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The Interplay of Career-related Teacher Support and Proactive Career Behavior in Shaping Vocational College Graduates' Employability: The Mediating Role of Self-efficacy

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Abstract

Drawing on Social Cognitive Career Theory (SCCT), this study examines how career-related teacher support (CRTS) and proactive career behavior (PCB) jointly shape vocational college graduates' perceived employability (PE), with self-efficacy (SE) as a mediating mechanism. Survey data were collected from 526 final-year vocational college students in China and analyzed using PLS-SEM. Results indicate that CRTS has a positive total effect on PE, primarily through promoting PCB. However, SE exerts a significant but negative mediating effect between CRTS and PE, while failing to mediate the PCB–PE relationship. PCB does not directly predict PE unless embedded within supportive educational contexts. These findings highlight the context-dependent operation of SCCT mechanisms and suggest that excessive or directive support may inadvertently undermine graduates' autonomous employability perceptions. The study contributes to employability theory by revealing the dual psychological effects of educational support in vocational settings.

Keywords

Career-related teacher support; proactive career behavior; self-efficacy; vocational graduates' employability

1. Introduction

In increasingly volatile labor markets, employability has become a core outcome of higher and vocational education. For vocational college graduates, employability represents not only the ability to secure initial employment but also the confidence to sustain and adapt career trajectories over time (Jackson & Tomlinson, 2020). Despite strong policy emphasis on school-to-work transitions, vocational graduates often encounter skill mismatches and weak labor market recognition, underscoring the need to examine how educational environments shape employability development.

Prior employability research has focused largely on organizational contexts, emphasizing training and human resource practices among employees. Comparatively little attention has been given to students at the threshold of labor market

entry, whose career beliefs are still forming and who rely heavily on institutional guidance (Dacre Pool & Sewell, 2007). Recent scholarship calls for student-centered employability models that integrate educational support, psychological resources, and proactive career engagement (Ho et al., 2023).

PE—individuals' subjective assessment of their employment prospects—captures this developmental perspective by integrating human, social, and psychological resources (Rothwell et al., 2008). Within vocational education, CRTS play a pivotal role in shaping students' career confidence through informational, emotional, and self-exploratory support. At the same time, PCB, such as career planning, networking, and skill development, reflects students' agency in managing career transitions (Strauss et al., 2012).

2. Theoretical Background

2.1 Conservation of resources theory

PE, also referred to as self-perceived employability, is defined as individuals' perception of their ability to obtain employment aligned with their qualifications, skills, and career aspirations (Rothwell et al., 2008). It has evolved from macro-level labor market analyses to individual-level, subjective constructs integrating career-related resources (Vanhercke et al., 2014). Conservation of resources (COR) theory provides a framework for understanding PE, positing that individuals strive to acquire, protect, and accumulate resources—material, personal, and social—which buffer against career uncertainty and stress (Hobfoll et al., 2018; Jackson & Tomlinson, 2020). In higher education, CRTS constitutes a resource-rich environment that enhances PE by offering developmental guidance, emotional encouragement, and career-specific informational support, fostering career self-efficacy and adaptive behaviors (Zhang et al., 2018; Petruzziello et al., 2021). Through experiential learning and professional networks, CRTS strengthens internal and external employability. Grounded in COR theory, it is therefore hypothesized that CRTS positively influences PE.

H1: CRTS is positively related to PE.

2.2 Career EDGE model

The CareerEDGE model posits that employability develops through the interaction of career development learning, work, and life experience, subject knowledge, generic skills, and emotional intelligence, with reflection and evaluation serving as the central mechanism linking these components to higher levels of SE, self-confidence, and self-esteem, ultimately enhancing employability outcomes. Career development learning encompasses career education, career self-management, and career management skills (Watt, 2006), highlighting the importance of individuals' active engagement in their career development process.

