

## RESEARCH ARTICLE

# A study on the influence of the consistency between career ideal and working environment on the creative self-efficacy of rural novice teachers in China

Li Liao<sup>1</sup>, Huiyuan You<sup>1</sup>, Jian-Hong Ye<sup>1,2,\*</sup>

<sup>1</sup> Faculty of Education, Beijing Normal University, Beijing, 100875, China

<sup>2</sup> National Institute of Vocational Education, Beijing Normal University, Beijing, 100875, China

\* Corresponding author: Jian-Hong Ye, jianhong.ye@bnu.edu.cn; kimpo30107@hotmail.com

## ABSTRACT

The high-quality development of rural education is an important goal of China's education development, and is also an important measure to eliminate the gap between urban and rural educational resources and to promote educational equity. Rural teachers are considered to be the key factor affecting the quality of rural education, and the creative self-efficacy (CSE) of rural teachers in the early stage of their career development plays an important role in the transformation of these teachers into excellent teachers. According to self-efficacy theory, social support theory and self-determination theory, the career ideals and working environment of rural novice teachers should have a positive effect on the improvement of their CSE and comprehensive quality, but this relationship still needs to be verified. Therefore, the purpose of this study was to explore the influence of the consistency between the career ideals and the working environment of rural novice teachers on their sense of CSE. In this study, 580 novice rural teachers in South China who had been in the classroom for 1-5 years were surveyed by purposive sampling using the Teacher Career Ideal scale, the Work Environment scale, the Creative self-efficacy scale and other tools. The results showed that the career ideal of rural novice teachers was positively correlated with their sense of CSE. There was a significant positive correlation between working environment and the CSE of rural novice teachers, while consistency between career ideal and working environment had a significant impact on their sense of CSE.

**Keywords:** career ideal; creative self-efficacy; novice teachers; rural teachers; working environment

## 1. Introduction

The 20th National Congress of the CPC stressed the implementation of the strategy of rejuvenating China through science and education, and accelerating the construction of a high-quality education system<sup>1</sup>. Rural education modernization is an important part of China's educational modernization, and rural teachers are the promoters and practitioners of rural revitalization and modernization of rural education. The development of their creative self-efficacy (CSE) determines the application, promotion and popularization of innovative teaching in rural schools, which is of great significance for the cultivation of rural students' core literacy and for narrowing the gap between urban and rural students<sup>2</sup>. However, rural teachers are faced

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with many challenges in using CSE to carry out innovative teaching applications, such as the inertia of the rural education system, the "digital divide" in urban and rural education<sup>3</sup>, and rural teachers' lack of innovative teaching ability. Novice teachers, in particular, face numerous daunting tasks in the early stages of their adjustment to the position because of the challenges and difficulties that arise when they try to develop and progress in their teaching careers<sup>4</sup>. Therefore, it is necessary for novice teachers to realize the importance of creative efficacy at the beginning of their teaching careers. CSE not only reflects novice teachers' confidence in their ability to successfully implement innovative teaching strategies, design novel teaching activities and promote students' all-round development, but is also an important internal motivation for novice teachers to keep exploring, daring to try, and engaging in continuous learning.

However, although the importance of CSE for rural novice teachers has become increasingly prominent, the current academic research in this field is relatively lagging and insufficient. Current research on novice rural teachers focuses more on work difficulties<sup>5</sup>, teacher professional development<sup>6</sup>, resignation and retention<sup>7</sup> and work happiness<sup>8</sup>. Most of the existing research on novice teachers focuses on career development and professional growth training, while the research literature on the cultivation of CSE of rural novice teachers is quite scarce. Most rural teachers come from other professional industries and may not have received professional teacher education or training, so they may not have practical teaching experience before becoming teachers, which is very different from teachers trained in education colleges. Therefore, in view of the importance of the professional development of rural teachers, this study chose novice teachers in rural schools as the research subjects, and analyzed the influencing factors on their sense of creative self-efficacy.

