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The effects of gender, age and region on rural teachers' professional honor: an empirical analysis of survey data from seven provinces in China

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Professional honor is a critical factor shaping the recruitment and retention of teachers in rural China. This study examines the influence of demographic factors—gender, age, and region—on professional honor among 1,320 rural teachers across seven Chinese provinces. Using confirmatory factor analysis (CFA), the reliability of the professional honor scale was established ($\chi^2/df = 6.249$; RMSEA = 0.063). Comparative analyses revealed significant differences: female teachers reported higher levels of professional honor than their male counterparts; teachers in the Eastern Region exhibited greater professional honor than those in the Western Region; and teachers aged 31–40 displayed the lowest professional honor among all age groups. A multiple regression analysis identified gender, age, and region as significant predictors of professional honor, with gender moderating the relationship between public professional honor (PuPH) and personal professional honor (PePH). These findings have significant implications for addressing challenges in rural teacher prestige, including workforce feminization, age-related dynamics, and teacher migration from Western to Eastern regions. Recommendations are proposed to mitigate these challenges and enhance teacher retention in rural schools.

KEYWORDS

rural teacher, professional honor, professional identity, sense of professional honor, teacher feminization, age crisis, teacher turnover

1 Introduction

In many countries, rural schools face problems of increasing feminization of the profession, ageing of the workforce, and turnover from less developed regions to more wealthy regions (Chen, 2011; Che, 2020; Ghuman and Lloyd, 2010; Liu et al., 2022; Mills et al., 2004). These problems potentially weaken the quality of teachers in rural areas and affect students' academic achievement (Kalogrides et al., 2013; Shikalepo, 2020). As a consequence, this hampers the improvement of rural education, especially in developing countries (Cuervo and Acquaro, 2018).

Honor is seen an important factor that can influence a person's behavior (Cooley, 1999; Bayefsky, 2013), such as choosing to enter or to leave a particular profession. However, empirical study on the influence of honor in the teaching profession is lacking (Rimon-Or et al., 2023; Wang et al., 2024). This study examined the influence of gender, age, and region on professional honor to explore possible causes and potential avenues for solutions for the

problems faced in rural schools. This research aims to benefit the understanding and appreciation of teachers in rural areas of the international community.

2 Literature review

2.1 Fundamental concepts: honor and professional honor

Honor is a concept that is prominent in many societies around the world. A variety of definitions of honor exist; for example, [Schopenhauer \(1901\)](#) defines honor as the objective opinion others hold of our value and our fear of that opinion ([Welsh, 2008](#)). For [Pitt-Rivers \(1966\)](#), honor is not only the value that society places on a person but also their own sense of personal value. Similarly, [Stewart \(1994\)](#) identifies internal and external aspects of honor, represented as public and personal honor. Public honor is often linked to rank, wealth, or public respect, while personal honor relates to the nobility and integrity of one's mind and character ([Krause, 2002](#); [Sessions, 2010](#)). Although honor may not currently be a common expression in some regions of the world, [Brandes \(1987\)](#) notes that the term could nonetheless be treated as a combination of commonly recognized attributes such as esteem, respect, prestige, and status, depending on local usage.

Teachers' professional honor is an intersubjective phenomenon determined by teachers' own feelings and those of their profession, local community, and government ([Hermanowicz, 2016](#)). However, there is no perfect equivalent concept to teachers' honor in the Western literature. Instead, the concept is, to some extent, captured by the literature as prestige. For example, in Western Anglophone countries, such as the UK and US, prestige is reflected in teachers' experiences of having a valued professional identity and a sense of dignity ([Hargreaves, 2009](#); [Hu, 1944](#); [Ingersoll and Tran, 2023](#); [Ivanchuk et al., 2020](#); [Rushton et al., 2023](#)). In contrast, in the East Asian literature, teachers' professional honor is tightly linked with their social status in a hierarchy and corresponds to a sense of collective belonging and professional accomplishment ([Leung and Cohen, 2011](#); [Liang and Gao, 2020](#); [Wang et al., 2024](#)). Studies of honor in social interactions highlight differences between other regions, such as the Middle East, Sub-Saharan Africa, and Latin America (e.g., [Aslani et al., 2016](#); [Clarke et al., 2013](#); [Uskul et al., 2023](#)). This suggests that teachers' honor is also likely to vary across these regions. However, a literature search for these regions found no specific studies of teachers' professional honor.

In this study, professional honor is broken down into internal and external components, in alignment with the literature. Personal professional honor (PePH) is defined as individual teachers' intrinsic valuation of themselves and their work; and public professional honor (PuPH) is defined as the recognition of the value of teachers and their work by society ([Chen and Wan, 2019](#)). While both dimensions are tightly connected, they are arguably theoretically and practically distinct ([Ivanchuk et al., 2020](#); [Stewart, 1994](#)).