PCB refers to self-initiated and future-oriented actions through which individuals anticipate, shape, and manage their careers. PCB reflects individuals' agentic efforts to influence their career trajectories and adapt to changing labor market conditions. Unlike reactive behaviors, PCB is discretionary, self-directed, and extends beyond formal role requirements (Chen, 2013; Hirschi, 2014). Empirical evidence consistently demonstrates a positive relationship between PCB and employability outcomes. For instance, Chow et al. (2019) found that career self-management was positively associated with PE among Malaysian undergraduates, with SE mediating this relationship. These findings suggest that PCB enhances PE by facilitating the accumulation of career-related resources and strengthening individuals' confidence in managing career challenges. Accordingly, the following hypotheses are proposed:

H2: PCB are positively related to PE.

H3: SE mediates the relationship between PCB and PE.

2.3 Social Cognitive Career Theory

SCCT offers a complementary framework for explaining how personal agency and contextual supports jointly shape career outcomes. SCCT posits that person inputs (e.g., abilities, attitudes, and proactive orientations) and contextual factors (e.g., social and environmental support) influence learning experiences, which in turn shape SE and outcome expectations, leading to career-related behaviors and attainments (Lent et al., 1994). In the present study, PCB are conceptualized as a core person input, reflecting students' self-initiated efforts to explore, plan, and develop their careers. PCB reflects individuals' proactive engagement in career exploration, skill development, and experience accumulation, which has been consistently linked to higher PE (Chughtai, 2019).

CRTS represents a key contextual affordance within higher education. CRTS provides the social capital and institutional support necessary to enable and sustain such proactive engagement, thereby reinforcing students' SE and employability perceptions (Petruzziello et al., 2021). Drawing on Bandura's (1997) theory, SE develops through mastery experiences, vicarious learning, verbal persuasion, and emotional regulation, all of which are shaped by supportive educational

environments. Through role modeling, feedback, encouragement, and career guidance, teachers enrich students' learning experiences and strengthen SE beliefs and outcome expectations. Such support is particularly salient for students from disadvantaged backgrounds or with limited prior SE, as emotional and informational resources help compensate for resource constraints and enhance career confidence (Zhang et al., 2021). Accordingly, the following hypotheses are proposed:

H4: SE mediates the relationship between CRTS and PE.

Grounded in SCCT, this study posits that CRTS (contextual background) exerts a significant influence on graduates' PE, conceptualized as a desired outcome or attainment. SCCT further suggests that both person input variables and contextual background factors shape individuals' self-efficacy beliefs, which in turn influence career-related outcomes. Accordingly, this study hypothesizes that SE functions as a mediating mechanism in the proposed relationships, specifically: (1) mediating the relationship between PCB (person input) and PE (outcome/attainments); and (2) mediating the relationship between CRTS (contextual background) and PE (outcome/attainments).

3. Methodology

3.1 Participants and Sampling

Due to the large number of higher education institutions in China, a nationwide census was unfeasible. This study used convenience sampling, selecting two vocational colleges each in Guizhou and Jiangsu Provinces, focusing on final-year students with clearer career goals. Institutional staff facilitated questionnaire distribution, and students were fully informed of the study's purpose, voluntary participation, anonymity, and withdrawal rights. These procedures ensured ethical compliance and protected participants' privacy while providing a relevant sample to assess employability-related variables.

The participants were recruited via an online questionnaires form October 2024 to March 2025. The sample consisted of final-year graduates from four vocational colleges. 537 were returned. Regarding sex, 40.49% (n=217) of the participants were female, and 59.51% (n=320) were male.

3.2 Measures

Graduates' PE was measured using the 16-item scale by Rothwell et al. (2009) on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree), covering internal factors (skills, study application) and external factors (labor market, university reputation, subject demand). Example items include "Employers are eager to employ graduates from my university."

Graduates' PCB was obtained by adopting the 10 items taken from the research work of Strauss et al. (2012). Given the significance of "guanxi" and "human relations" in Chinese social culture, this study adopts the proactive career networking establishment items developed by Taber and Blankemeyer (2015), which consist of three items. The instrument measuring PCB utilized a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree).

Graduates perceive that CRTS was accessed through the use of the 16-item career-related teacher support scale developed by Zhang et al. (2021). The CRTS scale adopted a 5-point Likert response format (1 = strongly disagree; 5 = strongly agree). Example items include "My teacher always provides me with employment information."