Self-efficacy is a psychological concept proposed by Bandura in the social cognitive theory<sup>9</sup>. Bandura pointed out that, "Self-efficacy is an individual's cognition and belief about whether he or she can successfully complete a specific task"<sup>9</sup>. Later, some scholars combined the characteristics of innovation activities and believed that CSE is an individual's self-cognition and belief in completing innovative tasks<sup>10</sup>. Some researchers have examined relevant studies on employees' CSE, and concluded that the influencing factors of CSE can be roughly summarized into four aspects: organizational factors, leadership factors, work environment-related factors, and personal employee factors<sup>11</sup>. The influencing effect of CSE is concentrated in the field of creativity, such as innovative behavior, creativity, and creative performance. Previous studies have found that CSE can significantly positively predict teachers' proactive innovation behavior<sup>12</sup>, teacher design innovation quality<sup>13</sup>, perceived organizational justice<sup>14</sup>, and scientific research performance<sup>15</sup>. It can also indirectly improve students' passion for learning<sup>16</sup>. It can be seen that CSE is of great significance in promoting teachers' innovation ability and improving education quality. However, a recent survey found that the current rural teachers have a low sense of CSE<sup>17</sup>. Therefore, how to effectively stimulate and sustain the CSE of novice rural teachers has become an inevitable challenge in developing the rural teaching workforce during the new era. However, at present, empirical studies on the CSE of rural novice teachers are rare. Many scholars have discussed the formation mechanism of CSE. It is believed that the generation of CSE is influenced by multiple factors, including an individual's sharing of personal experience<sup>18</sup>, responsibility, extroversion<sup>19</sup>, organizational factors<sup>20</sup>, educational level<sup>10</sup> and leadership dynamics<sup>21</sup>. These processes are understood to operate interactively, rather than in isolation. Among them, the internalization of individual activity from external motivation to internal motivation is the root cause of CSE. According to self-determination theory, the external motivation of an activity needs to be nourished by the external environment before it can be internalized as internal motivation. Only when the external environment can satisfy the individual's needs for competence, autonomy and relationship can external motivation be transformed into internal motivation<sup>22</sup>. The working environment refers to the entire subjective working

atmosphere and working state surrounding the practitioner<sup>23</sup>. It has been found that the working environment can effectively promote the innovative behavior of rural teachers<sup>24</sup> and is likely to provide the necessary nourishment for the internalization of the external motivation of rural novice teachers in education and teaching, and will then in turn stimulate their sense of CSE.

At the same time, career ideal, as teachers' spiritual pillar, plays an irreplaceable role in the career growth of novice teachers<sup>25</sup>. Some scholars have analyzed the problems of the current career ideals of rural young teachers and put forward ways to cultivate career ideals and beliefs<sup>26</sup>. Others have studied the influencing factors of teachers' career ideals, and believed that factors such as working environment, professional ethics, unity of interest and livelihood would affect teachers' career ideals<sup>27</sup>. Moreover, through empirical investigation and research, some scholars found that if rural novice teachers are at a disadvantage in terms of economic conditions and working environment, they are more likely to form a negative attitude towards career ideals and beliefs<sup>28</sup>. Therefore, the career ideal of teachers does not exist in isolation; rather, it must be compatible with the working environment in order to exert the maximum effectiveness. To sum up, it can be inferred that the career ideals, working environment and CSE of rural novice teachers have an important relationship. However, the existing studies mostly discuss the impact of teachers' career ideals and working environment on CSE from a single perspective, and lack systematic research on them as a whole. It is not clear how the consistency between rural novice teachers' career ideals and working environment affects the formation and development of their CSE, or what the mechanism is. Therefore, this study aimed to verify the relationship between the consistency of career ideals and work environment of rural novice teachers on their sense of CSE, provide empirical support for improving the effect of rural teachers' creative behavior, and propose methods to improve the education quality of rural teachers.

