

Validation of the Career Motivation Scale among Chinese University and Vocational College Teachers

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Abstract—The present study aims to translate and validate the Career Motivation Scale among Chinese University and vocational college teachers. Exploratory factor analysis supported a three-factor structure that was consistent with the original structure of career motivation: career insight, career identity, and career resilience. Confirmatory factor analysis showed that a second-order three-factor model with correlated measurement errors best fit the data. Configural, metric, and scalar invariance models were tested, demonstrating that the Chinese version of the Career Motivation Scale did not differ across groups of school type, educational level, and working years in current institutions. The concurrent validity of the Chinese Career Motivation Scale was confirmed by its significant correlations with work engagement, career adaptability, career satisfaction, job crafting, and intention to quit. The results of the study indicated that the Chinese Career Motivation Scale was a valid and reliable measure of career motivation among university and vocational college teachers in China.

Keywords—Career motivation scale, Chinese university and vocational college teachers, measurement invariance, validation.

I. INTRODUCTION

WITH the fast-paced economic development in recent years, working adults in China have been faced with increasing job demands and intense competition in the workplace. As a result, they have to sacrifice more time and energy for achieving a competitive advantage in career development [1]. Career motivation indicates a person's needs, interests, and personality variables associated with career decisions and behaviors [2], which can help enhance one's competitiveness in career development, and promote their successful adaptability in severe competitions in the workplace. To better understand career motivation and its potential associations with other work-related variables, Noe and colleagues [3] first developed a 26-item measure of career motivation, focusing on vocational behaviors that reflect a person's career identity, insight, and resilience [4]. As there is no valid scale in China for evaluating career motivation, this study aims to translate the 26-item measure of career motivation into Chinese and test its applicability to facilitate research on career motivation in China.

Career motivation is initially defined by London [2] as a set of individual characteristics that are influenced by situations in making career decisions and conducting career behaviors. Career motivation is an individual-level construct involving three domains derived from individual characteristics relevant to one's career: career identity, career insight, and career resilience [2].

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As the direction component of career motivation [3], career identity originates from one's self-definition by his/her work and the organization he/she works for. Career identity describes an individual's expected role and value in his/her career development [5]. It motivates individuals to create opportunities that match their career aspirations [6]. The formation of career identity is an important marker for career development as it facilitates the integration of self and occupational knowledge, leading to expected career behaviors [7]. The sense of meaning individuals derive from work affects their behaviors in the workplace [8], including the degree to which they engage themselves in work-related activities, seek advancement and recognition, and keep abreast of organizational development. Indeed, career identity is closely associated with work engagement [9], career adaptability [10], and career satisfaction [11]. With a strong career identity, individuals are more likely to immerse themselves in work, recognize self-worth from work, and achieve a satisfying working life.

Career insight is the arousal component of career motivation which manifests one's awareness of his/her strengths and weaknesses in establishing career goals [3], [4]. Career insight is related to self-objectivity, goal clarity, and realism of expectations [12]. It affects whether individuals can realistically plan their career paths according to their abilities and expectations [13], [14]. Hence, people with high levels of career insight will take the initiative to make specific plans to achieve career goals and are willing to seek feedback from others about their work performance.

Career resilience is defined as an individual's ability to bounce back from career adversities and adapt to changing circumstances [15], especially when the circumstances are discouraging. As the persistence component of career motivation, career resilience is a central personal resource that fosters adaptive functioning in less optimal working situations [16], [17] and contributes to career adaptability [18], career satisfaction [19], and career success [20]. People with higher levels of career resilience are more likely to overcome adverse career-related situations like disabling work transitions [21] and show initiative in achieving career success [20].

Rapid economic growth in China brings numerous opportunities for career development, which, in turn, results in intense competition in different occupations at the same time. A Chinese word, "neijuan", which consists of the characters for "inside" and "rolling", has prevailed as a buzzword online in China since 2020, referring to a society caught in ongoing

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competition in which everyone tries to keep up with the society's increasing demands and expectations [22], [23]. As one of the most competitive fields, China's higher education has experienced continuous changes in recent years [24]. Firstly, the expansion of enrolment in universities and vocational colleges directly increases the burden of teaching responsibilities for university and vocational college teachers [25]. Secondly, to improve the country's international competitiveness in quality higher education, the implementation of the "Double First Class" development initiative that aims to set up a number of world-class universities and disciplines by the end of 2050 has made higher education teaching more challenging since 2017 [26]. Moreover, managerial reform in Chinese higher education emphasizes research over teaching [27], resulting in teacher-researcher role conflict and job burnout [28]. Last but not least, massive competition from evaluation and conferring of academic titles in universities and vocational colleges further intensifies university and vocational college teachers' levels of pressure [29]. University and vocational college teachers are well-educated educators responsible for fostering talented students for the next generation. Therefore, it is vitally meaningful to evaluate their career motivation to investigate how to enhance their career motivation and promote their career development concerning their occupational roles and the competitive situations they are confronting.

The present study aims to fill in the gap of lacking a validated career motivation scale in the Chinese context for evaluating career motivation. We translated the 26-item measure of career motivation developed by Noe et al. [3] into Chinese and tested its validity and reliability among university and vocational college teachers. Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted to examine the scale's factor structure. Then measurement invariance was tested across groups of school type, educational level, and working years in current institutions. Moreover, concurrent validity was investigated by the associations between career motivation and work engagement, career adaptability, career satisfaction, job crafting, and intention to quit. According to previous literature [9]-[11], [18], [19], we hypothesized that university and college teachers who experienced higher levels of career motivation would experience more work engagement and career satisfaction. They are more likely to show career adaptability, do job crafting, and are less likely to quit their jobs.

II. METHOD

A. Participants

The sample in the present study consisted of 526 university and vocational college teachers, including 162 males (30.8%) and 364 females (69.2%) with ages ranging from 23 to 58 years ($M = 32.0$, $SD = 6.2$). Educational levels of the participants were vocational college and below ($n = 2$, 0.4%), bachelor's degree ($n = 82$, 15.6%), master's degree ($n = 310$, 58.9%), and doctoral degree ($n = 132$, 25.1%). Academic positions comprised lecturer ($n = 432$, 82.1%), associate professor ($n = 80$, 15.2%),

and professor ($n = 14$, 2.7%). 57.8% of the participants ($n = 304$) were from universities, and the left 42.2% were vocational college teachers ($n = 222$). In addition, the average number of working years in their current institutions was 4.58 ($SD = 4.81$).