2.2 Linking professional honor to gender, age and region

Research shows that the honor of human beings is influenced by a large variety of factors including cultural context ([Appiah, 2011](#)),

international standing ([Lebow, 2010](#); [O'Neill, 2001](#); [Robinson, 2006](#)), political recognition ([Krause, 2002](#)), and income disparity ([Frank, 1985](#)). In the context of teaching, studies indicate professional honor is influenced by social respect, personal achievement, professional identity, salary, and reputation ([Kamani, 2017](#); [Liang and Gao, 2020](#); [Xie and Liu, 2019](#)). However, in the context of rural teaching, gender, age, and region may be additional factors since these are dominant disparities in the rural education workforce.

2.2.1 Gender and profession honor

Within a society, honor can often have a gendered component, as the asymmetrical honor codes regarding sexual chastity clearly demonstrate ([Demetriou, 2013](#); [Pomerantz et al., 2023](#)). In teaching, gender disparity also exists in different aspects, such as teachers' work pressure, cooperation efficiency, and management behavior ([Galanakis and Alamani, 2020](#); [Klimek, 2019](#)). Internationally, studies have found female teachers in rural areas have significantly greater professional satisfaction than male teachers ([Bowman, 2007](#); [Chapman, 1983](#); [Chen, 2017](#)). Research in China confirms this pattern: male preschool teachers' sense of professional honor was found to be much lower than female preschool teachers' ([Li and Xiao, 2019](#)), and male rural teachers also show a weaker professional identity and sense of inferiority relative to their female counterparts ([Dhal, 2021](#); [Lu, 2013](#)). Moreover, it has been argued that this low sense of professional honor is the fundamental reason for the declining proportion of male teachers in primary and secondary schools in recent years ([Zhang, 2021](#)).

2.2.2 Age and professional honor

Age has been presented as an essential measure of an individual's human capital ([Schultz, 1961](#)), and thus can indirectly influence professional honor. Research in various contexts demonstrate that productivity follows an inverted-U, with peak productivity during middle-age ([Bao et al., 2020](#); [Sturman, 2003](#); [Yang et al., 2024](#)). While studies suggest a general sense of well-being parallels this pattern ([Blanchflower, 2021](#); [Blanchflower and Oswald, 2008](#)), other research indicates that the peak period of performance can be accompanied by a middle-aged career crises and low emotional states ([Yan, 2020](#)). Thus, the link between age and professional honor may not be straightforward. In the Chinese context, one study found significant differences in preschool teachers' sense of professional honor at different ages, with the highest level of honor for teachers between ages 31 and 35 ([Li and Xiao, 2019](#)). This finding is replicated by [Liang and Gao \(2020\)](#) who find the professional honor of primary and secondary schoolteachers approximately follows the inverted U curve as their careers progress.

2.2.3 Region and professional honor

The region in which one works can influence the sense of professional honor, and this is often based on the culture and economic development of the region ([Wang and Zheng, 2010](#)). It has been noted that region honor is both the individual and collective responses to living in a given region ([Morrison, 2016](#)). Moreover, the identity of a region is argued to be becoming increasingly influential in the modern world ([Bell and de-Shalit, 2011](#); [Marek, 2022](#)). Studies in China demonstrate both a rural-urban difference in professional honor, and a difference in honor between teachers in different rural areas. As might be anticipated, teachers in rural areas have shown a lower sense of professional honor than those in urban areas ([Lu, 2013](#); [Wang et al., 2024](#)). Teachers in Eastern rural areas report higher feelings of pride in their identity as teachers relative to Western rural

areas, and those in Western and Middle areas prefer to move to work in schools in the Eastern region, resulting in high teacher turnover (Hao, 2021; Miao, 2009).

Overall, there is sufficient evidence to suggest that gender, age, and region warrant investigation as influences on the professional honor of teachers, especially in rural China. However, the strength of these influences and how they interact is currently unknown, so investigating these factors can be useful for producing interventions which may reduce some of the problems within the teaching profession in rural areas.

3 Research questions

The importance of gender, age, and region for professional honor is particularly pertinent in the Chinese context since there are significant imbalances in these factors in rural education. First, the rural teaching workforce has a high proportion of female teachers: 97.61% in preschool education institutions; 72.29% in primary schools; 59.77% in junior secondary education; and 56.64% in senior secondary schools (Ministry of Education of the People's Republic of China, 2023). Additionally, rural areas have a higher percentage of teachers older than 55 years: 8.8% in rural areas and 3.3% in urban areas (Wu and Qin, 2022). Finally, different regions have different levels of teacher turnover, as teachers migrate from Western and Middle regions to the East (Jiang et al., 2023; Wang and Lei, 2017; Zheng et al., 2017). In fact, one rural school had a 45.5% turnover rate of newly recruited teachers over 5 years (Sha, 2019).

Considering the feminization, ageing, and turnover of the rural teacher workforce is significant and can potentially hamper the development of rural education systems, understanding how these aspects relate to professional honor may help produce policies that address the issues. Although some scholars have theorized a relationship between professional honor and gender, age, and region, existing studies focus only on a single characteristic each, so there are currently no comprehensive empirical studies. This study attempts to fill that gap by exploring the following issues:

Research question 1: Are rural teachers' professional honor levels different according to gender, age, and region?

Research question 2: Which demographic factors, including gender, age, and region, predict professional honor?

Research question 3: Do gender, age and region moderate the relationship between public and personal professional honor (PuPH and PePH)?