Graduates' SE was assessed through the use of the 8-item New General Self-Efficacy Scale developed by Chen et al. (2001). The SE scale adopted a 5-point Likert (1 = strongly disagree; 5 = strongly agree) to assess students' perseverance and confidence when encountering challenges and career-related tasks. The sample of the question is "When facing difficult tasks, I am certain that I will accomplish them."

4. Analytic Procedure

4.1 Parametric test

Online data collection required mandatory responses per section, with exclusions for extremely short completion times (<150 s), bogus item failures, or repetitive patterns, resulting in 526 valid responses (213 females, 313 males). Levene's test confirmed homogeneity of variances. T-tests revealed no gender differences in CRTS, PCB, or SE, but females scored significantly higher on PE ($t = 4.151$, $p < 0.001$, $M = 3.367$).

4.2 Reliability and validity analysis

Exploratory factor analysis (EFA) was conducted using principal component analysis (PCA) with Varimax rotation and Kaiser normalization to assess the underlying factor structure. Items with low factor loadings (<0.7) were removed, while

ensuring that each subscale retained at least three items to guarantee measurement stability (Carpenter, 2018). As a result, the CRTS, PCB, SE, and PE scales were reduced to 12, 9, 6, and 12 items, respectively. The Cronbach's α coefficients for these scales were 0.786, 0.926, 0.938, and 0.915, respectively. The average variance extracted (AVE) values were 0.759, 0.699, 0.766, and 0.648, indicating that all constructs met the recommended threshold for convergent validity (AVE ≥ 0.50) (Hair et al., 2017).

4.3 Descriptive Statistics

Table 1 displays the descriptive statistical data from the measurement tools. Correlation analysis showed that CRTS was significantly positively correlated with PE ($r = 0.233$, $p < 0.01$), and PCB was strongly positively correlated with PE ($r = 0.649$, $p < 0.01$). Additionally, CRTS was significantly positively correlated with PCB ($r = 0.376$, $p < 0.01$). Interestingly, SE was significantly negatively correlated with PE ($r = -0.124$, $p < 0.01$). Moreover, CRTS was positively associated with SE ($r = 0.353$, $p < 0.01$), and PCB also showed a positive correlation with SE ($r = 0.128$, $p < 0.01$). Therefore, it was determined that four variables were significantly correlated.

Table 1. Descriptive statistics and correlations among variables (N=526)

Variables	1	2	3	Mean	SD	Skewness	Kurtosis
Career-related teacher support	-			2.628	0.540	-0.526	2.606
Proactive career behaviors	0.376**	-		2.718	0.620	0.381	-0.423
Self-efficacy	0.353**	0.128**	-	2.861	0.724	-0.257	-0.469
Perceived employ-ability	0.233**	0.649**	-0.124**	3.225	0.657	-0.228	-0.392

Note. $^{**}P<0.01$

4.4 Testing for Mediation Effect

Figure 1 presents the total and indirect effects of the model, which were calculated using bootstrapping with 5,000 resamples to obtain the estimates, standard deviations, t-statistics, p-values, and 95% confidence intervals.

This study found that CRTS has a significant mediating effect on students' PE. Specifically, CRTS exerts a significant positive indirect effect on students' PE through PCB ($\beta = 0.275$, $t = 7.490$ (> 3.29, $p < 0.001$, 95% CI [0.202, 0.348]), highlighting teachers' role in activating career planning. In contrast, the indirect effect of CRTS on PE via SE is significantly negative ($\beta = -0.076$, $t = 4.478 > 3.29$, $p < 0.001$, 95% CI [-0.113, -0.047]), suggesting that while teacher support may enhance competence, it may also create pressure or dependency, inhibiting PE. This mediation accounts for 30.3% of the total effect. Direct and other indirect effects of PCB on PE (e.g., PCB → SE → PE: $\beta = 0.002$, $t = 0.223$, $p = 0.824$, 95% CI [-0.017, 0.023]) are non-significant, indicating that PCB alone is insufficient to enhance PE without supportive teacher mechanisms.