## **2. Theoretical framework and research hypotheses**

### **2.1. The relationship between career ideal and CSE**

Career ideals reflect the degree to which individuals aspire to hold relevant positions in their careers, and their expectations and goals for career development<sup>29</sup>. An individual with clear and lofty career ideals tends to remain optimistic and confident in the face of challenges and difficulties<sup>30</sup>. Although few scholars have paid much attention to the effect of career ideals on rural novice teachers' sense of CSE, the relationship between career ideal and CSE can be inferred from the theory of self-efficacy and relevant research results from the field of organizational behavior. According to the theory of self-efficacy<sup>9</sup>, autonomy is an important prerequisite for the generation of CSE. Therefore, firm and good career ideals are obviously conducive to stimulating teachers' CSE.

According to the theory of expansion and construction of positive emotion, positive emotion can expand an individual's behavioral space through an "emotional repository"<sup>31</sup>. Career ideals are undoubtedly a positive emotional state, which is exactly what innovation efficacy needs. In addition, studies in the field of organizational behavior have found that career ideal is an important predictor of employees' innovation self-efficacy and creativity. For example, studies have found that both career ideal and career identity, as well as the interaction of these two types of beliefs, can significantly and positively predict employees' creativity<sup>32,33</sup>. Accordingly, this study proposed the following hypothesis:

H1: There is a significant positive correlation between the career ideal and CSE of rural novice teachers.

### **2.2. The relationship between work environment and CSE**

The social support theory proposed by John Cassel and Sidney Cobb holds that various forms of support (emotional support, information support, tool support, etc.) can alleviate the negative impact on individuals

in the face of pressure, thus improving their overall career ability and quality of life<sup>34</sup>. According to this theory, emotional support, information support and tool support in the work environment are necessary elements for novice teachers' practice of creative ability and their CSE. The work environment encompasses all possible factors and influences the functioning and effectiveness of an organization<sup>35</sup>. Several academics have suggested that fostering an innovative organizational environment necessitates the promotion of open communication and the cultivation of novel concepts<sup>36</sup>. It is essential for an organization to provide an environment that empowers educators to explore innovative approaches and engage in dialogue about fresh concepts<sup>37,38</sup>.

In addition, supportive environmental conditions can stimulate teachers to actively engage in innovative teaching practices. Furthermore, both innovation and the organizational climate are significant predictors of the performance of teachers' work behaviors<sup>39,40</sup>. Empirical research has demonstrated a link between environmental elements and innovative job actions across various phases of the innovation pipeline. It has been observed that managers who are supportive and teachers with greater exposure to innovation tend to display enhanced innovative conduct<sup>37,41</sup>. A substantial positive association has been identified between the innovation-oriented organizational climate and the integration of information communication technology (ICT) in fostering innovative teaching practices<sup>42</sup>. At present, research in many fields has verified that the CSE or innovative behavior of teachers in the work environment has a positive impact on pedagogical innovation outcomes. Based on the existing research results, we can assume that:

H2: The working environment of rural novice teachers is significantly positively correlated with their sense of creative efficacy.

### **2.3. The relationship between consistency of career ideal, working environment and CSE**

Self-determination theory emphasizes that individuals make free choices about their actions on the basis of full awareness of personal needs and environmental information<sup>43</sup>. Several studies have explored the application of this theory in the field of career development. For example, researchers have found that when individuals are able to make independent choices in their careers and feel that their work is meaningful and valuable, their job satisfaction and career commitment increase significantly<sup>44</sup>. For novice teachers in rural areas, their career ideals may include making contributions to education and realizing their self-worth. When these ideals are aligned with their work environment, they feel more satisfied and motivated<sup>45</sup>. This consistency can also increase teachers' sense of belonging and make them more willing to engage in teaching. A large number of studies have shown that when novice teachers can pursue their career ideals in a supportive work environment, their innovation ability and self-efficacy will be significantly improved<sup>46,47,48</sup>. Accordingly, we proposed the following research hypothesis:

H3: There are significant differences between the career ideals and working environment consistency of rural novice teachers in terms of CSE.