4 Materials and methods

4.1 Data sources and procedure

Data were collected in China through questionnaires. From May 31, 2016, to July 31, 2016, teachers in primary, secondary and senior schools and kindergartens were invited to participate by local government educational management departments and by principals of rural schools. We choose seven provinces to represent the different

regions in China, namely Jiangsu and Shandong (Eastern); Shanxi, Heilongjiang, and Henan (Middle); and Gansu and Ningxia (Western). A total of 1,361 questionnaires were collected from teachers in rural areas in these provinces. After the data were filtered for incomplete responses, 1,320 valid questionnaires remained, and the effective questionnaire recovery rate was 96.98%. The sample details are shown in Table 1.

4.2 Variables measure

The measurement instrument for rural teachers' professional honor was designed based on a questionnaire for professional external prestige (PEP) (Herrbach et al., 2004) and the Others' Approval subscale of the Contingency of the Self-Worth Scale (CSWS) (Briganti et al., 2019; Crocker et al., 2003). The instrument used a 5-point Likert scale (from 1 = absolutely disagree to 5 = absolutely agree). Eight items of the original questionnaires were expanded to 10 items. The instrument included two subscales: public professional honor (PuPH) and personal professional honor (PePH).

Public professional honor (PuPH): There were four questions in the PuPH subscale: (A1) "Currently, a primary or secondary school teacher is highly respected"; (A2) "The current status of teachers is glorious and sacred"; (A3) "At present, the honor system for teachers is widely recognized in the society."; and (A4) "Citizens currently greatly respect teachers who have won awards."

TABLE 1 Demographic characteristics of the rural teacher sample.

Variables	Category	N	Ratio (%)
Gender	Male	595	45.1
	Female	725	54.9
Age	–30	181	13.7
	31–40	557	42.2
	41–50	408	30.9
	51 +	174	13.2
Academic Stage (Xueduan 学段)	Preschool	59	4.5
	Primary School	710	53.8
	Junior School	457	34.6
	Senior School	94	7.1
Education Level (Xueli 学历)	Technical Senior School	38	2.9
	Junior College	289	21.9
	Undergraduate	969	73.4
	Master Degree+	24	1.8
Professional Title (Zhicheng 职称)	None	79	6.0
	Second Grade	401	30.4
	First Grade	666	50.5
	Deputy Senior	168	12.7
	Senior	6	0.5
Region	West	385	29.2
	Mid	578	43.8
	East	354	26.8

Personal professional Honor (PePH): There were six questions in the PePH subscale: (B1) I hope to be an excellent primary or secondary school teacher; (B2) I feel what I am doing as a teacher is significant; (B3) In my work, I feel a sense of meaning and the realization of personal value; (B4) I feel proud of my teacher identity when communicating with others; (B5) I can fully enact my talents and realize my value as a teacher; (B6) I think that I deserve to respect as a teacher.

4.3 Analytical strategies

To test the construct validity of the professional honor measurement scales, we conducted a series of confirmatory factor analyses (CFA) and made modifications. The CFA were conducted through Mplus 8.7.

To address research question 1, we generated descriptive statistics for gender, age and region, and then analyzed the mean value, standard deviation, and correlations between the indicators of teachers' professional honor in rural areas using independent sample *t*-tests and one-way ANOVA.

To address research question 2, we first transformed categorical variables to dummy variables. A multiple linear regression model was then used to test the significance of gender, age and region in predicting teachers' professional honor. Next, we conducted structural equation modelling (SEM) with PuPH posited as the predictor of PePH.

To address research question 3, we tested the moderation effect of gender, age, and region on the relationship between the public and personal dimensions of professional honor in Mplus 8.7 (Figure 1). Maximum likelihood estimation (MLE) method was applied to estimate parameters because MLE methods provide unbiased estimates (Schafer and Graham, 2002) and are efficient at estimating latent variable models based on either normally or non-normally distributed scores and items rated on scales including five or more response categories (Rhemtulla et al., 2012). The framework of the data collection and analysis is shown in Figure 1.

5 Results and analyses

5.1 Measure instrument construct validity

Eleven items were originally included in the instrument. However, a Confirmatory Factor Analysis resulted in fit indices of: $\chi^2 = 934.796$, $df = 43$ ($p < 0.001$), $\chi^2/df = 21.739$; RMSEM = 0.125; SRMR = 0.067; CFI = 0.875; and TLI = 0.840. We inspected the factor loading and Cronbach's alpha coefficients for all factors to improve the model fit. One item for PePH had low factor loadings and related more to the honor of other teachers rather than oneself, so it was deleted. A second CFA with this problematic item omitted had significantly improved measures of model fit: $\chi^2 = 193.720$, $df = 31$ ($p < 0.001$), $\chi^2/df = 6.249$; RMSEM = 0.063; SRMR = 0.035; CFI = 0.975; TLI = 0.963 (see Table 2). Cronbach's alpha reliabilities of the two subscales were 0.785 (PuPH) and 0.877 (PePH), and the Cronbach's alpha of the overall profession honor scale was 0.875, which indicated an acceptable internal consistency (Brown, 2015; Chen and Zhang, 2022) (see Table 2).