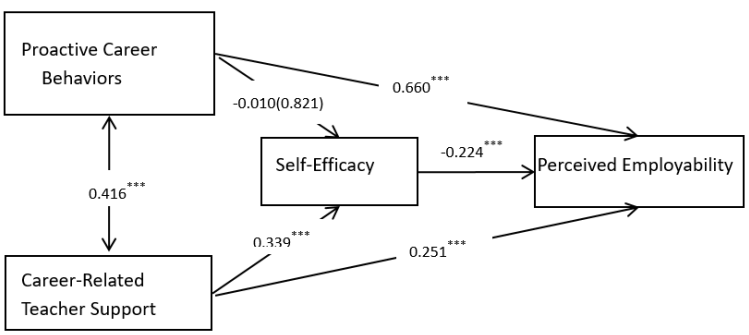

Figure 1. The indirect and direct effects of the research model (*p<0.001).**

5. Discussion

Grounded in SCCT (Lent et al., 1994), the findings indicate that SE differentially mediates employability formation. SE significantly mediates the effect of career-related teacher support (CRTS) on PE but not that of PCB. CRTS enhances PE

primarily through PCB, emphasizing teachers' roles in activating career planning, consultation, and proactive career management. From an SCCT perspective, teacher support serves as a contextual affordance that facilitates career-relevant behaviors, which translate into stronger employability perceptions via skill accumulation and experiential learning (Lent & Brown, 2013; Tomlinson, 2017).

Interestingly, the negative indirect effect of CRTS on PE via SE suggests ambivalent outcomes: while support can strengthen competence, excessive or directive guidance may increase performance pressure or dependency, undermining autonomous career confidence. PCB alone does not directly influence PE, highlighting that proactive behaviors require supportive institutional contexts to affect employability. Diverging from Chow et al. (2019), who observed SE as a positive mediator between social support and PE in Malaysia, these findings suggest that the function of SE is context-dependent, shaped by cultural norms, educational systems, and teacher–student power distance (Hirschi, 2018). Overall, the study extends SCCT by illustrating that contextual supports can both enable and constrain employability development through psychological and behavioral pathways.

5.1 Limitations and Future Research Directions

Despite its contributions, this study has limitations that suggest future research directions. The cross-sectional design restricts causal inference among CRTS, PCB, SE, and PE; longitudinal or experimental studies are needed to test SCCT's temporal assumptions (Lent & Brown, 2013). Reliance on self-reports may introduce common method bias, highlighting the value of multi-source or mixed-method approaches, such as interviews or diaries, to capture students' perceptions of teacher support (Hirschi, 2018). The context-specific sample limits generalizability, underscoring the need for cross-cultural studies to examine PCB and SE mediators (Chow et al., 2019; Jackson & Bridgstock, 2021). Future work should explore sub-dimensions and moderators, including autonomy and institutional support, for a nuanced understanding of employability development.

References

Carpenter, S. (2018). Ten steps in scale development and reporting: A guide for researchers. *Communication Methods and Measures*, *12*(1), 25-44. https://doi.org/10.1080/19312458.2017.1417077

Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a new general self-efficacy scale. *Organizational Research Methods*, *4*(1), 62-83. https://doi.org/10.1177/109442810141004

Chen, H. (2013). The relationship between psychological capital and proactive career behavior of Chinese white collar workers in their early career. Department of Economics, Osaka University.

Chow, H. J., Wong, S. C., & Lim, C. S. (2019). Examining mediating role of self-efficacy on undergraduates' perceived employability. *International Journal of Academic Research Business and Social Sciences*, *9*(6), 135-158. https://doi.org/10.6007/IJARBSS/v9-i6/5929

Chughtai, A. (2019). Servant leadership and perceived employability: proactive career behaviours as mediators. *Leadership & Organization Development Journal*, *40*(2), 213-229. https://doi.org/10.1108/LODJ-08-2018-0300

Dacre Pool, L., & Sewell, P. (2007). The key to employability: developing a practical model of graduate employability. *Education + Training*, *49*(4), 277-289.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) (2nd ed.). Sage Publications.