To sum up, based on the self-efficacy theory, social support theory and self-determination theory, we proposed three research hypothesis paths and constructed the theoretical hypothesis model of the research, as shown in **Figure 1**.

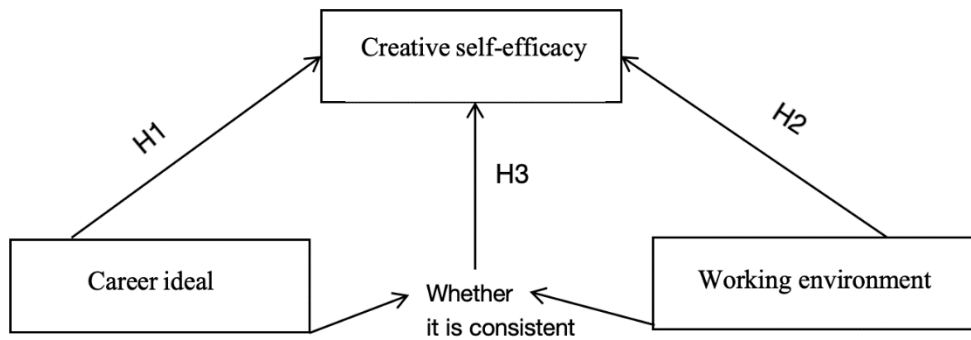


Figure 1. Hypothetical model.

### 3. Research method

#### 3.1. Research implementation and participants

This study adopted the method of purposeful sampling and used the popular Chinese “Questionnaire Star” platform to create an electronic questionnaire. Novice teachers were asked to fill in the questionnaire, and were informed of the purpose of the study, data use, participation rights and the researcher’s contact information on the questionnaire home page. After they agreed to participate, they were presented with the questionnaire items. Questionnaires were collected from May 10 to 28, 2024.

The questionnaire was distributed to 596 primary and secondary school teachers with 1-5 years of teaching experience. Of the 596 questionnaires collected, 16 invalid data were deleted, leaving 580 valid participants, giving an effective recovery rate of 97%. In this study, 17.4% ( $N = 101$ ) of the teachers were male and 82.6% ( $N = 479$ ) were female; 54.5% ( $N = 316$ ) were class teachers, while 45.5% ( $N = 264$ ) were not; and 66.7% ( $N = 387$ ) had 0-2 years of teaching experience, while 33.3% ( $N = 193$ ) had 3-5 years.

Table 1. Descriptive statistics table.

Variables		Frequency	Percent (%)
Gender	male	101	17.4%
	female	479	82.6%
Class teacher	yes	316	54.5%
	no	264	45.5%
Teaching experience	0-2 years	387	66.7%
	3-5 years	193	33.3%

#### 3.2. Questionnaire tool

##### 3.2.1 Teacher occupation ideal scale

In this study, the Professional Ideal Scale for Primary and Secondary School Teachers, compiled by Zhang Xiaodan et al.<sup>49</sup>, was used. It had 23 items in total, including three dimensions: career pursuit, professional identity and professional accomplishment. For example, "Teachers can feel respected and have a high happiness index" was used to measure participants' perceptions of career ideal during the new entry period. A Likert 5-point scale was used, from 1 = "completely inconsistent" to 5 = "completely consistent." The Cronbach's  $\alpha$  value of the scale was .9, indicating that the questionnaire had very good reliability.

### 3.2.2. Work environment scale

This study selected the School Environment Scale compiled by Xin Tao et al.<sup>50</sup>, which has 19 questions. The scale divides the factors of teachers' working environment into five dimensions, namely the influence of the principal, the development conditions provided by the work, the school atmosphere, interpersonal relationships, and the material environment. An example item is, "School leaders care about the staff and strive to solve the practical difficulties of the staff." A Likert 5-point scale was used, from 1 = "completely inconsistent" to 5 = "completely consistent." The Cronbach's  $\alpha$  value of the scale was .864, indicating that the scale had good reliability.