5.2 Difference test of professional honor

The Confirmatory Factor Analysis was conducted, KMO = 0.869, Bartlett's Test was significant ($p < 0.01$). The Factor scores for PePH were always greater than those for PuPH, with an overall factor score of 3.745 for PePH and 2.741 for PuPH. The mean for male teachers is lower than that for female teachers in overall professional honor, and the results of an independent sample *t*-test showed a significant gender difference [$t = -9.738$, $p < 0.001$]. Moreover, for both personal and public professional honor, the mean for male teachers was lower and differed significantly [PuPH: $t = -6.904$, $p < 0.001$; PePH: $t = -9.417$, $p < 0.001$]. The mean for male teachers ($M = 3.510$) is lower than that for female teachers ($M = 3.937$) in PePH, the gender difference was also significant [$t = -9.417$, $p < 0.001$]. Therefore, the data show that the professional honor of rural female teachers is consistently and significantly greater than that of male teachers.

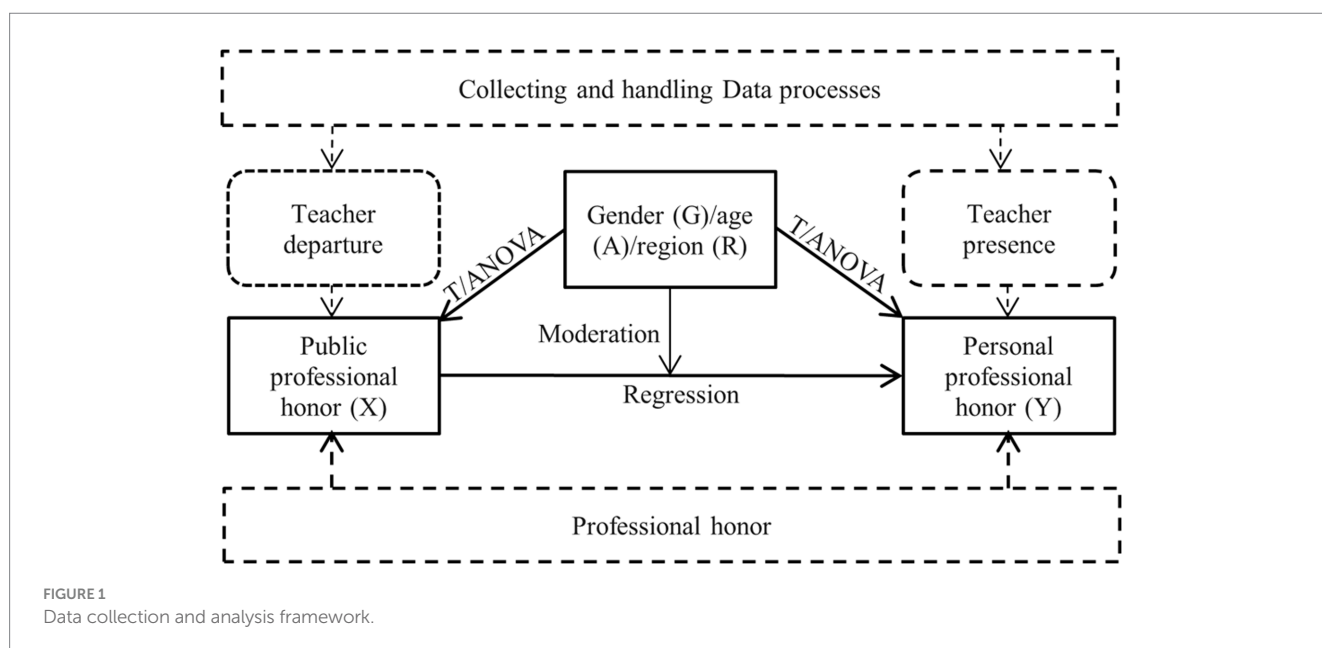


TABLE 2 Description statistics, factor loadings and Cronbach's alpha reliabilities.

Factors and items	M	SD	Cronbach's alpha	Factor loading(SE)
Professional Honor	3.380	0.724	0.875	
PuPH	2.741	0.867	0.785	
(A1) Now people are great respected to a primary and secondary school teacher.	2.677	1.161		0.760 (0.026)
(A2) The current status of teachers is glorious and sacred.	2.645	1.193		0.780 (0.026)
(A3) At present, the honor system for teachers is widely recognized in the society.	2.896	1.053		0.4752 (0.027)
(A4) The public now has great respect for teachers who have won Honors.	2.744	1.034		0.534 (0.025)
PePH	3.745	0.836	0.877	
(B1) I hope to be an excellent primary and secondary school teacher.	4.108	0.928		0.527 (0.022)
(B2) It is very meaningful what I am doing as a teacher.	4.016	0.915		0.682 (0.016)
(B3) I feel the meaning and return of work in the realization of personal value.	3.629	1.043		0.734 (0.015)
(B4) I feel proud of my teacher identity during social communication.	3.490	1.191		0.839 (0.011)
(B5) I can fully practice my talents and realize the life value as a teacher.	3.628	1.082		0.867 (0.009)
(B6) I think I deserve to respect as a teacher.	3.597	1.181		0.700 (0.016)
(B7) My colleagues deserve respect.*				

* The item was deleted.