B. Procedures

University and vocational college teachers were recruited from a sample of potential respondents held on Credamo, an online professional data platform acknowledged by top academic journals, which provides large-scale data collection services with more than 2 million self-owned samples [30]. An online informed consent form including the purpose of the study and confidentiality of participation was provided to participants first. Only those who agreed to participate would further receive the survey questionnaires. To ensure the quality of collected data, we also set up a test item to distinguish careless respondents. A remuneration of 5 Chinese Yuan (CNY) was given to participants who completed the survey questionnaires for their time and effort. Credamo randomly distributed questionnaires to university and vocational college teachers throughout mainland China, and participants originally included 722 teachers from 28 different provinces, including Shandong, Jiangsu, Henan, Guangdong, and so on. However, 196 cases were dropped due to not passing the test item or invalid values (i.e., same responses to all the items in each scale), with a rejection rate of 27.1%.

To examine the factor structure of the career motivation scale using EFA and CFA, participants were randomly divided into two subgroups ($n_1 = 262$ and $n_2 = 264$). The two subgroups had same ratios of gender ($\chi^2(1) = 0.767$, $p > .05$; coded with 1 for male and 2 for female), school type ($\chi^2(1) = 0.808$, $p > .05$; coded with 1 for universities and 2 for vocational colleges), educational levels ($\chi^2(3) = 6.077$, $p > .05$; coded with 1 for vocational college and below, 2 for bachelor's degree, 3 for master's degree, and 4 for doctoral degree), and working years in current institutions ($\chi^2(1) = 2.608$, $p > .05$; coded with 1 for working in current institutions for less than 4.58 years and 2 for working in current institutions for more than or equal to 4.58 years).

C. Measurements

Career Motivation

The 26-item multidimensional measure of career motivation was developed by Noe et al. [3] to investigate an individual's career motivation in terms of career identity (5 items), career insight (8 items), and career resilience (13 items). Each item is rated on a 5-point Likert scale with 1 = To a very slight extent and 5 = To a very large extent. Sample items include "To what extent do you have a specific career goal?" (career insight), "To what extent do you spend your free time on activities that will help your job?" (career identity), and "To what extent do you accept compliments rather than discount them?" (career resilience). In the scale development study, the three subscales had acceptable internal consistency reliability as Cronbach's α for career insight, career resilience, and career identity subscale were .76, .74, and .64, respectively.

According to the classic back-translation method [31], our

translation procedures began with independent translations of the English scale into Chinese by two academic researchers in psychology who were fluent in both English and Chinese. Then, we compared the translations to reach a consensus on the best translations of the items. Next, the Chinese translation of the scale was back-translated into English by another bilingual academic researcher who had not seen the original scale before. After back-translation, both back-translated and original versions were compared for the clarity of the items. Finally, we adjusted the wording of some items to ensure that the translated scale could be understood the same as the original one.

Work Engagement

The 9-item Utrecht Work Engagement Scale (UWES-9) [32] was used to measure an individual's work engagement, a work-related state of fulfillment. UWES-9 consists of three subscales (vigor, dedication, and absorption), and each subscale has three corresponding items. Each item is rated on a 7-point Likert scale ranging from 0 (never) to 6 (always), and a higher score means a higher level of work engagement. Sample items include "At my work, I feel bursting with energy" (vigor), "My job inspires me" (dedication), and "I am immersed in my work" (absorption). The total scale of UWES-9 was proved to have high internal consistency reliability (Cronbach's α varied between 0.85 and 0.92) across ten national samples [32]. For the Chinese version of UWES-9, Guo et al. [33] reported the total scale reliability as .88 with a sample of secondary school teachers. In the present study, Cronbach's α for the total scale was .89.

Career Adaptability

The 12-item Career Adapt-Abilities Scale-Short Form (CAAS-SF) [34] was used to measure an individual's ability to adapt to new or changing work conditions [35]. CASS-SF has four subscales corresponding to the four self-regulation strategies: concern, control, curiosity, and confidence [36]. Each subscale has three items, and each item is evaluated using a 5-point Likert scale ranging from 1 (not strong) to 5 (strongest), with higher scores indicating higher levels of career adapt-abilities. Sample items involve "Thinking about what my future will be like" (concern), "Making decisions by myself" (control), "Looking for opportunities to grow as a person" (curiosity), and "Working up to my ability" (confidence). In the original scale development study, Maggiori et al. [34] found high internal consistency reliability for both subscales (Cronbach's α ranged from .76 to .83) and the total scale (Cronbach's α = 0.90) using French and German versions. Validity and reliability studies of the Chinese version of CASS-SF were conducted by Yu et al. [37]. The internal consistency reliability for the subscales was acceptable (Cronbach's α ranged from 0.62 to 0.79) and good for the total scale (Cronbach's α ranged from .86 to .89) among three samples of college students, civil servants, and enterprise employees in the Chinese context. In the present study, Cronbach's α for the total scale was .87.

Career Satisfaction

The 5-item Career Satisfaction Scale [38] was used to

measure the degree of an individual's satisfaction in career development. An example item is "I am satisfied with the success I have achieved in my career". Each item is rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Individuals with higher scores feel more satisfied with their career development. In the instrument development study, Greenhaus et al. [38] found that the scale had high internal consistency reliability (Cronbach's α = .88). The Chinese version of the career satisfaction scale was validated by Long [39]. The validation study modified the scale to be a 4-point Likert scale without midpoint compared to the original one, and the internal consistency reliability was acceptable (Cronbach's α = .70). In the present study, Cronbach's α for the scale was .82.

Job Crafting

The 21-item Job Crafting Scale [40] was used to measure an individual's self-initiated change behaviors to adjust their jobs according to their preferences, motives, and passions [41]. The scale consists of four subscales: increasing structural job resources, decreasing hindering job demands, increasing social job resources, and increasing challenging job demands. Each item is scored on a 5-point Likert scale ranging from 1 (never) to 5 (always), with higher markers indicating higher levels of job crafting. Sample items include "I try to learn new things at work" (increasing structural job resources), "I try to ensure that my work is emotionally less intense" (decreasing hindering job demands), "I ask colleagues for advice" (increasing social job resources), and "When there is not much to do at work, I see it as a chance to start new projects" (increasing challenging job demands). Tims et al. [40] reported high internal consistency reliability for its four subscales (Cronbach's α ranged from .75 to .82). Validity and reliability studies of the Chinese version of the Job Crafting Scale were conducted by Cheng et al. [42]. The internal consistency reliability was adequate for the four subscales (Cronbach's α ranged from .804 to .894) and excellent for the total scale (Cronbach's α = .92) based on a sample of nurses in public hospitals in China. In the present study, Cronbach's α for the total scale was .83.

