable basic indicators of the formal questionnaire is shown in Table 6.

In this basic descriptive analysis, a descriptive analysis was conducted on the mean, standard deviation, skewness, and kurtosis values of the measured scale items. It can be understood that the mean distribution range of the measured variables is between 3.522 and 3.878. The distribution range of the standard deviation of the variable is between 1.158-1.334. The absolute values of skewness and kurtosis of variables are both below the level of 2, indicating a good aggregation effect in the measured data.

Table 6 Descriptive Analysis of Basic Variables and Indicators

name	average value	standard deviation	kurtosis	skewness
HL1	3.766	1.300	-0.228	-0.933
HL2	3.722	1.249	-0.197	-0.868
HL5	3.878	1.209	-0.060	-0.932
HL6	3.780	1.233	-0.136	-0.895
HL8	3.712	1.166	-0.222	-0.744

Table 6 Descriptive Analysis of Basic Variables and Indicators

name	average value	standard deviation	kurtosis	skewness
HL9	3.698	1.226	-0.064	-0.895
HL3	3.707	1.158	-0.350	-0.701
HL4	3.780	1.193	-0.146	-0.836
HL7	3.829	1.265	0.109	-1.046
HL10	3.663	1.334	-0.357	-0.882
HL11	3.722	1.173	-0.077	-0.799
HL12	3.737	1.247	-0.157	-0.906
HL13	3.756	1.178	-0.019	-0.852
HL14	3.678	1.229	-0.226	-0.797
HL15	3.693	1.270	-0.227	-0.877
HL16	3.683	1.259	-0.440	-0.772
RT1	3.522	1.356	-0.767	-0.652
RT2	3.598	1.320	-0.693	-0.684
RT3	3.678	1.313	-0.565	-0.736
RT4	3.537	1.295	-0.538	-0.678
RT5	3.576	1.385	-0.875	-0.613
RT6	3.559	1.313	-0.715	-0.642
RT7	3.559	1.337	-0.618	-0.733
RT8	3.666	1.306	-0.769	-0.661
HJ1	3.754	1.297	-0.257	-0.926
HJ2	3.693	1.236	-0.197	-0.834
HJ3	3.654	1.275	-0.520	-0.709
HJ4	3.751	1.349	-0.492	-0.836
HJ5	3.624	1.223	-0.264	-0.798
HJ6	3.756	1.239	-0.172	-0.893
HJ7	3.712	1.237	-0.268	-0.840
HJ8	3.637	1.267	-0.566	-0.682
HJ9	3.724	1.332	-0.491	-0.832
HJ10	3.766	1.211	-0.053	-0.905
XN1	3.615	1.260	-0.404	-0.792
XN2	3.829	1.221	-0.137	-0.884
XN3	3.712	1.255	-0.417	-0.786
XN4	3.585	1.231	-0.500	-0.657
XN5	3.644	1.176	-0.116	-0.765
XN6	3.688	1.223	-0.294	-0.787
XN7	3.663	1.219	-0.257	-0.783
XN8	3.595	1.292	-0.532	-0.731

Table 6 Descriptive Analysis of Basic Variables and Indicators

name	average value	standard deviation	kurtosis	skewness
XN9	3.707	1.279	-0.449	-0.778
XN10	3.649	1.276	-0.506	-0.712

2.5 Differential Analysis

The performance of the work vitality of applied undergraduate university teachers is not only influenced by external organizational environment, but also by individual factors. Therefore, this section examines the differences in the dependent variable teacher vitality and its various dimensions among teachers of different genders, marriages, ages, teaching experience, professional titles, and educational backgrounds, and conducts in-depth analysis of the situations where differences occur.

2.5.1 Analysis of Teacher Work Vitality and Gender Differences in Various Dimensions

As gender is a binary variable, an independent sample t-test was conducted using SPSS 26.0. The impact of gender on the dependent variable and its dimensions is detailed in Table 7. There was no significant difference in the work vitality, energy, focus, dedication, enjoyment of teaching, and love for school among teachers of different genders ($p>0.05$), indicating that there is consistency and no difference in the work vitality, energy, focus, dedication, enjoyment of teaching, and love for school among teachers of different genders.