Second, we conducted a one-way ANOVA with age as a categorical variable. The results showed a significant difference in the overall professional honor of rural teachers by age [$F(3,1,316) = 15.230, p < 0.001$]. There was also a significant difference in age for PuPH [$F(3,1,316) = 14.062, p < 0.001$] and PePH [$F(3,1,316) = 10.687, p < 0.001$]. PePH tended to increase gradually with age. However, for PuPH, there is a fluctuation with age, and the mean score of 2.621 between 31 and 40 years is the lowest among the different ages. The results a Least Significant Difference (LSD) *post hoc* test revealed no significant difference in the average score between teachers 31–40 years old and those under 30. However, there were significant differences ($p < 0.01$) between teachers 31–40 and 41–50 years old and over 51 years old. Since the lowest level of PuPH is in the 31–40 age group, it might be considered a personal professional honor mid-age crisis.

Finally, we conducted a one-way ANOVA with region as a categorical variable. The results show that teachers' professional honor scores from the West to the East gradually increase in China, and the means of the Western, Middle and Eastern regions are 3.012, 3.470 and 3.499. This pattern is reflected in both PuPH: 2.427 (West), 2.863 (Mid), 2.885 (East); and PePH: 3.402 (West), 3.875 (Mid), 3.908 (East). From the LSD for overall professional honor, we found a significant difference between the West Region and the East Region, and the West Region and the Middle Region ($p < 0.001$). The Eastern and Middle regions had no significant differences (Table 3).

5.3 Regression model of rural teachers' professional honor

We conducted a regression analysis to explore whether gender, age and region can predict rural teachers' professional honor. We used professional honor, PuPH, and PePH as dependent variables; and gender, age, and region as the independent variables. Other variables as control variables were education background, academic stage, and professional title. We transformed the

categorical variables (gender, age, region) into dummy variables, and then conducted stepwise multiple regression.

In the professional honor model (Table 4), gender (male: $\beta = -0.218, p < 0.001$), age (51+: $\beta = 0.151, p < 0.001$), and region (West: $\beta = -0.186, p < 0.001$) predict rural teachers' professional honor, and 17% of total variation was explained.

The PuPH model explained 12.5% of the total variation. Being male negatively predicts rural teachers' PuPH ($\beta = -0.156, p < 0.001$). Compared with teachers under 31–40, the beta values of teachers under 30, 41–50, and over 51 years old are all positive, indicating they positively predict PuPH. However, only for teachers over 51 years old was a significance level reached, ($\beta = 0.124, p < 0.001$). Compared with the Mid-region reference group, the Western region negatively predicts the PuPH of rural teachers ($\beta = -0.171, p < 0.001$).

Similarly, Model PePH explained 14.5% of the total variance. Gender also negatively predicts PePH ($\beta = -0.214, p < 0.001$). Teachers being older than 51 years positively predicts the PePH of rural teachers ($\beta = 0.138, p < 0.001$), compared with the 31–40 reference group. Again, the Western Region negatively predicts the PePH of rural teachers ($\beta = -0.157, p < 0.001$) (see Table 4).

5.4 Moderation model of rural teachers' professional honor

Moderator effect analysis was used to explore when the independent variables affect the dependent variables (Baron and Kenny, 1986; Muller et al., 2005). We explored how gender, age and region moderated both dimensions of the professional honor of rural teachers. The analysis showed significant differences in the variables of gender, age and region can positively predict teachers' PePH. Therefore, we used PePH as the dependent variable and PuPH as the independent variable to further test the moderating effect of gender, age, and region. We also analyzed how rural teachers' PuPH influences PePH according to gender, age, and region. The regression equations were as follows:

TABLE 3 Difference test of professional Honor.

Variables	N	PuPH			PePH			PH			
		M	SD	t/F	M	SD	t/F	M	SD	t/F	
Gender	M	595	2.562	0.899	-6.904***	3.510	0.903	9.541***	3.131	0.797	-9.738***
	F	725	2.887	0.812		3.937	0.723		3.517	0.644	
Age	-30	181	2.674	0.909	14.062***	3.575	0.954	10.687***	3.214	0.815	15.230***
	31-40	557	2.621	0.831		3.683	0.825		3.258	0.719	
	41-50	408	2.784	0.857		3.784	0.786		3.384	0.712	
	51+	174	3.091	0.864		4.028	0.785		3.653	0.717	
Region	West	385	2.427	0.832	37.916***	3.402	0.927	49.473***	3.012	0.771	59.409***
	Mid	578	2.863	0.823		3.875	0.738		3.470	0.669	
	East	354	2.885	0.889		3.908	0.774		3.499	0.713	

*p < 0.05, **p < 0.01, ***p < 0.001.