### 3.2.3. Creative self-efficacy (CSE)

In this study, the CSE Scale compiled by Carmel et al.<sup>51</sup> was selected, with a total of eight items, such as "I can achieve most of the goals I set by using innovative working methods." The scale uses a Likert 5-point scale, from 1 = "completely inconsistent" to 5 = "completely consistent." A sample item is, "I am able to achieve results that are important to me in creative ways." The Cronbach's  $\alpha$  coefficient of the scale in this study was .802, indicating that the scale had good reliability.

## 4. Research results

In this study, the software SPSS29.0 was used to conduct descriptive analysis, difference analysis, correlation analysis, regression analysis and variance analysis of the data.

### 4.1. Common method bias

Using the Kaiser single-factor test, an exploratory factor analysis was conducted on all variables. Through principal component analysis, three factors were extracted. The first factor accounted for 36.279% of the variance, which did not reach 40%, indicating that no common factor emerged.

**Table 2.** Kaiser's single-factor test.

Component	Total Variance Explained			ExtractionSums of Squared Loadings		
	Initial Eigenvalues	Variance Percentage	CumulativePercentage	Total	Variance Percentage	Cumulative Percentage
1	18.14	36.279	36.279	18.14	36.279	36.279
2	6.974	13.949	50.228			
3	3.117	6.233	56.461			
Omitted below						

### 4.2. Reliability and validity analysis

Reliability analysis is to test whether the questionnaire data obtained by the research is credible, which is verified by Cronbach's alpha coefficient. The Cronbach's coefficient in this study was 0.963, indicating that the questionnaire had very high reliability and very suitable reliability.

Validity analysis refers to the measurement of whether the data of the questionnaire obtained in a study can reflect the extent of the content to be investigated. The more consistent the measurement results are with the content investigated, the higher the validity is. By observing the KMO value of the samples and testing the Bartlett sphericity, it can be seen from the table that the KMO value of the total samples was 0.964, and the Bartlett sphericity test results were significant, so the data obtained in this study were suitable for factor analysis.

**Table 3.** Reliability and validity analysis.

	<b>M</b>	<b>SD</b>	<b><math>\alpha</math></b>	<b>Factor Loadings</b>
Career ideal of teacher	3.366	0.070	0.948	0.958
Working environment	3.650	0.194	0.948	0.964
CSE	3.232	0.004	0.960	0.951
Total	3.475	0.142	0.963	0.964

### 4.3. Difference analysis

In SPSS, the independent sample *t* test was performed with gender as the categorical variable. The results showed that there were significant gender differences in CSE, career ideal and working environment, with men scoring higher than women in three aspects: working environment, career ideal and CSE. Second, taking whether they worked as a class teacher as a categorical variable, the results showed that there were significant differences in the three variables of CSE, career ideal and working environment, with the scores of teachers who were not serving as class teachers higher than those of teachers who were serving as class teachers in three aspects: working environment, career ideal and CSE. Third, the independent sample *t* test was carried out with teaching age as the categorical variable. The results showed that there were significant differences in the three variables of CSE, career ideal and working environment, where teachers with 3-5 years of teaching experience scored higher than teachers with 0-2 years of teaching experience in the three aspects of working environment, career ideal and CSE. In addition, through the correlation measurement, it can be seen that the influence factor of teaching age was the most relevant to the three variables.