Intention to Quit

The 3-item Intention to Quit scale was developed by Long [39] in Chinese and used to measure an individual's intention to quit his job in the near future. Each item is scored on a 4-point Likert scale from 1 (strongly disagree) to 4 (strongly agree). The three items are as follows: "I plan to take my current career for a long time", "I want to change my current career", and "I plan to take another career". After reverse-coding for item 1, higher scores imply a higher possibility of quitting. The total scale had adequate internal consistency reliability (Cronbach's α = .76) in the scale development study. In the present study, Cronbach's α for the scale was .84.

D. Analysis Techniques

In the present study, EFA was conducted, and descriptive statistics, correlations, and internal consistency reliability were calculated using SPSS Version 25.0. In EFA, the exclusion criteria were: 1) items with factor loadings below 0.4 [43], 2)

items that cross-loaded on several factors with loadings greater than 0.4 [44], and 3) items, if deleted, can significantly improve the internal consistency reliability of a factor [45]. CFA was conducted using AMOS Version 24.0. Models were assessed using five indices: χ^2 (χ^2 with a significant p-value), comparative fit index (CFI), Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). Criteria of good model fit were $CFI \geq 0.90$, $TLI \geq 0.90$, $RMSEA \leq .06$, and $SRMR \leq .08$ [46].

III. RESULTS

A. Exploratory Factor Analysis

Due to cultural differences between Chinese and Western societies, EFA was first conducted to determine the factor structures of career motivation. Principal Component Analysis (PCA) with a varimax rotation was applied to the first random subsample as items could show clear correlations to corresponding latent factors by maximizing the variance shared among them [47]. A total of 13 items were finally deleted according to the exclusion criteria, leaving a four-factor structure based on eigenvalues greater than 1 [48]. The Kaiser-Meyer-Olkin measure of sampling adequacy [49] was .829, and Bartlett's test of sphericity [50] was significant ($p < .001$), indicating that the sample was suitable for factor analysis. Table I shows the factor loadings of each item on different factors, and items were clustered with loadings above 0.4.

Compared with the original 3-factor structure of career motivation [3], factor 1 comprising item 1, item 2, item 3, item 5, and item 6 is career insight, and factor 2 consisting of item 9, item 10, item 11, and item 12 is career identity. However, item 14, item 15, item 24, and item 25, which supposedly belong to the career resilience factor, were finally divided into two different factors. However, career resilience theoretically has three sub-domains: a) self-efficacy, b) risk-taking, and c) dependency [45]. Referring to the validation study by Grazeda [45], factor 3 and factor 4 are self-efficacy and risk-taking sub-domains of career resilience respectively in the present study. As we were not interested in the sub-domains of career resilience, and our focus was the factor structure of career motivation, we combined factor 3 and factor 4 into a single factor as career resilience. The finalized 3-factor structure in the present study was consistent with the original 3-factor structure of career motivation, including five items forming "career insight" (explaining 33.0% of the variance in career motivation), four items forming "career identity" (explaining 10.7% of the variance), and four items forming "career resilience" (explaining 16.4% of the variance). The total scale and three subscales had acceptable to good internal consistency reliability: .82 (total), .78 (career insight), .70 (career identity), .58 (career resilience).

B. Confirmatory Factor Analysis (CFA)

The test of the factor structure of the Chinese career motivation scale was based on the second random subsample. We first compared the one-factor model with the second-order

three-factor model. The one-factor model denotes that the 13 observable items load on a single factor of career motivation ($\chi^2(65) = 213.916$, $p < .001$, $CFI = .805$, $TLI = .766$, $RMSEA = .093$, 90% CI [.080, .107], and $SRMR = .067$). In comparison, the second-order three-factor model indicates that the 13 items load on three first-order factors (career insight, career identity, and career resilience), and the three first-order factors are regressed onto a higher factor labeled as career motivation ($\chi^2(62) = 189.116$, $p < 0.001$, $CFI = .833$, $TLI = .790$, $RMSEA = .088$, 90% CI [.074, .103], and $SRMR = .068$). As a result, the second-order three-factor model was superior to the unidimensional one-factor model ($\Delta\chi^2(3) = 24.8$, $p < .01$, $\Delta CFI = .028$, $\Delta RMSEA = .005$) [51], but the second-order three-factor model was still below the acceptable level of fitness to the data according to the model fit criteria.

As correlating errors of some items to improve model fit is a standard adjustment to establishing a measurement model in case of systematic errors from item characteristics [52], we allowed correlated measurement errors in models. According to the modification indices of the second-order three-factor model, the model fit would improve if the measurement errors of item 1 and item 2 and the measurement errors of item 14 and item 15 could be correlated respectively. Moreover, a check of the four items indicated that item 1 and item 2 had similar item wordings (specific career goal vs. specific plan for achieving career goal), and item 14 and item 15 had similar contents (accept compliments rather than discount them vs. believe other people when they tell you that you have done a good job). Hence, we proposed a modified second-order three-factor model in which the measurement errors of item 1 and item 2 and the measurement errors of item 14 and item 15 were correlated respectively. Fig. 1 shows the modified second-order three-factor model. Compared with the second-order three-factor model, the modified one had a better model fit ($\chi^2(60) = 114.427$, $p < .001$, $CFI = .929$, $TLI = .907$, $RMSEA = .059$, 90% CI [.042, .075], and $SRMR = .050$). As the changes in CFI and RMSEA were significant between the second-order three-factor model and the modified one ($\Delta CFI = .096$, $\Delta RMSEA = .029$) [53], we chose the modified second-order three-factor model as the final model (see Fig. 1). Table II shows the goodness-of-fit indices related to the above three models.

C. Factor Invariance

To ensure the same construct was being measured in the same way across different groups [54], [55], we conducted invariance tests for school type, educational level, and working years in current institutions (see Table III). For school type, we compared university teachers with vocational college teachers. For educational level, we divided the whole samples into two subgroups (undergraduate and below vs. postgraduate). For working years in current institutions, we divided the whole samples into two subgroups based on the mean (4.58 years): one group with participants whose working years in current institutions were shorter than 4.58 years, and the other group with participants working in their current institutions for longer than or equal to 4.58 years. Following the suggestions of Vandenberg and Lance [55], we tested configural (M0), metric

(M1), and scalar (M2) models across groups.