$$Y = \alpha + \beta_1 X + \beta_2 S + \beta_3 X \times S + \varepsilon \text{ (Model - G)}$$

$$Y' = \alpha' + \beta_1' X + \beta_2' A + \beta_3' X \times A + \varepsilon' \text{ (Model - A)}$$

$$Y'' = \alpha'' + \beta_1'' X + \beta_2'' R + \beta_3'' X \times R + \varepsilon'' \text{ (Model - R)}$$

$$Y_{it} = \alpha_{it} + \beta_{it1} X_{it} + \beta_{it2} S_{it} + \beta_{it3} A_{it} + \beta_{it4} R_{it} + \beta_{it5} X_{it} \times S_{it} + \beta_{it6} X_{it} \times A_{it} + \beta_{it7} X_{it} \times R_{it} + \varepsilon_{it} \text{ (Model - T)}$$

In the construction equation model, Y is PePH, X is PuPH, S is gender, A is age, R is region, α is a constant, and ε is the residual of the equation. Gender, age, and region, are categorical variables.

As Table 5 shows, PuPH significantly and positively predicts PePH throughout the four models (<0.001).

In Model G, the interaction effect between gender and PePH was significant ($t = 4.434, p < 0.001$) showing that gender moderates the relationship between PuPH and PePH. In Model A, the interaction effect between age and PuPH was nonsignificant, which shows that age does not moderate the relationship between PuPH and PePH. In Model R, the interaction effect between region and PuPH is significant ($t = -2.454, p < 0.05$), which shows that region moderates the relationship between PuPH and PePH. However, we found that only the gender variable had a significant moderating effect on the relationship between PuPH and PePH in Model T. Therefore, we constructed a measurement diagram of Model G considering that it is relatively parsimonious and produced the largest R² value (refer to Table 5 and Figure 2).

6 Discussion

Rural education in China faces the issues of feminization, ageing, and high turnover, which exacerbates the disadvantages of rural schools. Similar problems exist in many other countries (Cuervo and Acquaro, 2018; Ghuman and Lloyd, 2010; Kalogrides et al., 2013; OECD, 2022). This study found that rural teachers' professional honor could play an important role for addressing these problems.

6.1 Professional honor and feminization of rural teachers

Internationally, over the past decades, the proportion of female teachers has increased across various educational stages. According to the OECD (2020), the percentage of male teachers in primary schools was 18%; in junior high schools, 33%; and in senior high schools, 40%. This gender disparity is even more pronounced in rural China (Xu and Zhang, 2021). In general, across the world, the career trajectories of men and women are clearly differentiated (Schultheiss, 2020; Thornton and Bricheno, 2009). Scholars have explored the historical, social, and cultural factors that have contributed to the growing presence of women in the teaching profession (Appleby, 2014). In the opposite direction, research on male teachers shows one of the critical reasons for the high turnover rate is low professional honor and lack of attractiveness of rural teaching occupations (Cacouault-Bitaud, 2001; Zheng et al., 2017). The results of the present study are consistent with these findings. Teaching in middle and primary schools does not seem to currently provide the desired level of recognition that male teachers seek. Possible causes for this are discrimination and marginalization (Wright, 2024); social isolation within female-dominated workplaces (Cruickshank et al., 2021); and negative portrayal of male teachers in society/media (Reid et al., 2019).

In traditional Chinese culture, men place relatively greater emphasis on their social status, and thus their honor (Hu, 1944). "Shi (仕) culture" is a masculine value in China. Historically, those who were successful in the examination known as kejukaoshi (科举考试) were granted government official positions, becoming "shi" and achieving high social status (Weber, 2018). Currently, teachers are government workers in China, and the public civil service is still regarded as an honorable career choice (Wang et al., 2023). As a result of the focus on professional honor, young men often aim to work in civil service jobs (Ng and Gossett, 2013). Thus, improving the social status of rural teachers can have a more significant influence on male teachers than female teachers (Topchyan and Woehler, 2021). Government could therefore address the feminization of the teaching profession by developing policies and initiatives to increase the sense of honor in the teaching profession. This approach would also apply in countries such as Egypt, Korea, and Vietnam, where civil service is considered an honorable profession (Phan and Bae, 2021; Barsoum, 2015).

TABLE 4 The regression on rural teachers' professional honor.

Explanatory variables			PuPH	PePH	Professional honor
Control variable	Academic Stage	Preschool	0.043	-0.038	-0.006
		Junior school	-0.065*	-0.095**	-0.095**
		Senior school	-0.008	-0.055	-0.041
	Education Level	Technical senior school	-0.010	-0.059*	-0.045
		Junior college	0.091*	0.015	0.052
		Master degree or above	0.028	-0.029	-0.006
	Professional Title	None	0.014	-0.017	-0.005
		Secondary grade	-0.043	0.010	-0.013
		Deputy senior title	0.009	-0.014	-0.005
		Senior title	0.028	0.009	0.020
Independent variable	Gender	male	-0.156***	-0.214***	-0.218***
	Age	-30	0.044	0.020	0.034
		41-50	0.048	0.057	0.061
		51+	0.124***	0.138***	0.151***
	Region	West	-0.171***	-0.157***	-0.186***
		East	0.047	0.041	0.050
R ²			0.125	0.145	0.168
F			11.658***	13.759***	16.397***

*p < 0.05, **p < 0.01, ***p < 0.001. The following are the reference items for the dummy independent variables in the table: Gender is female; Age is 31-40 years; Region is the Middle Region; and for the reference items of the control variables: Academic stage is primary school; Education background is Undergraduate; Technical title is First grade.