**Table 4.** Difference analysis table.

<b>Variables</b>		<b>Working environment</b>	<b>Career ideal</b>	<b>CSE</b>
Gender	Male	3.61	3.72	3.34
	Female	3.31	3.63	3.21
		3.556***	1.119	1.273
		<0.001	.264	.204
Class teacher	yes	3.27	3.66	3.22
	no	3.48	3.63	3.25
	<i>t</i>	3.146**	.552	.411
	<i>p</i>	.002	.581	.681
Teaching experience	0-2years	3.29	3.53	3.05
	3-5years	3.52	3.89	3.59
	<i>t</i>	3.472**	5.915***	6.481***
	<i>p</i>	.001	<0.001	<0.001

\**p* < .05; \*\**p* < .01; \*\*\**p* < .001

In this study, consistency judgment is made based on the difference between career ideal and work environment. If the absolute value of the difference between career ideal and work environment is less than 0.5, it is defined as high consistency; if the difference is between 0.5 and 1.5, it is defined as moderate consistency; and if the difference is greater than 1.5, it is defined as low consistency.

Using these three categories as the categorical variable, an analysis of variance (ANOVA) was conducted. The results revealed that the group with low consistency between work environment and career

ideals scored the lowest in CSE, while the group with high consistency scored the highest, and the group with moderate consistency scored in between. Further multiple comparisons indicated that the differences among these three groups were all significant, thus validating research hypothesis H3.

**Table 5.** Consistency test.

Variable	Low consistency	Moderate consistency	High consistency	F	p
CSE	2.65	3.11	3.43	19.00***	<0.001

\*\*\* $p < .001$

#### 4.4. Correlation analysis

In this correlation analysis, the correlation coefficients between CSE and career ideal, as well as work environment were 0.455 and 0.630, respectively, with both  $p$ -values being less than 0.05. This indicates that there was a significant positive correlation between CSE and both career ideal and the work environment. Therefore, it was preliminarily concluded that hypotheses H1 and H2 were supported.

**Table 6.** Correlation matrix.

	1	2	3
1. Working environment	1		
2. Career ideal of teacher	.405**	1	
3. CSE	.455**	.630**	1

\*\* $p < .01$

#### 4.5. Regression analysis

In SPSS, linear regression was performed with working environment as the independent variable and innovation self-efficacy as the dependent variable. It was found that the work environment positively and significantly affected teachers' CSE, and so research hypothesis H1 was verified. Taking career ideal as the independent variable and CSE as the dependent variable, linear regression was carried out. It was found that career ideal positively and significantly affected teachers' sense of CSE; thus, research hypothesis H2 was verified.

**Table 7.** Regression analysis table.

Regression equation		Fit coefficients	Tests of significance for regression coefficients	
Outcome variable	Predictor variable	$R^2$	$\beta$	$t$
Working environment	CSE	0.21	0.57	12.285***
Career ideal	CSE	0.40	0.87	19.524***

\*\*\* $p < .001$

## 5. Discussion

### 5.1. Differences in the career ideal, working environment and CSE of rural novice teachers

While this study reveals significant gender disparities in CSE perceptions among rural novice teachers, particularly attributing lower female efficacy beliefs to gender role stereotypes<sup>52</sup> and self-evaluation standards<sup>53</sup>, it is critical to contextualize these findings within broader systemic constraints. For instance, prior studies in urban Chinese settings<sup>54</sup> reported smaller gender gaps in teacher efficacy, suggesting that rural socioeconomic conditions—such as limited access to professional development and entrenched patriarchal norms—may amplify gender disparities. This divergence highlights the need to disentangle



individual psychological factors (e.g., self-evaluation) from structural barriers (e.g., resource allocation policies) when interpreting rural-specific outcomes.

The observed improvement in CSE among teachers with 3-5 years of service aligns with China's rural revitalization policies<sup>55,56</sup>, yet contrasts sharply with global literature documenting heightened burnout in early-career teachers<sup>57</sup>. This discrepancy raises the question: Does China's policy-driven gratitude cultivation<sup>58</sup> mitigate burnout effects, or does the "survivorship bias" obscure the attrition of disillusioned teachers? A longitudinal study in South Korea found that early-career rural teachers exhibited declining efficacy after 3 years due to cumulative systemic pressures—a phenomenon absent in cross-sectional data<sup>59</sup>. This underscores the urgency of exploring temporal dynamics and policy implementation gaps in future research.