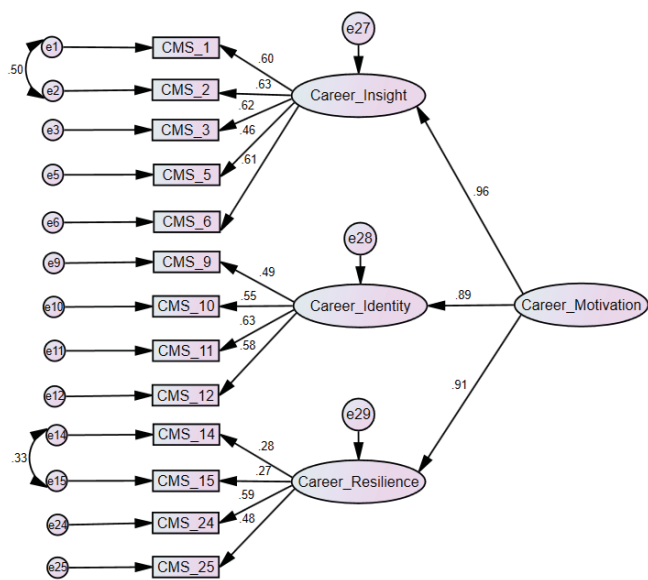


Fig. 1 The modified second-order three-factor model with correlated measurement errors

First, the model fit indices showed that the configural model (M0) had a good fit to the data across groups of school type, educational level, and working years in current institutions (see Table III). Indices for school type were: $\chi^2(88) = 184.267$, $p < .001$, CFI = .960, RMSEA = .032, 90% CI [.022, .041]. Indices for educational level were: $\chi^2(88) = 179.273$, $p < .001$, CFI = .962, RMSEA = .031, 90% CI [.021, .040]. Indices for working years in current institutions were: $\chi^2(88) = 236.603$, $p < .001$, CFI = .930, RMSEA = .043, 90% CI [.035, .051]. The results indicated that the factor structure of the latent construct hold across groups of school type, educational level, and working years in current institutions.

Then, using the configural models as baseline models, we conducted the metric invariance tests by constraining the factor loadings to be equivalent across groups and compared the model fit indices with those of the configural models [55], [56]. Metric invariance is confirmed if the change in CFI (Δ CFI) is equal to or less than .010 [51] and the change in RMSEA (Δ RMSEA) is not more than .015 [53]. Fit indices indicated that the metric models did not differ significantly from the configural models. Changes in model fit were as follows: school type (Δ CFI = .001, Δ RMSEA = .002), educational level (Δ CFI = .001, Δ RMSEA = .001), and working years in current institutions (Δ CFI = .005, Δ RMSEA = .000). The results showed that each item in the scale contributed similarly to the latent construct [57] across groups of school type, educational level, and working years in current institutions.

Finally, a stronger test of invariance (scalar invariance, M2), which indicates that the mean differences of the latent construct between groups come from all mean differences of observed items [57], was conducted by constraining the item intercepts to be equal across groups. Compared with metric models, the fit indices of scalar models were as follows: school type (Δ CFI =

.010, Δ RMSEA = .002), educational level (Δ CFI = .003, Δ RMSEA = .000), and working years in current institutions (Δ CFI = .009, Δ RMSEA = .000). According to the cut-off criteria of model invariance (Δ CFI \leq .010 and Δ RMSEA \leq .015) [51], [53], scalar invariance held for groups of school type, educational level, and working years in current institutions. Hence, the factor structure of the Chinese career motivation scale, factor loadings, and indicator intercepts were assured across groups of school type, educational level, and working years in current institutions.

C. Validity Estimates

To provide convergent validity evidence, we investigated the correlations between the Chinese career motivation total scale and subscales with work engagement, career adaptability, career satisfaction, job crafting, and intention to quit (see Table IV). The results indicated that the Chinese career motivation total scale was positively correlated with work engagement ($r = .64$, $p < .001$), career adaptability ($r = .65$, $p < .001$), career satisfaction ($r = .53$, $p < .001$), and job crafting ($r = .64$, $p < .001$). However, there was a significantly negative correlation between the total scale and intention to quit ($r = -.32$, $p < .001$). Moreover, all its subscales were intercorrelated with each other, showing weak to strong correlations with work engagement ($r = .43$ to $.60$, $p < .001$), career adaptability ($r = .45$ to $.60$, $p < .001$), career satisfaction ($r = .40$ to $.45$, $p < .001$), job crafting ($r = .50$ to $.54$, $p < .001$), and intention to quit ($r = -.19$ to $-.32$, $p < .001$).

IV. DISCUSSION

The present study aims to translate and validate the Chinese version of career motivation scale among Chinese university and vocational college teachers. A revision of the original 26-item scale resulted in 13 items left to form the Chinese career motivation scale, which supported a three-factor second-order model with correlated measurement errors. Although the Cronbach's α for career resilience subscale did not exceed .70, a cut-off criterion for acceptable reliability [58], the total scale demonstrated good internal consistency. Moreover, the Chinese career motivation scale was completely invariant across groups of school types, educational level, and working years in current institutions. In addition, the Chinese career motivation scale and its subscales were positively correlated with work engagement, career adaptability, career satisfaction, and job crafting and negatively correlated with intention to quit. The significant associations with the expected directions supported the convergent validity of the Chinese career motivation scale. Accordingly, the present study provides a valid and reliable Chinese career motivation scale to fill the gap of evaluating career motivation in China.

According to the original scale development study [3], we tested the factor structure of career motivation through EFA. Although a total of 13 items were deleted from the original scales, of which 12 items were deleted due to cross loadings (item 4, 7, 8, 13, 16, 17, 18, 19, 21, 22, 23, 26) and one item (item 20) was deleted because of improved internal reliability of the related subscale, the left 13 items formed four factors,

and each item had an adequate factor loading (in a range of .53 to .88) on its respective factor. A close look at the four factors indicated that the items belonging to the career resilience subscale in the original scale were separated into two factors. However, sub-domains of career resilience were not explored in the scale development study [3]. According to the validation

study by Grzeda [45], the separate two factors were indeed two sub-domains of career resilience; therefore, we combined the two factors as a single factor of career resilience. In general, the three factors extracted from the 13 items fitted the career motivation construct well and were consistent with the three factors derived from the original scale.