TABLE 5 Personally professional honor moderation model test.

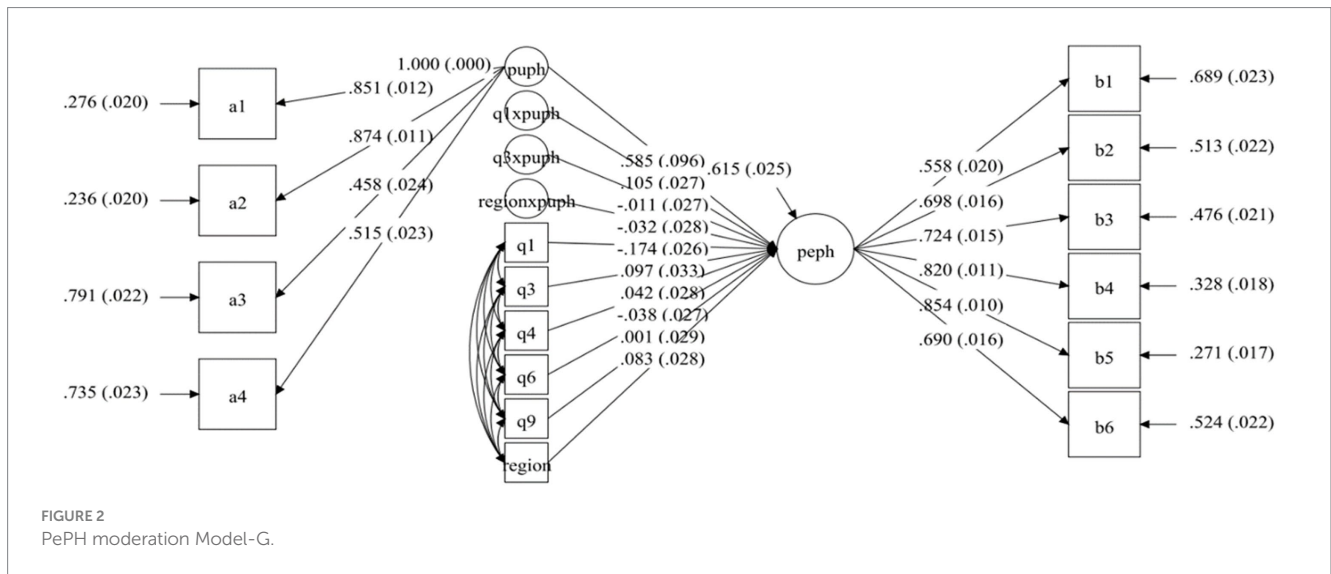
Variable	Model-G			Model-A			Model-R			Model-T		
	β	S.E.	Est./SE	β	S.E.	Est./SE	β	S.E.	Est./SE	β	SE	Est./SE
PuPH	0.474	0.035	13.752***	0.656	0.073	8.932***	0.761	0.073	10.416***	0.585	0.096	6.078***
Gender (Q1)	-0.347	0.051	-6.790***							-0.174	0.026	-6.695***
Gender × PuPH	0.234	0.053	4.434***							0.105	0.027	3.889***
Age (Q3)				0.111	0.031	3.643***				0.097	0.033	2.982***
Age × PuPH				-0.021	0.025	-0.830				-0.011	0.027	-0.419
Region							0.122	0.026	4.686***	0.083	0.028	3.005***
Region × PuPH							-0.064	0.026	-2.454*	-0.032	0.028	-1.162
Academic stage (Q6)	-0.047	0.038	-1.240	-0.082	0.027	-3.059**	-0.044	0.026	-1.688	-0.038	0.027	-1.407
Education Level (Q4)	0.069	0.049	1.421	0.087	0.027	3.245**	0.040	0.026	1.512	0.042	0.028	1.500
Professional Title (Q9)	0.077	0.032	2.437*	-0.003	0.029	-0.111	0.036	0.025	1.428	0.001	0.029	0.029
R ²	0.386			0.374			0.377			0.385		
Est. S.E	15.244***			14.454***			14.534***			15.466***		

*p < 0.05, **p < 0.01, ***p < 0.001.