Table 7 Results of t-test analysis for different genders

	Gender (mean ± standard deviation)		t	p
	male	female		
Teacher's work vitality	3.77±0.96	3.70±0.96	0.713	0.476
energy	3.82±1.02	3.77±1.08	0.521	0.603
absorbed	3.76±1.02	3.70±1.00	0.634	0.526
dedication	3.81±0.99	3.73±1.04	0.817	0.414
Willing to teach	3.72±1.13	3.69±1.03	0.326	0.745
Love school	3.75±1.02	3.65±1.03	0.931	0.352
* p<0.05 ** p<0.01				

2.5.2 Analysis of differences in teacher work vitality and marital status across various dimensions

As the teacher's marital status is a multi categorical variable, ANOVA one-way ANOVA was conducted using SPSS 26.0. Different marital statuses did not show significant differences in school love ($p>0.05$), indicating that all marital statuses showed consistency and no differences in school love. In addition, marriage showed significant differences ($p<0.05$) in teachers' work vitality, energy, focus, dedication, and enjoyment of teaching, indicating that different marital statuses have differences in teachers' work vitality, energy, focus, dedication, and enjoyment of teaching. The results are shown in Table 8.

Table 8 Analysis of Variance Results for Different Marital Status

	Marriage (mean ± standard deviation)			F	p
	married	unmarried	其它		
Teacher's work vitality	3.82±0.91	3.49±1.06	3.94±0.91	4.943	0.008**

Table 8 Analysis of Variance Results for Different Marital Status

	Marriage (mean ± standard deviation)			F	p
	married	unmarried	其它		
energy	3.88±0.96	3.54±1.22	3.83±1.24	4.210	0.015*
absorbed	3.84±0.96	3.40±1.09	3.94±0.95	7.591	0.001**
dedication	3.85±0.96	3.50±1.15	4.06±0.47	5.154	0.006**
Willing to teach	3.78±1.05	3.46±1.17	4.06±0.86	4.125	0.017*
Love school	3.76±1.00	3.52±1.08	3.83±1.23	2.164	0.116
* p<0.05 ** p<0.01					

2.5.3 Analysis of Teacher Work Vitality and Age Differences in Various Dimensions

As teacher age is a multi categorical variable, ANOVA one-way ANOVA was conducted using SPSS 26.0. Different age groups showed significant differences ($p<0.05$) in teacher work vitality, energy, focus, dedication, and love for school. This means that there are differences in teacher work vitality, energy, focus, dedication, love for school, and love for school among samples from different age groups. From the scores of the respondents, it can be understood that the group aged 30-39 usually performs better in terms of teacher work vitality, energy, focus, dedication, and enjoyment of teaching compared to other age groups. The teacher group aged 29 and below usually scored lower than other age groups in terms of teacher work vitality, energy, focus, dedication, and enjoyment of teaching, as shown in Table 9.

Table 9 Analysis of Variance Results for Different Ages

	Age (mean ± standard deviation)				F	p
	29 years old and below	30-39 years old	40-49 years old	40-49岁		
Teacher's work vitality	3.14±1.07	4.11±0.71	3.80±0.92	3.87±0.81	22.692	0.000**
energy	3.11±1.23	4.18±0.71	3.89±0.96	3.98±0.92	24.576	0.000**
absorbed	3.15±1.17	4.11±0.73	3.84±0.95	3.74±0.92	19.849	0.000**
dedication	3.17±1.16	4.23±0.77	3.65±0.98	4.07±0.66	26.810	0.000**
Willing to teach	3.06±1.15	4.07±0.89	3.84±1.02	3.78±0.99	19.706	0.000**
Love school	3.21±1.12	4.00±0.84	3.77±1.03	3.80±0.95	12.381	0.000**
* p<0.05 ** p<0.01						

2.5.4 Analysis of Teachers' Work Vitality and Differences in Teaching Experience Across Various Dimensions

As the teacher's teaching experience is a multi categorical variable, ANOVA one-way ANOVA was conducted using SPSS 26.0. Different teaching experience showed significant ($p<0.05$) effects on teacher's work vitality, energy, focus, dedication, enjoyment of teaching, and love for school, indicating that there are differences in teacher's work vitality, energy, focus, dedication, enjoyment of teaching, and love for school among different teaching experience. The results are shown in Table 10.