TABLE I
RESULTS OF EFA

Items	Factor Loading			
	F1	F2	F3	F4
Q1. To what extent do you have a specific career goal? 你在多大程度上有明确的职业目标?	.741	.249	.092	.165
Q2. To what extent do you have a specific plan for achieving your career goal? 你在多大程度上有实现职业目标的明确计划?	.737	.255	-.021	.160
Q3. To what extent do you feel you are aware of your skill strengths and weaknesses? 你在多大程度上了解你的技能优势和劣势?	.638	.163	.172	-.007
Q5. To what extent have you changed or revised your career goals based on new information you have received regarding yourself or your situation? 你在多大程度上根据获取的关于自身或所处环境的新信息而改变或调整你的职业目标?	.667	.168	.114	.002
Q6. To what extent have you sought job assignments that will help you obtain your career goal? 你在多大程度上主动做可以帮助你实现职业目标的工作任务?	.660	.094	.042	.265
Q9. To what extent do you spend your free time on activities that will help your job? 你在多大程度上将空闲时间用于有助于工作的活动上?	.138	.626	.195	.056
Q10. To what extent have you taken courses toward a job-related degree? 你在多大程度上修读与工作相关的学位课程?	.198	.771	-.078	.057
Q11. To what extent have you joined professional organizations related to your career goal? 你在多大程度上加入与职业目标相关的专业组织?	.216	.770	.006	.152
Q12. To what extent have you kept current on company affairs? 你在多大程度上持续关注所在单位的发展状况?	.280	.533	.173	.191
Q14. To what extent do you accept compliments rather than discount them? 你在多大程度上接受别人对你的称赞而非觉得称赞是毫无价值的?	.141	.087	.821	.114
Q15. To what extent do you believe other people when they tell you that you have done a good job? 你在多大程度上当别人说你工作做得很好时，你会相信他们说的话?	.101	.074	.875	.044
Q24. To what extent have you made and maintained friendships with people in different departments? 你在多大程度上与不同部门的人交朋友并维持友谊?	.211	.229	.058	.737
Q25. To what extent have you outlined ways of accomplishing jobs without waiting for your boss? 你在多大程度上在未有领导指示的情况下，事先制定出完成工作的方法?	.095	.077	.101	.853

N = 262. Loadings above 0.40 are in boldface, and items are clustered to corresponding factors. The question number is consistent with the original scale.

TABLE II
CONFIRMATORY FACTOR ANALYSES OF THREE MODELS

Model	χ^2	<i>df</i>	<i>p</i>	CFI	TLI	RMSEA	SRMR
Model 1 (one-factor model)	213.916	65	< .001	.805	.766	.093	.067
Model 2 (second-order three-factor model)	189.116	62	< .001	.833	.790	.088	.068
Model 3 (modified second-order three-factor model: correlated measurement errors allowed)	114.427	60	< .001	.929	.907	.059	.050

χ^2 = chi-square statistic; *df* = degree of freedom

TABLE III
TESTS OF MEASUREMENT INVARIANCE OF THE MODIFIED SECOND-ORDER THREE-FACTOR MODEL ACROSS SCHOOL TYPE, EDUCATIONAL LEVEL, AND WORKING YEARS IN CURRENT INSTITUTIONS

Model	χ^2	<i>df</i>	CFI	RMSEA [90%CI]	Δ CFI	Δ RMSEA
School type						
M0 (configural)	184.267	88	.960	.032 [.022, .041]		
M1 (metric)	192.845	78	.961	.030 [.021, .039]	.001	.002
M2 (scalar)	221.806	65	.951	.032 [.024, .041]	.010	.002
Educational level						
M0 (configural)	179.273	88	.962	.031 [.021, .040]		
M1 (metric)	191.719	78	.961	.030 [.021, .039]	.001	.001
M2 (scalar)	209.987	65	.958	.030 [.021, .038]	.003	.000
Working years in current institutions						
M0 (configural)	236.603	88	.930	.043 [.035, .051]		
M1 (metric)	254.846	78	.925	.043 [.035, .051]	.005	.000
M2 (scalar)	282.538	65	.916	.043 [.036, .051]	.009	.000

χ^2 = chi-square statistic; *df* = degree of freedom; Δ CFI = change in CFI; Δ RMSEA = change in RMSEA.

TABLE IV
DESCRIPTIVE STATISTICS AND CORRELATIONS FOR THE CHINESE CAREER MOTIVATION SCALE

Variable	1	2	3	4	5	6	7	8	9
1. Career motivation	-								
2. Career insight	.85***	-							
3. Career identity	.82***	.56***	-						
4. Career resilience	.74***	.46***	.40***	-					
5. Work engagement	.64***	.60***	.50***	.43***	-				
6. Career adaptability	.65***	.60***	.50***	.45***	.49***	-			
7. Career satisfaction	.53***	.44***	.45***	.40***	.52***	.46***	-		
8. Job crafting	.64***	.54***	.50***	.51***	.52***	.60***	.48***	-	
9. Intention to quit	-.32***	-.32***	-.19***	-.27***	-.43***	-.350***	-.34***	-.30***	-
Mean	3.76	3.86	3.75	3.64	4.22	3.99	3.06	3.59	1.69
Standard deviation	.48	.56	.67	.58	.81	.54	.48	.41	.57

$N = 526$. *** $p < .001$.

Although the reliability of the career resilience subscale was lower than .70, the internal consistency reliability of the total scale was good, up to .82. Moreover, Cronbach's α for career insight and career identity subscales were .78 and .70, respectively, indicating acceptable internal consistency reliability of both subscales. Therefore, scholars should measure career motivation using a full-scale score and be cautious in using the career resilience subscale when investigating the sub-domains of career motivation in future studies.

The results of a series of CFA indicated that the modified second-order three-factor model with correlated measurement errors was the best fit to the data. Correlated measurement errors are common in CFA models [59]. In the present study, the measurement errors of item 1 and item 2 and measurement errors of item 14 and item 15 were correlated due to similar item wordings and similar content, respectively.

Measurement invariance tests were also conducted in which configural, metric, and scalar models were tested across groups of school type, educational level, and working years in current institutions. The changes of model fit indices did not significantly differ across groups of school types, educational level, and working years in current institutions, indicating the fundamental structure of career motivation was the same across the groups, and the individual item did not bias the scale scores.