6.2 Age crisis of rural teachers' honor and excellent mid-age rural teachers' attrition

The rural teachers' professional honor was found to be lowest between the ages of 31 and 40, which aligns with the peak period of rural teacher turnover. While this result contrasts previous studies (e.g., Liu, 2019), this may be caused by the different samples, previous research limited to one province and preschool teachers. Previous research has found that age has a significant moderation effect on the

relationship between teacher motivation and turnover intention (Jiang et al., 2023). Various reasons have been proposed to explain this connection. First, the social care and support systems for teachers are relatively underdeveloped in China's rural areas (Jiang, 2021; Xue and Li, 2024). This arguably translates into a lack of social recognition and thus a diminished sense of professional honor (Li and Xue, 2023). Second, according to Robbins and Judge (2012), rural teachers between 30 and 40 often struggle to balance their professional and personal lives, leading to a loss of professional fulfillment. With limited



communication with the wider community and often living away from their families, teachers struggle to find a sense of belonging and purpose in their professional lives (UNESCO and International Task Force on Teachers for Education 2030, 2024), and this can undercut the development of professional honor. Finally, the principals of rural schools prefer mechanical and formal management styles (Zhou and Zhang, 2020), and rural teachers have limited opportunities to participate in school management, thus reducing the opportunities for advancing professionally and gaining social recognition. However, our results show that as rural teachers age, their professional identity tends to improve. The reasons for this phenomenon potentially include that rural teachers after the mid-career have accepted the reality of their social position and adopted to the rural lifestyle. In order to mitigate the slump of mid-career rural teacher professional honor, the government should implement a support system for middle-aged teachers in rural areas to improve their professional standing (Kohnke, 2024). The policies could involve two key areas according to Herzberg’s motivation/hygiene theory (Herzberg, 2017). Firstly, improving their salary and helping teachers address familiar challenges of living in rural areas, and secondly, providing more opportunities to participate in school management, thus helping them to achieve higher status in their work (Jiang et al., 2023).

6.3 Professional honor and teacher turnover to more economically developed regions

The results show that rural teachers’ professional honor is the lowest in the Western region, consistent with previous research (Hao, 2021). In China, teachers desire to move from rural areas to city schools, and from poor regions to more economically developed regions (Turhan and Memduhoglu, 2022). It is essential to note that rural professional honor does not always align with the salary of rural teachers. Research has shown that teachers in central provinces, such as Shanxi and Henan Provinces, have the lowest incomes, resulting in a ‘middle region collapse’ of teacher wages (Wang and Lei, 2017). However, as this study demonstrates, the professional honor of rural teachers in the Middle region is greater than in the Western region. Therefore, the conflict

between the professional honor of rural teachers and their income highlights the limitations of economic rationality as a policy tool (Li et al., 2024; Liu, 2020). Efforts to address high teacher turnover in rural regions ought to look beyond simple material compensation to take into account research showing that professional honor is the primary reward that attracts teachers (Liang and Gao, 2020; Wang et al., 2024). Strengthening the honor of rural teachers in the Western region, in particular, can be a pathway to improved teacher retention.

7 Conclusion

The data in this study shows that gender, age, and region significantly influence the professional honor of rural teachers. Additionally, gender moderated the relationship between PuPH and PePH. Assuming that the strength of professional honor influences rural teacher’s motivation and affect, thus increasing the attractiveness of the career (Wang and Liu, 2016), low professional honor in rural areas may be a key cause of the feminization of the rural teaching profession and the high mobility rate of novice rural teachers (especially those in middle-age) from disadvantaged regions to wealthy regions. Considering that similar issues are observed in different countries (Ingersoll and Tran, 2023), professional honor is an important consideration for improving rural education.

This study has a number of limitations. First, it collects data at only one time point, specifically in 2016, during the early implementation of the “Rural Teacher Support Program” introduced by the Chinese central government. While the landscape of rural areas in China has undergone significant changes in the past decade—such as improvements in rural teachers’ salaries—the urban–rural dichotomy and the fundamental status of rural teachers have not substantially changed. Therefore, the findings remain relevant for understanding rural teachers’ professional honor, though the temporal nature of the dataset should be acknowledged when interpreting the results.

Additionally, while the data were collected from only seven provinces, the substantial sample size of 1,361 teachers provides valuable insights into the relationships between age, gender, region, and professional honor. Although the sampling was not completely random, efforts were made to ensure a diverse representation of rural

teachers across different regions. As with any study, there is a possibility that some imbalances in the sample may not fully reflect the broader population. However, the size and diversity of the dataset make it possible to offer meaningful findings and inform future research. While newer or more extensive data could further validate these conclusions and offer insights into recent developments, the current dataset remains a valuable resource for understanding the dynamics of rural teachers' professional honor.

The problem of attracting teachers to rural schools is a significant challenge in global education. Discussions addressing staff shortages tend to focus on distributing financial and material resources (Cuervo, 2023). Rural staffing challenges are not solely a matter of economic distribution but also encompass issues related to social attitudes towards teachers and education in rural areas. This study examines the relationship between gender, age, region and professional honor to elucidate the necessity for a reassessment of the social value of rural teachers. The theoretical framework is crucial for understanding the underlying causes of the problem of rural school staffing, including the feminization of the teaching profession, the attrition of mid-career teachers, and the migration of teachers from disadvantaged regions to wealthier ones.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author/s.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The studies were conducted in accordance with the local legislation and institutional requirements. Written informed consent from the participants was not required to participate in this study in accordance with the national legislation and the institutional requirements.

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YC: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Validation, Writing – original draft, Writing – review & editing. WZ: Methodology, Writing – original draft, Writing – review & editing. AS-H: Conceptualization, Data curation, Formal analysis, Methodology, Software, Supervision, Validation, Writing – original draft, Writing – review & editing, Funding acquisition.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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