Regarding class teachers' lower CSE, while workload pressures and limited innovation opportunities provide plausible explanations, alternative frameworks merit consideration<sup>60</sup>. For example, emotional geographies theory posits that teacher creative efficacy is shaped by moral conflicts between professional ideals and administrative demands—a dimension unmeasured here<sup>61</sup>. The reported 70% high-stress rate could reflect not just workload but also policy-induced accountability regimes<sup>62,63</sup>, suggesting that our "work environment" construct may insufficiently capture macro-policy influences.

## **5.2. Regression analysis of the career ideals, working environment and CSE of rural novice teachers**

The strong career ideal-CSE association corroborates urban teacher studies<sup>64</sup>, but has unique rural connotations. Unlike their urban counterparts who have access to structured mentoring, rural teachers' idealism may function as a psychological substitute for institutional support—a "resilience mechanism" theorized in resource-scarce contexts<sup>65,66</sup>. However, this interpretation risks overlooking countervailing evidence: In rural schools, excessive idealism was found to be correlated with burnout when environmental support lagged<sup>67</sup>. This paradox suggests that our model might benefit from incorporating moderator variables (e.g., community social capital) to explain why alignment drives efficacy in some contexts but not in others.

Similarly, the work environment-CSE link aligns with the finding<sup>45</sup>, but demands scrutiny regarding effect size. Urban studies have typically reported stronger environment-efficacy relationships<sup>68</sup> 错误!未找到引用源。, implying that rural teachers may compensate for environmental deficits through non-institutional means<sup>[69,70]</sup>. This compensation hypothesis, unaddressed in our analysis, could reconcile the attenuated rural effect size while challenging the presumed primacy of environmental factors.

## **5.3. ANOVA analysis of the consistency between the career ideal and working environment and CSE of rural novice teachers**

The high congruence group's superior CSE scores empirically support the person-environment fit theory<sup>[43]</sup>, yet this framework's applicability to rural China requires qualification. In developed economies, congruence often stems from teachers' agency in selecting workplaces matching their ideals<sup>[71]</sup>. Conversely, China's rural teacher deployment system frequently assigns novices to underserved areas regardless of preference<sup>[72]</sup>, rendering "congruence" a product of post-hoc adaptation rather than proactive choice. This systemic constraint necessitates reinterpreting congruence as resilience against institutional mismatches rather than organic alignment—a distinction with profound implications for policy interventions<sup>[73,74]</sup>.

The low congruence group's diminished CSE echoes<sup>[75]</sup>, burnout studies but overlooks potential moderators. For example, research has found that despite poor environment-ideal alignment, teachers maintained efficacy through community engagement<sup>69,76,77</sup>—a culturally embedded buffer absent in our

model. This cultural relativity highlights the need to expand analytic frameworks beyond individual-environment dyads to include meso-level social ecosystems.

## **6. Conclusions and recommendations**

### **6.1. Conclusions**

This study demonstrates that rural novice teachers' creative self-efficacy (CSE) is shaped by interrelated demographic, psychological, and systemic factors. Gender disparities in CSE persist, with female teachers reporting lower efficacy due to gendered role expectations and evaluation biases. Teachers with 3-5 years of experience exhibited higher CSE compared to less experienced peers, suggesting adaptive resilience in China's rural education context. Class teachers, however, face unique challenges, as role-specific stressors and limited autonomy undermine their efficacy. Critically, both career ideals and working environments independently correlated positively with CSE, with career ideals showing stronger predictive power. This highlights the dual role of intrinsic motivation and external support in sustaining efficacy, although rural teachers' reliance on personal commitment may reflect compensatory strategies for systemic resource gaps.