To provide convergent validity of the Chinese career motivation scale, we examined the relationship between the Chinese career motivation total scale and subscales with work engagement, career adaptability, career satisfaction, job crafting, and intention to quit. On the one hand, the Chinese career motivation total scale was significantly and positively correlated with work engagement, career adaptability, career satisfaction, and job crafting. However, it was significantly and negatively associated with intention to quit. In other words, people who are in higher levels of career motivation will be more engaged in work, more capable of adapting to work changes, more satisfied with their career development, more likely to conduct job crafting, and less likely to quit current jobs. On the other hand, the subscales were inter-correlated and also showed similar correlating trends with those variables like the total scale.

Given the fierce competition in universities and vocational

colleges in China, university and college teachers are experiencing job burnout [60]-[62], resulting in decreased job satisfaction [63]. As career motivation can alleviate job burnout [64], [65] and lead to job satisfaction [66], it is meaningful to investigate the career motivation of university and vocational college teachers. The Chinese career motivation scale may help university and vocational college teachers to identify their career motivation levels to make specific plans for their career development in the face of intense competition in the higher education industry. It is predominantly vital for those young teachers as they are evaluated every three years before receiving tenure under the policy of "up or out". In this case, they are anxious about teaching and research with insufficient self-recognition [67]. Moreover, universities and vocational colleges can provide different career development paths for the teachers according to their career motivation which can improve their work commitment [66].

There are several limitations in our study. First, we validated the Chinese career motivation scale based on a sample of well-educated university and vocational college teachers who have high social prestige [68]. Hence, the generalizability of the Chinese career motivation scale should be further confirmed among people of different occupations and educational levels. Second, most participants in our study were lecturers who were striving for tenure. As associate professors and professors have been granted tenure already, their career motivation might be different from that of lecturers. More associate professors and professors should be recruited in the future to compare the differences in career motivation among the three populations. Moreover, as a cross-sectional validation study, neither the test-retest reliability of the Chinese career motivation scale nor the long-term effects of career motivation on career-related outcomes were examined in the present study. Therefore, further longitudinal studies of career motivation are needed.

V. CONCLUSION

The present study translated and validated the Career Motivation Scale [3] among Chinese university and vocational college teachers. The result indicated that the revised 13-item Chinese Career Motivation Scale is a valid and reliable measure of career motivation in the Chinese context which fills in the gap of lacking a validated career motivation scale in China.

Researchers can further adopt the 13-item Chinese Career Motivation Scale in the study of career motivation.