Table 10 Analysis of Variance Results for Different Teaching Ages

	Teaching experience (mean ± standard deviation)				F	p
	Less than 5 years	5-10 years	11-20 years	Over 21 years		
Teacher's work vitality	3.16±1.07	4.11±0.70	3.86±0.91	3.88±0.81	20.697	0.000**
energy	3.12±1.23	4.12±0.73	3.98±0.93	3.99±0.90	22.294	0.000**
absorbed	3.16±1.17	4.13±0.72	3.85±0.94	3.82±0.89	18.074	0.000**
dedication	3.19±1.16	4.26±0.73	3.78±1.01	3.97±0.71	22.015	0.000**
Willing to teach	3.07±1.15	4.09±0.90	3.88±1.01	3.81±0.98	18.821	0.000**
Love school	3.22±1.12	3.98±0.84	3.81±0.98	3.83±0.98	11.330	0.000**
* p<0.05 ** p<0.01						

2.5.5 Analysis of Teacher Work Vitality and Differences in Professional Titles Across Various Dimensions

As a multi categorical variable, teacher professional titles were used for ANOVA one-way ANOVA analysis using SPSS 26.0. Different professional titles showed significant differences ($p<0.05$) in terms of teacher work vitality, energy, focus, dedication, enjoyment of teaching, and love for school. This indicates that different professional titles have differences in teacher work vitality, energy, focus, dedication, enjoyment of teaching, and love for school. The results are shown in Table 11.

Table 11 Analysis of Variance Results for Different Professional Titles

	Professional title (mean ± standard deviation)				F	p
	Teaching assistants and below	lecturer	associate professor	professor		
Teacher's work vitality	3.64±0.96	3.59±1.07	4.15±0.57	3.84±0.82	7.271	0.000**
energy	3.53±1.05	3.68±1.14	4.28±0.59	3.95±0.96	9.265	0.000**
absorbed	3.74±1.02	3.56±1.11	4.15±0.63	3.70±0.90	6.442	0.000**
dedication	3.62±1.10	3.63±1.15	4.15±0.56	3.98±0.62	6.576	0.000**
Willing to teach	3.67±0.99	3.55±1.20	4.12±0.83	3.72±1.01	5.327	0.001**
Love school	3.62±1.00	3.54±1.14	4.09±0.65	3.85±0.99	5.991	0.001**
* p<0.05 ** p<0.01						

3. Analysis of Teacher Work Vitality and Educational Differences in Various Dimensions

As a multi categorical variable, teacher education was used for one-way ANOVA analysis using SPSS 26.0. Different education levels showed significant differences ($p<0.05$) in teachers' work vitality, energy, focus, dedication, enjoyment of teaching, and love for school. This means that different education levels have differences in teachers' work vitality, energy, focus, dedication, enjoyment of teaching, and love for school. The results are shown in Table 12.

Table 12 Analysis of Variance Results for Different Educational Qualifications

	Educational background (mean ± standard deviation)			F	p
	undergraduate	Master's students	PhD student		
Teacher's work vitality	2.79±1.02	3.83±0.93	3.90±0.82	32.097	0.000**
energy	2.76±1.20	3.91±1.00	3.97±0.89	32.436	0.000**
absorbed	2.66±1.06	3.85±0.92	3.90±0.90	37.836	0.000**
dedication	2.75±1.17	3.85±1.12	3.96±0.69	34.847	0.000**
Willing to teach	2.79±1.19	3.84±0.98	3.83±1.03	22.751	0.000**
Love school	2.96±1.04	3.75±1.00	3.85±0.97	16.139	0.000**
* p<0.05 ** p<0.01					

2.5.6 Correlation analysis

The main research variables involved in this study, such as teacher work vitality, organizational environment, professional identity, and self-efficacy, are normally continuous variables. Therefore, the Pearson correlation coefficient calculation method was used, and the results are shown in Table 13.

Table 13 Correlation Analysis of Various Variables

	1	2	3	4	5	6	7	8	9	10	11
1	1										
2	0.932**	1									
3	0.914**	0.805**	1								
4	0.911**	0.823**	0.807**	1							
5	0.919**	0.837**	0.795**	0.783**	1						
6	0.945**	0.850**	0.832**	0.818**	0.835**	1					
7	0.492**	0.438**	0.477**	0.486**	0.477**	0.453**	1				
8	0.483**	0.407**	0.470**	0.477**	0.452**	0.433**	0.915**	1			
9	0.467**	0.417**	0.435**	0.445**	0.448**	0.422**	0.961**	0.768**	1		
10	0.610**	0.538**	0.545**	0.562**	0.562**	0.603**	0.495**	0.455**	0.475**	1	
11	0.477**	0.444**	0.399**	0.424**	0.444**	0.482**	0.414**	0.404**	0.380**	0.452**	1