The consistency between career ideals and work environments has emerged as a pivotal determinant of CSE. Teachers in high-congruence settings achieve the highest CSE scores, followed by moderate and low-congruence groups. This underscores the importance of aligning institutional conditions with individual aspirations. However, rural-specific constraints, such as mandatory postings and limited professional agency, redefine "congruence" as a dynamic process of adaptation rather than as passive alignment. These findings advocate for policies that address structural inequities (e.g., gendered norms, resource allocation) while fostering environments where teachers' ideals are actively integrated into systemic support frameworks. By bridging individual resilience with institutional reform, this study provides actionable pathways to enhance rural teacher retention, efficacy, and long-term professional development.

### **6.2. Research proposal**

In order to better promote the development of rural novice teachers' CSE, it is suggested that the following aspects be optimized:

(1) Improve the unfavorable working environment that restricts the innovative development of rural novice teachers. Rural novice teachers, facing geographic isolation and limited access to professional development in innovation and advanced knowledge, require comprehensive support to boost their CSE. It is essential for the government and society to enhance rural schools' information infrastructure, prioritize funding and training for these teachers, and encourage their engagement in distance education and innovative teaching practices. Additionally, rural schools should leverage local resources, establish incentives, and foster a learning organization centered on a culture of learning and innovation.

(2) Inspire the ideal drive of rural novice teachers. The external environment of rural schools is difficult to change greatly in a short time, as it requires the support of external material and a spiritual environment to guide rural novice teachers to solidify their ideals and beliefs, and gradually cultivate their consciousness of independent learning. In this process, it is particularly crucial to strengthen the organizational identity and sense of belonging of rural novice teachers, stimulate their professional enthusiasm by relying on local culture, and promote the development of their internal motivation of career ideal.

(3) Enhance the subjective cognitive consistency of novice rural teachers. First of all, it is necessary to strengthen the novice teachers' sense of identity to the school organization and establish a self-identification and promotion mechanism. Second, guide rural novice teachers to develop a suitable sense of work efficacy so that they can maintain confidence in the face of teaching problems, and actively innovate solutions.

Finally, deepen the reform of teacher evaluation system to improve the job satisfaction of rural novice teachers. As a subjective value judgment, teachers' job satisfaction is the result of the integration of internal and external factors such as career ideal and self-realization, inner expectation and real working environment, but the subjective value judgment of novice teachers on their own beliefs and working environment is affected by the teacher system. Therefore, only by promoting the reform of the evaluation system of teachers, especially rural novice teachers, and encouraging their correct attribution, can we really mobilize the enthusiasm of rural novice teachers to innovate and enhance their sense of CSE.

### **6.3. Research limitations and future research**

While this research has yielded certain findings, it is not without its limitations. Primarily, although the study's hypotheses are substantiated by empirical evidence, this evidence is derived from cross-sectional data, and the repeatability of the research results and the popularization of the research conclusions will be limited to some extent. Therefore, there is a need to broaden the scope of sampling and to gather longitudinal data where possible, in order to validate these findings in subsequent research endeavors. Second, although this study confirms the influence of the consistency between career ideal and work environment on the CSE of rural novice teachers, it is still unclear what factors led to the different degrees of consistency between them. Therefore, it is suggested that follow-up studies can conduct interviews with new teachers in rural areas to further explore the factors underlying the relationship of different degrees.

## **Declaration**

### **Ethics statement and consent to participate**

This study was conducted in strict accordance with the ethical principles outlined in the Declaration of Helsinki. Participants were explicitly assured of their right to withdraw from the study. To safeguard confidentiality, all data were anonymized during collection and analysis, with identifiers removed to prevent traceability. All participants provided informed consent after receiving comprehensive explanations of the study's objectives, procedures, potential risks, and benefits.

### **Author contributions**

Li Liao: Conceptualization, Data Curation, Formal analysis, Methodology, Writing - Original Draft, Writing - Review & Editing. Huiyuan You: Data Curation, Formal analysis, Writing - Review & Editing. Jian-Hong Ye: Funding acquisition, Supervision, Validation, Writing - Review & Editing. All authors have read and agreed to the published version of the manuscript.

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### **Data availability**

Data will be made available upon reasonable request.

### **Conflict of interest**

The authors declare no conflict of interest.

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