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REFERENCES

- [1] Xu, Y., & Li, C. (2021). Validation of the Chinese Version of the Multidimensional Workaholism Scale. *Journal of Career Assessment*, 29(4), 608-623. <https://doi.org/10.1177/1069072721994272W.-K>
- [2] London, M. (1983). Toward a theory of career motivation. *Academy of Management Review*, 8(4), 620-630. <https://doi.org/10.5465/amr.1983.4284664>
- [3] Noe, R. A., Noe, A. W., & Bachhuber, J. A. (1990). An investigation of the correlates of career motivation. *Journal of Vocational Behavior*, 37(3), 340-356. [https://doi.org/10.1016/0001-8791\(90\)90049-8](https://doi.org/10.1016/0001-8791(90)90049-8)
- [4] London, M., & Noe, R. A. (1997). London's career motivation theory: An update on measurement and research. *Journal of Career Assessment*, 5(1), 61-80. <https://doi.org/10.1177/106907279700500105>
- [5] Meijers, F. (1998). The development of a career identity. *International Journal for the Advancement of Counselling*, 20(3), 191-207. <https://doi.org/10.1023/A:1005399417256>
- [6] Fugate, M., Kinicki, A. J., & Ashforth, B. E. (2004). Employability: A psycho-social construct, its dimensions, and applications. *Journal of Vocational Behavior*, 65(1), 14-38. <https://doi.org/10.1016/j.jvb.2003.10.005>
- [7] Skorikov, V. B., & Vondracek, F. W. (2011). Occupational Identity. In: Schwartz S., Luyckx K., Vignoles V. (Eds.), *Handbook of Identity Theory and Research* (pp. 693-714). Springer. https://doi.org/10.1007/978-1-4419-7988-9_29
- [8] Lysova, E. I., Richardson, J., Khapova, S. N., & Jansen, P. G. W. (2015). Change-supportive employee behavior: A career identity explanation. *Career Development International*, 20(1), 38-62. <https://doi.org/10.1108/CDI-03-2014-0042>
- [9] Bahri, S., Sabrina, R., & Sulasmi, E. (2020). Mediating effect of work engagement between the relationship of self-efficacy, career identity, work environment and job embeddedness. *Journal of Security & Sustainability Issues*, 10(2), 793-806. [http://doi.org/10.9770/jssi.2020.10.2\(33\)](http://doi.org/10.9770/jssi.2020.10.2(33))
- [10] Yu, H., Guan, X., Zheng, X., & Hou, Z. (2018). Career adaptability with or without career identity: How career adaptability leads to organizational success and individual career success?. *Journal of Career Assessment*, 26(4), 717-731. <https://doi.org/10.1177/1069072717727454>
- [11] Chen, N., & Zhang, L. (2020). Mediating role of meaningful work and vocational identity on the relationship between perceived family supportive supervisor behaviour and career satisfaction. *Journal of Psychology in Africa*, 30(4), 295-299. <https://doi.org/10.1080/14330237.2020.1796024>
- [12] Nimmi, P. M., Zakkariya, K. A., & Nezzin, R. (2020). Insight to impact: The effect of protean career attitude on employability perceptions of IT professionals. *Colombo Business Journal*, 11(1), 1-23. <http://doi.org/10.4038/cbj.v11i1.55>
- [13] Bakker, A. B., & Demerouti, E. (2007). The Job Demands-Resources model: state of the art. *Journal of Managerial Psychology*, 22(3), 309-328. <https://doi.org/10.1108/02683940710733115>
- [14] De Vos, A., De Clippeler, I., & Dewilde, T. (2009). Proactive career behaviours and career success during the early career. *Journal of Occupational and Organizational Psychology*, 82(4), 761-777. <https://doi.org/10.1348/096317909X471013>
- [15] Bimrose, J., & Hearne, L. (2012). Resilience and career adaptability: Qualitative studies of adult career counseling. *Journal of Vocational Behavior*, 81(3), 338-344. <https://doi.org/10.1016/j.jvb.2012.08.002>
- [16] Rossier J., Ginevra M.C., Bollmann G., & Nota L. (2017). The Importance of Career Adaptability, Career Resilience, and Employability in Designing a Successful Life. In: Maree K. (Ed.), *Psychology of Career Adaptability, Employability and Resilience* (pp. 65-82). Springer. https://doi.org/10.1007/978-3-319-66954-0_5
- [17] Tien, H. L. S., & Wang, Y. C. (2017). Career Adaptability, Employability, and Career Resilience of Asian People. In: Maree K. (Ed.), *Psychology of Career Adaptability, Employability and Resilience* (pp. 299-314). Springer. https://doi.org/10.1007/978-3-319-66954-0_18
- [18] Seibert, S. E., Kraimer, M. L., & Heslin, P. A. (2016). Developing career resilience and adaptability. *Organizational Dynamics*, 45(3), 245-257. <http://dx.doi.org/10.1016/j.orgdyn.2016.07.009>
- [19] Jiang, Z., Jiang, Y., & Nielsen, I. (2021). Thriving and career outcomes: The roles of achievement orientation and resilience. *Human Resource Management Journal*, 31(1), 143-164. <https://doi.org/10.1111/1748-8583.12287>
- [20] Ahmad, B., Latif, S., Bilal, A. R., & Hai, M. (2019). The mediating role of career resilience on the relationship between career competency and career success: An empirical investigation. *Asia-Pacific Journal of Business Administration*, 11(3), 209-231. <https://doi.org/10.1108/APJBA-04-2019-0079>
- [21] Rochat S., Masdonati J., & Dauwalder JP. (2017) Determining Career Resilience. In: Maree K. (Ed.) *Psychology of Career Adaptability, Employability and Resilience* (pp. 125-141). Springer. https://doi.org/10.1007/978-3-319-66954-0_8
- [22] Wang, Q., & Ge, S. (2020, November 4). How One Obscure Word Capture Urban China's Unhappiness. Retrieved from <https://www.sixthtone.com/news/1006391/how-one-obscure-word-captures-urban-chinas-unhappiness>
- [23] Zhang, W., & Liu, M. (2021, May 27). Tired of Running in Place, Young Chinese 'Lie Down'. Retrieved from <http://www.sixthtone.com/news/1007589/tired-of-running-in-place%2C-young-chinese-lie-down>
- [24] Yin, H., Han, J., & Perron, B. E. (2020). Why are Chinese university teachers (not) confident in their competence to teach? The relationships between faculty-perceived stress and self-efficacy. *International Journal of Educational Research*, 100, 101529. <https://doi.org/10.1016/j.ijer.2019.101529>
- [25] Shen, X., Yang, Y. L., Wang, Y., Liu, L., Wang, S., & Wang, L. (2014). The association between occupational stress and depressive symptoms and the mediating role of psychological capital among Chinese university teachers: a cross-sectional study. *BMC Psychiatry*, 14, 329 (2014). <https://doi.org/10.1186/s12888-014-0329-1>
- [26] Peters, M. A., & Besley, T. (2018). China's double first-class university strategy: 双一流. *Educational Philosophy and Theory*, 50(12), 1075-1079. <https://doi.org/10.1080/00131857.2018.1438822>
- [27] Tian, M., & Lu, G. (2017). What price the building of world-class universities? Academic pressure faced by young lecturers at a research-centered university in China. *Teaching in Higher Education*, 22(8), 957-974. <https://doi.org/10.1080/13562517.2017.1319814>
- [28] Xu, L. (2019). Teacher-researcher role conflict and burnout among Chinese university teachers: A job demand-resources model perspective. *Studies in Higher Education*, 44(6), 903-919. <https://doi.org/10.1080/03075079.2017.1399261>
- [29] Lu, L. (2018). Research on the Current Situation and Countermeasures of the Perplexity of the Professional Role of Young Teachers under the Background of the Transformation of Universities. *Education and Teaching Forum*, 22, 32-33. (In Chinese)
- [30] Jin, X., Li, J., Song, W., & Zhao, T. (2020). The impact of COVID-19 and public health emergencies on consumer purchase of scarce products in China. *Frontiers in Public Health*, 8, 617166. <https://doi.org/10.3389/fpubh.2020.617166>
- [31] Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-cultural Psychology*, 1(3), 185-216. <https://doi.org/10.1177/135910457000100301>
- [32] Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement*, 66(4), 701-716. <https://doi.org/10.1177/0013164405282471>
- [33] Guo, Z., Xie, B., & Cheng, Y. (2019). How does positive experience of yesterday affect work engagement of today? —A study of experience sample and daily methods. *Management Review*. 31(1), 171-182. (In Chinese)
- [34] Maggiori, C., Rossier, J., & Savickas, M. L. (2017). Career adapt-abilities scale—short form (CAAS-SF) construction and validation. *Journal of Career Assessment*, 25(2), 312-325. <https://doi.org/10.1177/1069072714565856>
- [35] Duffy, R. D., Gensmer, N., Allan, B. A., Kim, H. J., Douglass, R. P., England, J. W., ... & Blustein, D. L. (2019). Developing, validating, and testing improved measures within the Psychology of Working Theory. *Journal of Vocational Behavior*, 112, 199-215. <https://doi.org/10.1016/j.jvb.2019.02.012>