* p<0.05 ** p<0.01

Note: 1 represents the total score of the "Teacher Work Vitality" scale, 2 represents the score of the "Energy" dimension, 3 represents the score of the "Focus" dimension, 4 represents the score of the "Dedication" dimension, 5 represents the score of the "Joyful Teaching" dimension, 6 represents the score of the "Love School" dimension, 7 represents the total score of the "Organizational Environment" scale, 8 represents the score of the "Social Environment" dimension, 9 represents the score of the "University Environment" dimension, 10 represents the total score of the "Professional Identity" scale, and 11 represents the total score of the "Self Efficacy" scale

According to Table 13, there is a significant positive correlation between "organizational environment" and its dimensions, as well as "teacher work vitality" and its dimensions (all P values are less than 0.05, and the correlation coefficients are all greater than 0). There is also a positive correlation between "professional identity" and "organizational

environment" and its dimensions (all P values are less than 0.05, and the correlation coefficients are all greater than 0). There is also a significant positive correlation between "self-efficacy" and "teacher vitality" and its dimensions, "professional identity", and "organizational environment" (all P values are less than 0.05, and the correlation coefficients are all greater than 0).

Discuss

Teacher work vitality "refers to the sustainable development driving mechanism exhibited by teachers in their professional lives. The current professional survival situation of Chinese teachers is worrying, as their physical and mental health is not ideal. Thinking about how to encourage teachers to work actively, positively, and joyfully is a key strategy for exploring the professional development of teachers and the construction of a high-quality team. Based on the review and summary of relevant research and theories on teacher work vitality at home and abroad, this study explores the influencing factors of teacher work vitality in applied undergraduate universities. A combination of quantitative methods such as literature research, questionnaire survey, and statistical analysis is used to conduct in-depth research.

This study comprehensively applies relevant theories such as social exchange theory, social identity theory, and resource conservation theory. Through literature review, the basic structural dimensions and key variables of the research are clarified, and a theoretical hypothesis model is constructed. We used structural equation modeling (SEM) to empirically analyze and demonstrate the relationship between the organizational environment, professional identity, self-efficacy, and work vitality of applied undergraduate university teachers, verifying and solving several highly significant issues.

Summary and suggestion

The following elaborates on the research conclusions and policy recommendations. In terms of research conclusions, the work vitality of applied undergraduate university teachers is at a moderate level, influenced by multiple factors such as society, universities, and individuals; The performance of teacher's work vitality is related to marriage, age, teaching experience, professional title, and educational background; The organizational environment has a significant positive impact on the work vitality of teachers; Professional identity plays a mediating role in the impact of organizational environment on teachers' work vitality; Self efficacy has a positive moderating effect on the impact of organizational environment on teachers' work vitality. Research shortcomings: Lack of multi angle, multi-level, and systematic research methods, requiring comprehensive consideration of macro, meso, and micro influencing factors; The research sample size is relatively small, and its representativeness in demographic aspects needs to be verified; The self-reported questionnaire method has certain limitations and may affect the authenticity and reliability of the data. Therefore, objective measurement methods such as "other evaluations" should be added; The selection of mediator and moderator variables is relatively limited and needs further expansion.

The following elaborates on the research shortcomings and prospects. In terms of research prospects: Revise the scale to be more comprehensive, improve the items, add content related to practical work and objective evaluation, introduce more variables and factors; Study the outcome variables of teacher work vitality, such as the performance of teacher vitality, and expand the research object to other types and levels of university teachers; Conduct interdisciplinary long-term tracking research, develop and validate intervention measures and plans to enhance teachers' work vitality, integrate interdisciplinary theories and methods, observe changing trends and long-term effects. Suggestions for countermeasures: Establish a sound policy guarantee system, enhance teachers' sense of organizational support, including improving training, evaluation, fault tolerance and correction, and salary management system

mechanisms; Create a good organizational culture and enhance teachers' organizational identity, such as creating a harmonious atmosphere, expanding communication channels, and ensuring a fair and just working environment; Strengthen career management, increase teachers' professional identity, including strengthening ideological education, career planning management, and expanding promotion channels.

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