Hirschi, A. (2014). Hope as a resource for self-directed career management: Investigating mediating effects on proactive career behaviors and life and job satisfaction. *Journal of Happiness Studies*, *15*(6), 1495-1512. https://doi.org/10.1007/s10902-013-9488-x

Hirschi, A. (2018). The fourth industrial revolution: Issues and implications for career research and practice. *The Career Development Quarterly*, *66*(3), 192-204. https://doi.org/10.1002/cdq.12142

Ho, T. T. H., Le, V. H., Nguyen, D. T., Nguyen, C. T. P., & Nguyen, H. T. T. (2023). Effects of career development learning on students' perceived employability: a longitudinal study. *Higher Education*, *86*(2), 297-315. https://doi.org/10.1007/s10734-022-00933-6

Hobfoll, S. E., Halbesleben, J., Neveu, J. P., & Westman, M. (2018). Conservation of resources in the organizational context: The reality of resources and their consequences. *Annual Review of Organizational Psychology and Organizational Behavior*, *5*, 103-128. https://doi.org/10.1146/annurev-orgpsych-032117-104640

Jackson, D., & Bridgstock, R. (2021). What actually works to enhance graduate employability? The relative value of curricular, co-curricular, and extra-curricular learning and paid work. *Higher Education*, *81*(4), 723-739. https://doi.org/10.1007/s10734-020-00570-x

Jackson, D., & Tomlinson, M. (2020). Investigating the relationship between career planning, proactivity and employability perceptions among higher education students in uncertain labour market conditions. *Higher Education*, *80*(3), 435-455. https://doi.org/10.1007/s10734-019-00490-5

Lent, R. W., & Brown, S. D. (2013). Social cognitive model of career self-management: toward a unifying view of adaptive career behavior across the life span. *Journal of Counseling Psychology*, *60*(4), 557-568. https://doi.org/10.1037/a0033446

Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, *45*(1), 79-122. https://doi.org/10.1006/jvbe.1994.1027

Lent, R. W., Morris, T. R., Wang, R. J., Moturu, B. P., Cygrymus, E. R., & Yeung, J. G. (2022). Test of a social cognitive model of proactive career behavior. *Journal of Career Assessment*, *30*(4), 756-775. https://doi.org/10.1177/10690727221095190

Petruzziello, G., Mariani, M. G., Guglielmi, D., & Chiesa, R. (2021). Support from teaching staff and self-efficacy as determinants of students' perceived employability: A Longitudinal study. In *International Conference on Higher Education Advances* (pp. 1079-1086).

Rothwell, A., Herbert, I., & Rothwell, F. (2008). Self-perceived employability: Construction and initial validation of a scale for university students. *Journal of Vocational Behavior*, *73*(1), 1-12. https://doi.org/10.1016/j.jvb.2009.05.002

Strauss, K., Griffin, M. A., & Parker, S. K. (2012). Future work selves: how salient hoped-for identities motivate proactive career behaviors. *Journal of Applied Psychology*, *97*(3), 580-598. https://doi.org/10.1037/a0026423

Taber, B. J., & Blankemeyer, M. (2015). Future work self and career adaptability in the prediction of proactive career behaviors. *Journal of Vocational Behavior*, *86*, 20-27. https://doi.org/10.1016/j.jvb.2014.10.005

Tomlinson, M. (2017). Forms of graduate capital and their relationship to graduate employability. *Education + Training*, *59*(4), 338-352. https://doi.org/10.1108/ET-05-2016-0090

Vanhercke, D., De Cuyper, N., Peeters, E., & De Witte, H. (2014). The added value of employing a multi stakeholder perspective in perceived employability research. *Human Resource Management Journal*, *24*(4), 374-393. https://doi.org/10.1111/1748-8583.12060

Watts, A. G. (2006). Career development learning and employability (pp. 1-30). York: Higher Education Academy.

Zhang, J., Chen, G., & Yuen, M. (2021). Development and validation of the Career related Teacher Support Scale: Data from China. *International Journal for Educational and Vocational Guidance*, *21*(2), 161-185. https://doi.org/10.1007/s10775-020-09435-2

Zhang, J., Yuen, M., & Chen, G. (2018). Teacher support for career development: An integrative review and research agenda. *Career Development International*, *23*(2), 122-144. https://doi.org/10.1108/CDI-11-2017-0209