- [36] Savickas, M. L. (2005). The theory and practice of career construction. In S. D. Brown & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (pp. 42-70). John Wiley.
- [37] Yu, H., Dai, Y., Guan, X., & Wang, W. (2020). Career adapt-abilities scale–short form (CAAS-SF): Validation across three different samples in the Chinese context. *Journal of Career Assessment*, 28(2), 219-240. <https://doi.org/10.1177/1069072719850575>
- [38] Greenhaus, J. H., Parasuraman, S., & Wormley, W. M. (1990). Effects of race on organizational experiences, job performance evaluations, and career outcomes. *Academy of Management Journal*, 33(1), 64-86. <https://doi.org/10.5465/256352>
- [39] Long, L. (2002). The research on structural models of career management in China. Wuhan: Central China Normal University Press. (In Chinese)
- [40] Tims, M., Bakker, A. B., & Derks, D. (2012). Development and validation of the job crafting scale. *Journal of vocational behavior*, 80(1), 173-186. <https://doi.org/10.1016/j.jvb.2011.05.009>
- [41] Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review*, 26(2), 179-201. <https://doi.org/10.5465/amr.2001.4378011>
- [42] Cheng, H., Ding, Y., & Wang, B. (2020). A validation study of the Job Crafting Scale among nurses in public hospitals in China. *Journal of Nursing Management*, 28(5), 1021-1029. <https://doi.org/10.1111/jonm.12998>
- [43] Lee, C. K., Lee, Y. K., & Wicks, B. E. (2004). Segmentation of festival motivation by nationality and satisfaction. *Tourism Management*, 25(1), 61-70. [https://doi.org/10.1016/S0261-5177\(03\)00060-8](https://doi.org/10.1016/S0261-5177(03)00060-8)
- [44] Boateng, G. O., Neilands, T. B., Frongillo, E. A., Melgar-Quinonez, H. R., & Young, S. L. (2018). Best practices for developing and validating scales for health, social, and behavioral research: A primer. *Frontiers in Public Health*, 6, 149. <https://doi.org/10.3389/fpubh.2018.00149>
- [45] Grzeda, M. M. (1993). Career motivation and career change: a new perspective [Doctoral dissertation]. Concordia University.
- [46] Hu, L., & Bentler, P. M. (1999). Cut-off criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1-55. <https://doi.org/10.1080/10705519909540118>
- [47] Dilbeck, K. E. (2018). Factor analysis: varimax rotation. In Allen, M. (Ed.), *The SAGE Encyclopedia of Communication Research Methods* (pp. 532-533). SAGE. <https://dx.doi.org/10.4135/9781483381411>
- [48] Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement*, 20(1), 141-151. <https://doi.org/10.1177/001316446002000116>
- [49] Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39, 31-36. <https://doi.org/10.1007/BF02291575>
- [50] Bartlett, M. S. (1951). The effect of standardization on a χ^2 approximation in factor analysis. *Biometrika*, 38(3/4), 337-344. <https://doi.org/10.2307/2332580>
- [51] Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling*, 9(2), 233-255. https://doi.org/10.1207/S15328007SEM0902_5
- [52] Aish, A. M., & Jöreskog, K. G. (1990). A panel model for political efficacy and responsiveness: An application of LISREL 7 with weighted least squares. *Quality and Quantity*, 24(4), 405-426. <https://doi.org/10.1007/BF00152013>
- [53] Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal*, 14(3), 464-504. <https://doi.org/10.1080/10705510701301834>
- [54] Chan, D. (2011). Advances in analytical strategies. In S. Zedeck (Ed.), *APA handbook of industrial and organizational psychology, Vol. 1. Building and developing the organization* (pp. 85–113). American Psychological Association. <https://doi.org/10.1037/12169-004>
- [55] Vandenberg, R. J., & Lance, C. E. (2000). A review and synthesis of the measurement invariance literature: Suggestions, practices, and recommendations for organizational research. *Organizational Research Methods*, 3(1), 4-70. <https://doi.org/10.1177/109442810031002>
- [56] Xu, H., & Tracey, T. J. G. (2017). Use of multi-group confirmatory factor analysis in examining measurement invariance in counseling psychology research. *The European Journal of Counselling Psychology*, 6(1), 75-82. <https://doi.org/10.5964/ejcop.v5i2.120>
- [57] Putnick, D. L., & Bornstein, M. H. (2016). Measurement invariance conventions and reporting: The state of the art and future directions for psychological research. *Developmental Review*, 41, 71-90. <https://doi.org/10.1016/j.dr.2016.06.004>
- [58] Kline, P. (2000). *Handbook of Psychological Testing (2nd ed.)*. Routledge. <https://doi.org/10.4324/9781315812274>
- [59] Byrne, B. M. (2011). *Structural equation modeling with Mplus: Basic concepts, applications, and programming (1st ed.)*. Routledge. <https://doi.org/10.4324/9780203807644>
- [60] Pu, J., Hou, H., Ma, R., & Sang, J. (2017). The effect of psychological capital between work–family conflict and job burnout in Chinese university teachers: Testing for mediation and moderation. *Journal of Health Psychology*, 22(14), 1799-1807. <https://doi.org/10.1177/1359105316636950>
- [61] Wang, P., Chu, P., Wang, J., Pan, R., Sun, Y., Yan, M., ... & Zhang, D. (2020). Association between job stress and organizational commitment in three types of Chinese university teachers: Mediating effects of job burnout and job satisfaction. *Frontiers in Psychology*, 11, 576768. <https://doi.org/10.3389/fpsyg.2020.576768>
- [62] Zhong, J. I. E., You, J., Gan, Y., Zhang, Y., Lu, C., & Wang, H. (2009). Job stress, burnout, depression symptoms, and physical health among Chinese university teachers. *Psychological Reports*, 105(3), 1248-1254. <https://doi.org/10.2466/PRO.105.F.1248-1254>
- [63] Nagar, K. (2012). Organizational commitment and job satisfaction among teachers during times of burnout. *Vikalpa*, 37(2), 43-60. <https://doi.org/10.1177/0256090920120205>
- [64] ten Brummelhuis, L. L., Ter Hoeven, C. L., Bakker, A. B., & Peper, B. (2011). Breaking through the loss cycle of burnout: The role of motivation. *Journal of Occupational and Organizational Psychology*, 84(2), 268-287. <https://doi.org/10.1111/j.2044-8325.2011.02019.x>
- [65] Trépanier, S. G., Vallerand, R. J., Ménard, J., & Peterson, C. (2020). Job resources and burnout: Work motivation as a moderator. *Stress and Health*, 36(4), 433-441. <https://doi.org/10.1002/smi.2939>
- [66] Alınacı, Ü., Alınacı, E., Akçin, K., & Erat, S. (2012). Relationships between career motivation, affective commitment and job satisfaction. *Procedia-Social and Behavioral Sciences*, 58, 355-362. <https://doi.org/10.1016/j.sbspro.2012.09.1011>
- [67] Liu, X. (2020). Cooperative teaching: research on teaching adaptation strategies of young teachers in colleges and universities under the background of “Double First-Class” construction. *Modern Education Science*, 6, 120-124. (In Chinese)
- [68] Li, C. (2005). Prestige stratification in the contemporary China: occupational prestige measures and socio-economic index. *Sociological Studies*, 2, 74-102. (In Chinese)